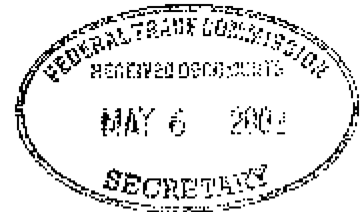
**Public Version**
**FTC Docket No. 9298**

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**




In the Matter of

POLYGRAM HOLDING, INC.,
a corporation,

DECCA MUSIC GROUP LIMITED,
a corporation,

UMG RECORDINGS, INC.,
a corporation,

and

UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,
a corporation.

Docket No. 9298

**PUBLIC VERSION**

To: The Honorable James P. Timony
Administrative Law Judge

**COMPLAINT COUNSEL'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, ORDER AND MEMORANDUM OF LAW IN SUPPORT THEREOF**

**(VOLUME I)**

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Washington, DC 20580

Dated: May 6, 2002

This Volume Contains:

(1) Complaint Counsel's Proposed Findings of Fact;
(2) Complaint Counsel's Proposed Conclusions of Law;
(3) Complaint Counsel's Proposed Order;
(4) Complaint Counsel's Glossary of Abbreviations, Technical Terms, Personnel, and Company Names; and
(5) Stipulated Index of Witnesses and Exhibits.

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| --- | --- |

To: The Honorable James P. Timony
Administrative Law Judge

## COMPLAINT COUNSEL'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, ORDER AND MEMORANDUM OF LAW IN SUPPORT THEREOF

Pursuant to Section 3.46 of the Commission's Rules of Practice, Complaint Counsel hereby respectfully submits Complaint Counsel's Proposed Findings of Fact, Proposed Conclusions of Law, Proposed Order, and Memorandum of Law in support thereof.

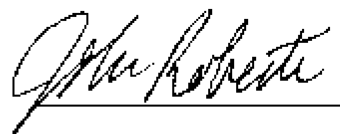
This submission consists of two volumes. The first volume contains: (1) Complaint Counsel's Proposed Findings of Fact; (2) Complaint Counsel's Proposed Conclusions of Law; (3) Complaint Counsel's Proposed Order; (4) Complaint Counsel's Glossary of Abbreviations,

Technical Terms, Personnel, and Company Names; and (5) Stipulated Index of Witnesses and Exhibits prepared in accordance with Section 3.46(b) of the Commission's Rules of Practice.

Volume II contains Complaint Counsel's Memorandum of Law in Support of Complaint Counsel's Proposed Findings of Fact, Complaint Counsel's Proposed Conclusions of Law, and Complaint Counsel's Proposed Order.

Complaint Counsel is also submitting two volumes of appendices. Appendix A contains Empirical Literature Concerning Advertising Restrictions. Appendix B contains Unpublished Materials Cited in Complaint Counsel's Memorandum of Law In Support Complaint Counsel's Findings of Fact, Conclusions of Law and Order.

Respectfully submitted,



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To: The Honorable James P. Timony
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**COMPLAINT COUNSEL'S PROPOSED FINDINGS OF FACT**

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## EXPLANATION OF RECORD REFERENCES

References to the record are made using the following abbreviations:

| | |
|---|---|
| CPF | Complaint Counsel's Proposed Findings of Fact |
| CPL | Complaint Counsel's Proposed Conclusions of Law |
| JX | Joint Exhibit (JX1 - JX109) |
| CX | Complaint Counsel Exhibit (CX201 - CX623) |
| RX | Respondents' Exhibit (RX701 - RX731) |
| Complaint | Complaint of the Federal Trade Commission, Dkt No. 9298, issued July 31, 2001 |
| Answer | Answer of Respondents, filed August 23, 2001 |
| PHC Tr. | Pre-hearing Conference Transcript, dated March 4, 2002 |
| Trial Tr. | Trial Transcript pages on which no witness testimony appears |
| Stip. ¶ __ | The Parties' First Set of Stipulations filed February 20, 2002 |

The testimony of the witnesses may be found as follows:

| | | |
|---|---|---|
| Professor Catherine Moore | Volume 1 (March 5, 2002) | 7:25 - 272:14 |
| Rand Hoffman (Public) | Volume 2 (March 6, 2002) | 278:16 - 373:5 |
| *Rand Hoffman (In Camera)* | *Volume 2 (March 6, 2002)* | *373:6 - 381:19* |
| Anthony O'Brien | Volume 3 (March 7, 2002) | 389:9 - 558:3 |
| Dr. Stephen Stockum | Volume 4 (March 8, 2002) | 563:9 - 840:1 |

References to trial transcript are made using witness name, page and lines:

Moore 139:11-19

Trial transcript references that carry over to a later page are referenced in the following fashion:

Moore 101:14-103:4

Multiple references to the same witness and volume are made as follows:

Moore 73:1-8, 75:27-6:12

References to exhibits include prefix, number and page if applicable:

CX383 at UMG003284

References to investigational hearing or deposition transcripts that have been included in the trial record as exhibits include witness name and the designation "I.H." or "Dep.", exhibit number, and transcript page and lines:

Caparro Dep. (CX609) 71:8-21

Effort has been made to note *in camera* portions of the record by inserting "(*in camera*)" after the relevant exhibit.

Hoffman 373:12-24 (*in camera*); CX583; CX232 (*in camera*).

## I. Background

### A. Procedural History

1. The Federal Trade Commission issued its complaint in this matter on July 31, 2001. The complaint alleges that Respondents PolyGram Holding, Inc. ("PolyGram Holding"), Decca Music Group Limited ("Decca MGL"), UMG Recordings, Inc. ("UMG") and Universal Music & Video Distribution Corp. ("UMVD") agreed with competitor Warner Communications Inc. ("Warner Communications"): (a) to restrict price competition, and (b) to forgo advertising. The complaint charges that such conduct violates Section 5 of the Federal Trade Commission Act. Complaint ¶¶ 17, 18.

2. In a separate and parallel proceeding, on September 17, 2001, the Commission made final a consent agreement with Warner Communications. Warner Communications was enjoined from: (a) agreeing with a competitor to fix, raise, or stabilize prices or price levels, and
(b) agreeing with a competitor to prohibit, restrict, or limit truthful, non-deceptive advertising or promotion. *Warner Communications Inc.*, C-4025 (Sept. 17, 2001).

3. On January 11, 2002, Respondents moved for Summary Decision, arguing that abbreviated rule of reason analysis is available only where the challenged restraints "both have an obvious anticompetitive effect in a relevant market *and* do *not* have any plausible justification." Resp. Mem. Law in Supp. Of Summ. Dec. at 1 (Jan.11, 2002) (emphasis in original). On February 26, 2002, the Court denied Respondents' Motion for Summary Decision, holding that the alleged agreements not to discount or advertise certain albums may be presumptively anticompetitive, and that "[i]f the efficiency argument [advanced by Respondents] is determined to be plausible it must be valid, and may be rejected where it is speculative or unproven, where there is a less restrictive

alternative, where the argument sweeps too broadly, or where the restraint is not an effective remedy for the competitive problem that it purports to address." Order Denying Motion for Summary Decision at 7-8 (Feb. 26, 2002) (citations omitted).

4. A four-day trial of this matter commenced on March 5, 2002. Complaint Counsel called a total of four witnesses. Complaint Counsel called two fact witnesses, Anthony O'Brien from Atlantic Recording Corp. (an affiliate of Warner Communications) and Rand Hoffman from PolyGram Holding. Both fact witnesses confirmed the existence during 1998 of a horizontal agreement between PolyGram and Warner[1] to restrict discounting and advertising for audio and video products featuring the Three Tenors.

5. Complaint Counsel also called two expert witnesses. Professor Catherine Moore, the director of the Music Business Program at New York University, provided background information concerning business practices in the recorded music industry. Dr. Stephen Stockum, an economist, testified that price restraints and advertising bans are inherently likely to have an adverse effect on competition and consumers. Both Professor Moore and Dr. Stockum concluded that the efficiency arguments advanced by Respondents to justify the suspect restraints on competition were not valid – either, in Professor Moore's case, from the standpoint of the marketing or distribution of record music, or in Dr. Stockum's case, from the standpoint of antitrust economics.

6. Respondents listed a total of thirteen intended witnesses on their final witness list, but rested without calling any witnesses. *See* Respondents' Proposed Witness List, Designations of Deposition Testimony and Exhibit List (January 18, 2002); Trial Tr. 846:4-11. The deposition testimony of these individuals (including two expert witnesses) was admitted in evidence.

[1] The entities PolyGram and Warner are defined below.

However, these witnesses were not subject to cross-examination, and the Court had no opportunity to assess their credibility.

**B. The Three Tenors**

7. The Three Tenors is a musical collaboration consisting of renowned opera singers Jose Carreras, Placido Domingo, and Luciano Pavarotti. Stip. ¶ 2. Beginning in 1990, Carreras, Domingo, and Pavarotti have come together every four years at the site of the World Cup soccer finals[2] for a combination live concert and recording session. Stip. ¶ 84.

8. During the 1990s, The Three Tenors recorded three albums, each a mix of operatic arias and medleys of popular songs. The first album, *The Three Tenors* ("3T1"), was released in 1990 by PolyGram. The second album, *Three Tenors in Concert 1994* ("3T2"), was released in 1994 by Warner. The third album, *The Three Tenors – Paris 1998* ("3T3"), was released in 1998 pursuant to a collaboration between PolyGram and Warner. Stip. ¶ 85.

**C. The Respondents**

9. Each of the four Respondents is a direct or indirect subsidiary of Vivendi Universal S.A., a French corporation. Stip. ¶ 5. Respondents UMG and UMVD are subsidiaries of Respondent PolyGram Holding. Stip. ¶ 14.

10. Respondent PolyGram Holding is a Delaware corporation with its office and principal place of business located in New York, NY. Stip. ¶ 6.

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[2] The World Cup is the pre-eminent international soccer tournament, and is held every four years. The World Cup final match was located in Rome in 1990, in Los Angeles in 1994, and in Paris in 1998. Stip. ¶ 83.

11. Respondent Decca MGL is a United Kingdom corporation with its office and principal place of business located in London, England. Decca MGL is successor to, and was formerly named, The Decca Record Company Limited ("Decca"). Stip. ¶ 7.

12. Respondent UMG is a Delaware corporation with its office and principal place of business located in Santa Monica, CA. UMG is successor to, and was formerly named, PolyGram Records, Inc. ("PolyGram Records"). Stip. ¶ 8.

13. Respondent UMVD is a Delaware corporation with its office and principal place of business located in Universal City, CA. UMVD is successor to PolyGram Group Distribution, Inc. ("PGD"). Stip. ¶ 9.

14. PolyGram refers to a group of firms – affiliated with PolyGram N.V. – that were for many years engaged in the business of producing, marketing, and distributing recorded music and videos in the United States and worldwide. Among the firms comprising Polygram in 1998 were PolyGram Holding, PolyGram Records, PGD, and Decca, all subsidiaries of PolyGram N.V. Stip. ¶¶ 13, 15.

15. As detailed herein, in 1998 Decca owned 3T1 and had certain marketing responsibilities for the album. Stip. ¶ 95. *See also* CPF ¶¶ 111-116, 175. PolyGram Classics & Jazz ("PolyGram Classics"), a division of PolyGram Records, also had marketing responsibilities for 3T1. Stip. ¶¶ 79, 132. PGD was responsible for distributing 3T1 in the United States. Stip. ¶ 134. PolyGram Holding was responsible for negotiating and then overseeing the collaboration between PolyGram and Warner with regard to 3T3. Hoffman 406:22-407:9, 479:6-13. *See* CPF ¶¶ 70, 132-135.

16. PolyGram Holding was "an administrative arm of PolyGram." Hoffman 287:9-18. During 1998, PolyGram Holding provided various services to its subsidiaries, including legal

services, financial services, business affairs services, and human resources services. Stip. ¶ 16; Hoffman 287:9-18.

17. Decca was a music "label." Decca and other labels are in the business of developing, acquiring, and producing recorded music. Stip. ¶ 74. During the period from 1990 to 1998, Decca owned the copyright in and to the master recording of 3T1. Stip. ¶ 95. Decca did business in the United States under the name London Records. Stip. ¶ 96.

18. In 1998, PolyGram Classics was a division of PolyGram Records. Stip. ¶ 17. PolyGram Classics was a "label group," in the business of supporting, overseeing, and assisting the activities of several PolyGram labels, including Decca, Philips Classics, Deutsche Grammophon, and Verve. In 1998, PolyGram Classics was also one of the entities responsible for marketing, promoting, pricing and advertising 3T1 in the United States. Stip. ¶¶ 79, 132.

19. In 1998, PGD was a "distribution company" in the business of distributing and selling audio and video products in the United States. Stip. ¶ 82. PGD was the sales and distribution organization responsible for servicing all of the PolyGram labels and joint ventures. Caparro Dep. (CX609) 12:9-13. During the 1990s, PGD executed PolyGram Classics' marketing strategy as it related to retailers. Caparro Dep. (CX609) 25:23-26:4; *Cf.* Moore 34:19-36:17.

20. From 1990 to date, compact disc, audio cassette, and video cassette versions of 3T1 have been distributed in the United States by PGD, and by its successor UMVD. Stip. ¶ 91. During the 1990s, and including 1998, PGD was one of the PolyGram entities responsible for decisions regarding the wholesale price and the advertising strategy for audio and video versions of 3T1 sold in the United States. Stip. ¶ 133.

21. In December 1998, PolyGram N.V. was acquired by The Seagram Company Ltd. ("Seagram"). The music businesses of PolyGram N.V. (*i.e.*, Polygram) were combined with the music businesses of Seagram to form Universal Music Group ("Universal"). Two years later, Seagram merged with Vivendi S.A. and Canal Plus S.A., to form Vivendi Universal S.A. Stip. ¶ 18.

22. Most of the key PolyGram actors in this case continued to hold positions of responsibility with Universal after the merger, including: Chris Roberts, former President of PolyGram Classics; Rand Hoffman, the former Senior Vice President of Business Affairs for PolyGram Holding; Bert Cloeckaert, the former Vice President for PolyGram in Continental Europe; and Kevin Gore, the former Senior Vice President and General Manager of PolyGram Classics. Stip. ¶¶ 24, 26, 29, 32; Roberts Dep. Vol. 1 (JX92) 5:21-6:25, 8:9-17; Hoffman Dep. (JX99) 6:2-7:24; Cloeckaert Dep. Vol. 1 (JX97) 5:15-16, 7:14-16; Gore Dep. (JX87) 6:6-6:21, 7:4-7:9.

23. As set forth in detail below, Decca, PolyGram Records, PolyGram Holding and PGD agreed to, participated in, and implemented a horizontal agreement that restricted the discounting and advertising of 3T1 and 3T2 in the United States and worldwide. Respondents Decca MGL, UMG, and UMVD are the successors to Decca, PolyGram Records, and PGD respectively.

**D. PolyGram's Competitor: Warner Music Group**

24. Warner Communications, a subsidiary of AOL Time Warner Inc., is a Delaware corporation with its office and principal place of business located in New York, NY. Stip. ¶ 19. Warner Music Group ("Warner") refers to a group of firms – affiliated with Warner

Communications – engaged in the business of producing, marketing, and distributing recorded music and videos in the United States and worldwide. Among the firms comprising Warner are Atlantic Recording Corp. ("Atlantic") and Warner Music International ("WMI"). Stip. ¶ 20.

25. Atlantic is a label engaged in the business of developing, acquiring, and producing recorded music. Atlantic operates primarily in the United States. Stip. ¶ 75.

26. WMI manages and coordinates the music operations of Warner operating companies located outside of the United States. Stip. ¶ 21.

**E. Interstate Commerce**

27. PolyGram and Warner are each vertically integrated producers and distributors of recorded music. Complaint ¶¶ 6-7; Answer ¶¶ 6-7. Both PolyGram and Warner distribute their products through a network of operating companies, or "opcos" – subsidiaries responsible for sales within a particular country. Stip. ¶ 148. In 1998, PolyGram Classics was the United States "opco" for classical music produced by PolyGram. Greene Dep. 40:7-19.

28. Respondent PolyGram Holding, PolyGram Records (the predecessor to Respondent UMG) and PGD (the predecessor to Respondent UMVD) all engage in, or engaged in, acts and practices that affect commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, 15 U.S.C. § 44. Stip. ¶¶ 10-12.

29. In 1998, recorded music products produced by Decca, including 3T1, were distributed throughout the United States, primarily by PGD. Stip. ¶¶ 76, 134; Caparro Dep. (CX609) 24:24-25:18. In 1998, PGD distributed recorded music and videos, including 3T1, to retailers in each of the fifty states and in the District of Columbia, and maintained a warehouse facility in Indiana from which it distributed recorded music and videos. Stip. ¶ 135; Caparro Dep. (CX609) 16:4-8, 24:24-

25:18. Today, recorded music products produced by Decca MGL (including 3T1) are distributed throughout the United States, primarily by UMVD. Stip. ¶ 77.

30. Warner has distributed 3T2 in the United States from 1994 to date, and has shipped 3T2 in commerce from state to state. O'Brien 402:15-403:15. Warner has distributed 3T3 in interstate commerce from 1998 to date. O'Brien Dep. (JX100) 19:4-7.

31. The terms of the Three Tenors moratorium agreement were discussed, negotiated, and agreed to by PolyGram and Warner at meetings in the United States, including a meeting in New York, NY in March 1998. *See* CPF ¶ 99; CX382.

**II. Overview of the Older Three Tenors Recordings**

**A. The 1990 Three Tenors Concert**

32. The Three Tenors first performed together at the Baths of Caracella in Rome, on the eve of the 1990 World Cup final match in July 1990. Stip. ¶ 86.

33. In February 1990, PolyGram acquired from the concert promoter distribution rights to products derived from the 1990 Three Tenors performance in Rome. CX213; CX215; Stip. ¶ 89. Compact disc, audio cassette, and video cassette versions of 3T1 were released by PolyGram in August 1990. Stip. ¶ 90.

34. 3T1 became a major commercial success, and the best-selling classical album of all time. Stip. ¶ 100. More than twelve million audio units, and three million video units of 3T1 have been sold worldwide. Stip. ¶¶ 101-102. 3T1 was the number one classical album in the United States for 1991 and 1992, and was the third highest selling classical album for 1993. CX584; CX585; CX586. By 1994, 3T1 was considered by Decca to be its most valuable asset. CX270 at

UMG005049; Hidalgo Dep. (JX88) 19:17-20:7 ("it was one of the most important albums in our entire life, commercially speaking").

B. **The 1994 Three Tenors Concert**

35. On July 16, 1994, the Three Tenors performed at Dodger Stadium in Los Angeles, California on the eve of the final match of the World Cup. Stip. ¶ 103. The 1994 Three Tenors concert was organized by concert promoter Tibor Rudas. CX246 at 3TEN0007695. All of the major music companies, including PolyGram and Warner, vied to acquire distribution rights for products to be derived from the 1994 Three Tenors concert. CX247 at 3TEN00011271 ("[Warner] obtained these rights [to 3T2] in the face of enormous competition from all the major record companies, and in particular from PolyGram.").

36. During 1993, PolyGram negotiated with the Rudas Organization to acquire the right to distribute audio and video recordings of the 1994 Three Tenors concert. Stip. ¶ 104. PolyGram and the Rudas Organization exchanged drafts of a license agreement, but were unable to agree upon the final terms of a contract. Kronfeld Dep. (JX86) 21:11-13, 22:20-23:11.; CX228; CX230; CX231; Constant Dep. (JX96) 80:5-81:1.

37. Warner acquired from the Rudas Organization the right to distribute audio and video recordings of the 1994 Three Tenors concert. Stip. ¶ 105.

38. At the time of the 1994 concert, Pavarotti was obligated by contract to record exclusively for Decca. Stip. ¶ 108. In 1994, Decca agreed, in exchange for certain considerations, to waive its rights to the exclusive services of Pavarotti as a recording artist, thereby permitting Pavarotti to perform on an audio and video product distributed by Warner. Stip. ¶ 109.

39. Upon the release of 3T2 in 1994 and thereafter until 1998, PolyGram (3T1) and Warner (3T2) competed aggressively to sell their respective Three Tenors albums. *See* CPF ¶¶ 233-267.

40. Despite competition from PolyGram, Warner considered 3T2 to be a business success. *See* CPF ¶ 255; O'Brien 406:2-10.

## III. The Three Tenors Moratorium Agreement Between PolyGram and Warner

41. In 1997, Warner and PolyGram agreed to collaborate on the distribution of products derived from the 1998 Three Tenors concert. Warner would distribute 3T3 in the United States, and PolyGram would distribute 3T3 outside of the United States. *See* CPF ¶¶ 60-65.

42. PolyGram and Warner were concerned about the commercial viability of 3T3. In particular, they were concerned that 3T3 would lose sales to 3T1 and 3T2. *See* CPF ¶¶ 91, 301-306.

43. Therefore, PolyGram and Warner agreed to a "moratorium" on the discounting and advertising of their older Three Tenors products in the weeks surrounding the release of 3T3. This strategy was first agreed upon at a meeting between Warner and PolyGram in March 1998. The agreement was reaffirmed in a series of verbal and written communications between PolyGram and Warner representatives in late June/early July 1998. *See* CPF ¶¶ 150-167. The agreement was made with the knowledge and approval of senior executives at PolyGram and Warner. *See* CPF ¶¶ 91, 104, 133, 166.

### A. PolyGram and Warner Executives Admit that there Was an Agreement to Restrict Discounting and Advertising

44. PolyGram and Warner executives admit that there was an agreement to restrict discounting and advertising of Three Tenors products. *See* CPF ¶¶ 45-47.

45. In 1998, Anthony O'Brien was Executive Vice President and Chief Financial Officer of Atlantic Records, and Warner's principal contact with PolyGram for the 3T3 project. Stip. ¶¶ 49,

50. O'Brien testified at trial that PolyGram and Warner agreed to restrict the discounting and advertising of 3T1 and 3T2 during 1998 in the United States and worldwide. O'Brien 390:1-15.

> Q. And in 1998 Warner and PolyGram agreed to restrict the discounting and advertising of the 1990 and 1994 Three Tenors albums for a period extending from August 1, 1998 through October 15, 1998; is that right?
>
> A. That's correct.
>
> Q. The agreement applied to the United States; correct?
>
> A. Correct.
>
> Q. And the agreement applied to all markets outside of the United States as well?
>
> A. That's correct.
>
> Q. The agreement was implemented in the United States?
>
> A. It was.

46. Rand Hoffman, Senior Vice President for Business Affairs for PolyGram Holding during 1998, also acknowledged the existence of the moratorium agreement. Hoffman 280:10-14.

> Q: Mr. Hoffman, during 1998, PolyGram and Warner agreed to restrict the discounting of the 1990 and 1994 Three Tenors albums; is that correct?
>
> A: There was a general agreement to that, yes, there was.

47. At his deposition, Paul Saintilan, the Senior Marketing Director for Decca/PolyGram, acknowledged that PolyGram and Warner agreed to restrict the marketing of 3T1 and 3T2. Saintilan Dep. (JX94) 47:18-48:1.

> Q: At some point did you and Warner representatives reach an agreement as to how the old Three Tenors albums would be marketed at the time of the release of 3T3 album?

> A: Yes. We reached an agreement that we would try to preserve a window for the new album.

48. The existence of the challenged agreements is further evidenced by numerous contemporaneous internal Warner and PolyGram business documents that acknowledge that PolyGram and Warner reached an agreement to limit the discounting and advertising of 3T1 and 3T2 for a period of time around the release of 3T3. JX1; JX2; JX3; JX4; JX5 at UMG001527; JX6; JX9; JX28 at UMG001487; JX40; JX42; JX43 at UMG00479-480; JX48; JX62 at 3TEN00003536-38; JX63; JX64; JX66; JX72; JX74; CX204; CX404; CX429.

**B. The Terms of the Three Tenors Moratorium Agreement**

49. PolyGram and Warner agreed to forgo certain competitive activity for the older Three Tenors products for a period of time extending from August 1, 1998 through October 15, 1998. O'Brien 390:1-6, 443:22-444:1; Hoffman 311:9-312:15; JX4 at UMG000208; CX202; JX9-A.

50. PolyGram and Warner agreed not to "aggressively" discount 3T1 or 3T2. That is, neither party would offer the older (or "catalogue") Three Tenors products at a price that would provide an incentive to retailers to sell the product at a price below suggested retail price, or prominently to position the product in the store. O'Brien 442:19-443:21; Hoffman 311:22-312:2; JX3 ("The prices should be 'normal' and not subject to any special discounts or promotion."); JX9-A (will not discount "below normal full price").

51. PolyGram and Warner agreed not to advertise or promote 3T1 or 3T2 for the duration of the moratorium. O'Brien 390:1-6, 436:11-16; JX1-A; JX4 at UMG000208 ("The moratorium prohibits price discounting, advertising and promotion of the 1990 album and video during this period.").

52. PolyGram and Warner agreed that the moratorium would apply both to Three Tenors audio products and to Three Tenors video products. O'Brien 446:1-8; Hoffman 326:17-22; JX4 at UMG000208; JX9-A; CX202; CX203 at UMG004911.

53. PolyGram and Warner agreed that the moratorium would apply to the marketing of 3T1 and 3T2 in the United States and worldwide. O'Brien 390:10-12; Hoffman 312:3-15; JX9-A ("worldwide moratorium").

54. PolyGram and Warner understood that, outside of the United States, there might be difficulties in implementing the restraints on a consistent basis, thus some discounting of catalogue Three Tenors products during the moratorium period might be unavoidable. JX74 at UMG000203 ("[W]e both accept that if the moratorium is to be re-enforced from August 1, at this late stage (mid July) there may be some spillage and late compliance."). *See also* JX74 at UMG000205.

55. PolyGram expressed concern to Anthony O'Brien that Atlantic not "overstock" U.S. retailers with 3T2 in the period prior to August 1, 1998. PolyGram did not want product sold by Atlantic prior to August 1 to be offered by retailers at a discount price after August 1, 1998 (*i.e.*, during the moratorium period). O'Brien therefore instructed Atlantic's sales department not to overstock retailers in the United States in the period leading up to August 1, 1998. O'Brien 444:2-445:25.

## IV. The Origin and Negotiation of the Three Tenors Moratorium Agreement

### A. PolyGram and Warner Agree to Collaborate on the 1998 Three Tenors Project

56. During 1996, concert promoter Tibor Rudas approached Warner to discuss the next Three Tenors project: a huge open-air concert in front of the Eiffel Tower scheduled to coincide with the World Cup finals in Paris in July 1998. CX319 at UMG004205; O'Brien 407:13-15.

57. Initially, Warner was interested in distributing the 3T3 products without a collaboration with PolyGram. O'Brien 550:20-551:20; CX317; CX321 at 3TEN00004277;

58. During the negotiations with the Rudas Organization, Warner was concerned that the Rudas Organization might make a deal for 3T3 with another music company. CX354 at 3TEN00002271;

59. During 1996, Rudas also discussed with PolyGram the possibility of PolyGram acquiring the rights to the 1998 Three Tenors concert. Stip. ¶ 122; CX315. In November, 1996, Decca/PolyGram executives negotiated with Rudas and submitted a detailed memo to PolyGram's senior executives requesting their approval to make an offer for the rights to the 3T3 project. At this time, PolyGram did not anticipate or desire a collaboration with Warner. CX327.

60. In 1998, as in 1994, Pavarotti was under exclusive contract to record for PolyGram. Stip. ¶ 125. Therefore, in the spring of 1997, Ahmet Ertegun, the Chairman of Atlantic (a Warner subsidiary based in the United States) met with Alain Levy, his counterpart at PolyGram, "to ask that PolyGram allow Luciano Pavarotti to record the project for [Warner]." CX366 at 3TEN00007334.

61. PolyGram's counter-offer was that Warner and PolyGram should "be partners for the 1998 concert project and all derivative product." CX366 at 3TEN00007334. *See also* JX22 at UMG001342; CX345 at UMG001635.

62. Warner calculated that if the third Three Tenors album sold only 60 percent as well as 3T2, then Warner and PolyGram would each make over $5.5 million. CX366 at 3TEN00007334. If

the profits had been projected to be only $3 million, Warner still would have gone ahead with the deal. O'Brien 412:6-18.

**B. PolyGram and Warner Negotiate the Terms of the Collaboration**

63.

the Rudas Organization licensed to Warner the worldwide audio, video, and home television rights to the 1998 Three Tenors concert (the "3T3 Rights"). Stip. ¶ 126;

. Compared to advances offered to other classical music artists, is high. Moore 40:24-41:12.

**1. The Basic Terms of the Collaboration**

64. Pursuant to the Concert/License Agreement dated December 19, 1997, Warner and PolyGram agreed to collaborate on the distribution of products derived from the 1998 Three Tenors World Cup concert. The contract is formally between Warner Benelux B.V. and PolyGram S.A. Stip. ¶ 127; JX10.

65. Among the important provisions of the contract between PolyGram and Warner are the following:

1. Atlantic, a Warner affiliate, is responsible for exploiting the 3T3 Rights within the United States. JX10-N.[3]

2. Warner licenses to PolyGram the right to exploit the 3T3 Rights outside of the United States. JX10-N-O.

3. Warner and PolyGram are separately responsible for developing and implementing marketing plans for their respective territories. Neither party has the right to approve or disapprove the other's marketing plans. JX10-P,T. However, Warner and PolyGram agree to "consult and coordinate" with respect to marketing and promotion activities in connection with the exploitation of the 3T3 Rights. JX10-P.

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[3] To "exploit" a recording is a music industry term that encompasses selling, advertising, marketing, and promoting the album. O'Brien 422:6-11.

4. Warner and PolyGram are each entitled to 50 percent of the net profits and net losses derived from the worldwide exploitation of the 3T3 Rights (as well as from the production of a Greatest Hits album and/or a Box Set incorporating the 1990, 1994, and 1998 Three Tenors albums). JX10-Q.

5. PolyGram agrees to reimburse Warner for 50 percent of the $18 million advance paid to the Rudas Organization. JX10-S.

6. Other expenses incurred by either Warner or PolyGram in the exploitation of the 3T3 Rights are to be deducted from revenues for purposes of calculating net profits (losses). JX10-Q-S.

**2. The Limited Covenant Not to Compete**

66.

67.

68. The parties' non-compete obligation is contained in Paragraph 9 of the final, executed Concert/License Agreement:

> Holdback on Future "Three Tenors" Products: Neither Warner nor PolyGram (nor any of their respective parents or affiliates) shall release any phonograph record or audiovisual device embodying the joint performances of all of the Artists (whether pre-existing or newly recorded), anywhere in the world, until June 1, 2002, unless such release is pursuant to this agreement. Nothing contained in this paragraph 9 shall be construed to prohibit (a) Warner from continuing to exploit the 1994 Album or (b) PolyGram from continuing to exploit the 1990 Album (as defined in the Rights Agreements).

JX10-U-V at UMG001076-77.

69. As of the date the Concert/License Agreement was entered into, PolyGram did not know Warner's plans for the exploitation of 3T2 upon the release of 3T3. Hoffman 305:20-24. As of the date the Concert/License Agreement was entered into, Warner did not know PolyGram's plans for the exploitation of 3T1 upon the release of 3T3. O'Brien 501:18-24, 548:12-17.

70. Although the Concert/License Agreement is formally between Warner Benelux B.V. and PolyGram S.A., the Holdback Provision was understood by both parties to apply to all Warner affiliates and to all PolyGram affiliates. Hoffman 305:25-307:4; O'Brien 421:18-422:5. Rand Hoffman, the PolyGram Holding executive who negotiated the Contract/License Agreement, understood his role in these negotiations as representing all of PolyGram, and not just the French company (PolyGram S.A.) that ultimately executed the agreement. Hoffman 307:5-9; Stip. ¶ 29.

**3. Negotiations over Control of the Repertoire**

71. A controversial issue negotiated among Warner, Polygram and the Rudas Organization was who would control the repertoire for the 1998 Three Tenors concert and recordings. Warner and PolyGram recognized that the success of the new Three Tenors album was tied to the repertoire. The music companies wanted to be sure that the repertoire on 3T3 would be "distinctive," and that it would not repeat selections from the earlier Three Tenors recordings. Roberts Dep. (JX92) 12:3-16, 13:8-14:4, 14:20-15:11, 15:22-16:21. *See also* Hoffman 300:6-12 (PolyGram wanted repertoire for 3T3 to be distinct from 3T1 and 3T2 so that the new album would be attractive to consumers); O'Brien 410:8-12 (Warner wanted to be sure that 3T3 was new, exciting and different from 31 and 3T2); CX331 ("Objective: No repeat repertoire other than Nessun Dorma."); CX343; CX402; CX330 at UMG000512 (sales level "depends upon repertoire").

72. Both Warner and PolyGram proposed to the Rudas Organization that they should have the right to designate or approve a significant part of the repertoire to be performed and recorded at the 1998 Three Tenors concert. ; CX337; CX340 at 3TEN00000523; CX349 at 3TEN00000520; CX354 at 3TEN0002272; O'Brien 410:5-7.

73. The Rudas Organization insisted that it and the artists should control the choice of songs. CX334; O'Brien 410:17-25 ("[the Tenors] were somewhat reluctant to learn new repertoire").

74. In 1997, Phil Wild was Executive Vice President for Atlantic/Warner. In a memo to senior management, Wild identified the repertoire issue as one of the most significant business risks presented by the Three Tenors transaction:

> We do not [in the current draft,] have contractual approval over the repertoire . . . As a practical matter [Ahmet Ertegun, Co-Chairman of Atlantic,] feels comfortable with his relationship with Tibor [Rudas], the Tenors and [conductor] James Levine and that we will be able to work out the repertoire on a mutual basis. PolyGram, however, is still insisting that Warner should obtain from [Rudas] a contractual approval right. Even with such a contractual right, it is unlikely we could force the Tenors to sing that which they do not want to sing. Therefore, there is always the risk that, after all is said and done, we could end up with an album comprised of repertoire which has little commercial appeal.

CX354 at 3TEN00002272; *see also* CX356 at 3TEN00002249; O'Brien 418:1-7 (in December 1997, Warner considered the repertoire issue to be one of the most significant business risks of the 3T3 project).

75. Wild's memo identifies and discusses several other "significant business risks" associated with the 3T3 transaction. Significantly, Wild does not identify as a problem free riding, consumer confusion, or difficulties in developing an effective marketing strategy for 3T3. CX354 at 3TEN00002271-00002273.

76. Ultimately, PolyGram and Warner agreed to forgo the right to approve the repertoire for the 1998 concert. CX356 at 3TEN00002249 ("PolyGram has dropped this point"); JX22 at UMG001342; O'Brien 418:13-21.

77. The final contract between Warner and the Rudas Organization provides that the Rudas Organization shall control the selection of songs for the Paris concert.

JX22 at UMG001342 ("RPL [Rudas] will consider our input [regarding repertoire], but in the event of a disagreement RPL's decision is final.").

**C. PolyGram and Warner Consider Ways to Distinguish 3T3**

78. In 1996 and 1997 prior to agreeing to distribute 3T3, both PolyGram and Warner were concerned that the 1998 Three Tenors album would be neither as original nor as commercially appealing as the 1990 and 1994 releases. CX318 at UMG004146, UMG004150 ("The exhibitionistic milking of the 3T formula, particularly with the ongoing tour probably will – in spite of enthusiastic crowd reaction – take away a lot of the myth, charm, surprise etc of a third recording project . . . I feel uneasy about the prospects of 3 tenors III, since the three have refused to include any additional 'new' attractive element . . . ); CX321 at 3TEN000004277 ("The [Three Tenors] concept, unique in 1990, anticipated in 1994, will, by the time the current concert tour is completed, have been considerably diminished."); CX424 at UMG003563 ("the public perception of the Three Tenors in the U.K. is now that they are jaded, and their concerts formulaic").

**1. PolyGram and Warner Seek to Develop a Unique Identity for 3T3**

79. PolyGram and Warner considered various marketing strategies aimed at creating a unique identity for the 1998 album, distinct from the previous Three Tenors recordings. Saintilan

Dep. (JX94) 101:19-22 (marketing campaign for 3T3 attempted to create an identity distinct from 3T1 and 3T2); CX381 at 3TEN00000247 (public relations campaign for 1998 Paris concert must "underline and promote the unique qualities of the 1998 concert in terms of location, scale, free attendance, new repertoire and set etc."); CX386 at UMG004596 ("Message – new and fresh, unique outdoor event, different packaging"); CX423 at UMG003603 ("The principal objective of this campaign must be to show that this record is totally different from 3 Tenors I and 3 Tenors II.").

80. Initially, PolyGram executives wished to differentiate the 1998 concert by including a guest performer. Stip. ¶ 128; Roberts Dep. (JX92) 25:9-26:12, 27:7-13 (inclusion of guest performer would make 3T3 "more interesting, more compelling, potentially more commercial"). However, this suggestion was rejected by the Tenors. Roberts Dep. (JX92) 25:9-26:21; CX318 at UMG004150 (Tenors "have refused to include any additional 'new' attractive element").

81. Another PolyGram proposal was to commission the writing of one or more original songs. PolyGram considered soliciting new material from Andrew Lloyd Webber, Elton John, Stevie Wonder, or, from writers associated with Celine Dion, Barbra Streisand, Andrea Bocelli and Whitney Houston. CX485 at UMG004182. *See also* CX331 at UMG004183-184. These ideas were not implemented.

82. PolyGram and Warner discussed "positioning" themes for 3T3. Positioning means "creating an identity or a set of messages around a CD that differentiate [it] from other CDs." Saintilan Dep. (JX94) 61:19-21. For example, the parties' marketing activities for 3T3 emphasized "that it was a spectacular Parisian event, that it was an awesome spectacle with a completely different context from either the '94 album or the '90 album." Saintilan Dep. (JX94) 101:23-102:2.

83. The parties also recognized the desirability of designing packaging for the 1998 Three Tenors products that was "as different as possible from the two previous releases." CX383 at UMG003284; JX26 at UMG000372; Saintilan Dep. (JX94) 66:9-67:2.

### 2. Rudas Promises an All-New Repertoire

84. On January 6, 1998, Tibor Rudas publicly announced that the Three Tenors would perform in Paris in front of the Eiffel Tower, on July 10, 1998, as part of the World Cup celebrations. Rudas promised "a totally new repertoire of operatic arias and world-renowned popular songs." CX380 at 3TEN00003979.

85. In addition to promising the world a "totally new repertoire," Rudas repeatedly assured the music companies that the album to be recorded in Paris would consist of new songs not appearing on the prior two albums. CX387 at UMG003148 ("Mr. Rudas emphasized that everyone should know that the Tenors are performing an entirely new program.").

86. PolyGram and Warner determined that the all new repertoire "not on albums 1 & 2" would be a key selling point for 3T3. CX383 at UMG003283-284; Saintilan Dep. (JX94) 57:12-58:2 ("[all new material] would provide a more compelling reason to purchase the album than if the material had been repeated on previous albums"); Saintilan Dep. (JX94) 58:13-15 ("[PolyGram] felt the more new material that was on the album, then the stronger it would be in terms of the marketing proposition"); CX381 at 3TEN00000245-00000246 ("The repertoire for the concert will be entirely new and presented to the world for the first time"); CX391 at UMG003218 ("Emphasis on all new repertoire angle . . .").

87. PolyGram relayed this message to its operating companies. JX25 (Saintilan informs opcos: "I can assure you that . . . we'll have a great, new repertoire"); CX469 at UMG004908 ("the

Paris 1998 release will feature **only brand new material**") (emphasis in original); CX417 at UMG003384 (PolyGram operating companies informed of "ALL NEW REPERTOIRE") (emphasis in original); CX471 at UMG003862 ("Please remember – the new repertoire is your biggest selling point.").

88. Informed of Rudas' intention to deliver new repertoire for 3T3, PolyGram operating companies agreed that the new repertoire would be a significant selling point for the 1998 Three Tenors album. JX39 ("It would be a strong selling point for us if you could make a feature of the new repertoire on the front cover."); CX423 at UMG003603 ("The principal objective of this campaign must be to show that this record is totally different from 3 Tenors I and 3 Tenors II."); CX343 ("Estimate of '98 sales for 3 Tenors [in France]: 100,000/150,000 IF NEW REPERTOIRE.") (emphasis in original).

89. The message that 3T3 would contain all new repertoire was one of the promotional themes presented to the media by PolyGram and Warner. CX477 at 3TEN00008809 ("With Jose, Placido, and Luciano performing an entirely new repertoire of operatic arias and beloved songs in six languages, their millions of fans can expect an exceptional new album and a dramatic video."); Saintilan Dep. (JX94) 112:7-19; CX496; JX82 at UMG003855 ("a brand new programme of popular arias").

90. As will be discussed in further detail below, despite the desire for and expectation of all new repertoire for 3T3 to increase the likelihood of 3T3's commercial success, ultimately both PolyGram and Warner concluded that the repertoire was disappointing. *See* CPF ¶¶ 142-146.

## V. Polygram and Warner Agree to Restrict the Discounting and Advertising of their Older Three Tenors Albums

### A. Warner and PolyGram Agree Not to Promote Catalogue Products

91. The idea of a moratorium on competitive activity originated with Chris Roberts, President of PolyGram Classics. Saintilan Dep. (JX94) 41:10-15. Initially, Roberts was concerned about the activities of PolyGram's own operating companies. That is, Roberts wanted to be sure that the PolyGram operating companies did not promote 3T1 in a way that would divert sales from 3T3. Saintilan Dep. (JX94) 41:10-15, 44:21-45:4. Roberts expressed this concern to Paul Saintilan, the individual at PolyGram responsible for managing the marketing of 3T3. Saintilan Dep. (JX94) 41:10-42:1.

92. In early 1998, Paul Saintilan relayed to PolyGram operating companies Chris Roberts' view that 3T1 should not be promoted in a way that captures sales from 3T3. The response from the PolyGram operating companies was that if Warner were promoting 3T2, then they wanted to be free to promote 3T1. Saintilan Dep. (JX94) 41:16-42:10; Saintilan Dep. (JX94) 46:9-25.

#### 1. Warner and PolyGram Discuss Marketing of Older Albums

93. On January 29, 1998, representatives of PolyGram and Warner first met to discuss "marketing and operational issues" relating to the release of 3T3. Saintilan Dep. (JX94) 56:11-57:8. CX383 is minutes of the January 29 meeting, prepared by Paul Saintilan shortly after the meeting. Saintilan Dep. (JX94) 55:13-56:6.

94. The following persons attended the January 29, 1998 meeting: From Warner, Pat Creed, Vicky Germaise, and Margo Scott; From PolyGram, Chris Roberts (PolyGram Classics),

Rand Hoffman (PolyGram Holding), Roger Lewis (Decca), and Paul Saintilan (Decca). Also in attendance was Wayne Baruch, a representative of the Rudas Organization. CX383 at UMG003282; Saintilan Dep. (JX94) 56:14-25.

95. Various issues relating to the marketing of 3T3 were discussed at the January 29, 1998 meeting (*e.g.*, cover art, positioning, packaging). In addition, Chris Roberts (PolyGram Classics) raised with the group his "general concern" over how older Three Tenors products would be marketed upon the release of 3T3. Saintilan Dep. (JX94) 42:24-43:14. One option, Roberts indicated, was to "impose an ad moratorium until November 15." CX383 at UMG00328; Saintilan Dep. (JX94) 72:20-73:11. There were "no concrete discussions" regarding the proposed advertising moratorium. Indeed, the Warner representatives expressed no view on the subject (at least none that Saintilan recalls or entered into his notes). Saintilan Dep. (JX94) 72:20-73:11; Saintilan Dep. (JX94) 74:15-18. Roberts simply raised the issue of advertising older Three Tenors albums, and suggested that it could be resolved at some future date. Saintilan Dep. (JX94) 42:24-43:3.

96. At the January 29, 1998 meeting, PolyGram and Warner did not reach any agreement regarding the concern raised by Chris Roberts (PolyGram Classics). Saintilan Dep. (JX94) 73:14-16 (no agreement or resolution was reached); Saintilan Dep. (JX94) 109:5-110:10.

97. At the January 29, 1998 meeting, there was no discussion concerning the pricing of 3T1 and 3T2; only advertising was addressed. Saintilan Dep. (JX94) 73:21-24 (does not recall discussion of pricing of older Three tenors albums); Saintilan Notes (January 29, 1998 Meeting) (UMG003282-89) (CX383) (no reference to discussion of pricing).

98. At an internal PolyGram meeting on February 9, 1998, Saintilan reported that there were "No restrictions on 1990/1994 products." CX386 at UMG004596.

### 2. PolyGram and Warner Agree to Restrict the Marketing of 3T1 and 3T2

99. The next meeting of PolyGram and Warner representatives to discuss the 3T3 project was held in New York on March 10, 1998. CX383 at UMG003289 (scheduling follow-up meeting for second week of March); Saintilan Dep. (JX94) 75:17-21. Between the January 29 meeting and the March 10 meeting, there had been no communications between PolyGram and Warner relating to the proposed Three Tenors moratorium. Saintilan Dep. (JX94) 75:17-21 (Saintilan recalls no communications between January 29 and March 10 on subject of moratorium). JX5 is Saintilan's notes from the March 10 meeting, prepared on or about March 10, 1998. Saintilan Dep. (JX94) 110:23-111:21.

100. The following persons attended the March 10, 1998 meeting: From PolyGram, Roger Lewis (Decca), Paul Saintilan (Decca), Rand Hoffman (PolyGram Holding), and Alex Darbyshire (PolyGram Video); From Warner, Vicky Germaise, Pat Creed, and Margo Scott. Wayne Baruch from the Rudas Organization also attended. JX5 at UMG001523; Hoffman 308:20-309:21.

101. At the March 10, 1998 meeting, PolyGram and Warner representatives discussed the marketing of 3T1 and 3T2. Saintilan Dep. (JX94) 113:10-16. Saintilan's notes of the March 10, 1998 meeting state that, at the meeting, the parties reached an "Agreement that a big push on catalogue shouldn't take place before November 15." JX5 at UMG001527; *see also* CX388 at 3TEN00008009 (Warner notes of March 10, 1998 meeting) ("embargo – Nov. 15 'not actively' pushing back catalogue, after that a free for all").

102. Catalogue is a music industry term that refers to older albums that continue to be offered for sale by a music company. Hoffman 309:22-310:3; O'Brien 394:19-23.

103. The agreement between PolyGram and Warner to forgo a "big push" on catalogue products was explained by Saintilan at his deposition. According to Saintilan, at the March 10, 1998 meeting, PolyGram and Warner agreed to observe a "window" or "moratorium" at the time of the release of 3T3 in which price discounting and promotion of 3T1 and 3T2 would not take place. Saintilan Dep. (JX94) 115:24-116:8.

104. Roger Lewis, President of Decca, attended the March 10, 1998 meeting and participated in the discussions regarding the marketing of 3T1 and 3T2. Lewis approved of the moratorium agreement. Saintilan Dep. (JX94) 117:3-8.

105. It was Saintilan's understanding that, at this meeting, a commitment to the moratorium was being made by Decca on behalf of all PolyGram companies worldwide, including the PolyGram affiliates in the United States. It was also Saintilan's understanding that a commitment to the moratorium was being made by the Warner representatives on behalf of all Warner companies worldwide, including the Warner operating companies in the United States. Saintilan Dep. (JX94) 124:24-125:25.

106. During the March 10, 1998 meeting, the precise starting date for the moratorium was not specified. JX5 at UMG001527.

### 3. The Moratorium Was Understood and Intended by PolyGram and Warner to Apply to the Marketing of 3T1 and 3T2 in the United States

107. The understanding reached by PolyGram and Warner at the March 10, 1998 meeting was that the moratorium on competitive activity would be implemented in all markets worldwide, including the United States. Saintilan Dep. (JX94) 116:16-21. PolyGram was concerned about possible discounting of 3T2 by Warner, both internationally and in the United States. Saintilan Dep. (JX94) 77:1-7.

108. In order for PolyGram to implement the moratorium in the United States, PolyGram needed the cooperation of PolyGram Classics and PGD. Saintilan Dep. (JX94) 49:8-15.

109. In 1998, Kevin Gore was the Senior Vice President and General Manager of PolyGram Classics in the United States. Stip. ¶ 26.

110. In the spring of 1998, Paul Saintilan spoke to Kevin Gore about the Three Tenors moratorium. This conversation took place in the United States. Saintilan told Gore that he (Saintilan) wanted PolyGram Classics to forgo discounting and advertising for 3T1 in the United States for a period of time. Gore responded that PolyGram Classics "would seek to comply." Saintilan Dep. (JX94) 49:16-50:24. Saintilan understood that Gore intended to communicate with PGD regarding the moratorium, and to ensure that PGD complied with its terms. Saintilan Dep. (JX94) 51:3-15. Thus, PolyGram executives were genuinely concerned that, absent the moratorium agreement, the U.S. companies would discount 3T1 in the period following the release of 3T3.

### B. Polygram Develops Marketing Plans for 3T1 Constrained by the Moratorium Agreement

111. By memorandum dated February 27, 1998, Saintilan requested that each PolyGram operating company provide Decca/PolyGram with an outline of its local marketing campaign for 3T1 and 3T3. CX417 at UMG003382. With regard to 3T1, Saintilan sought a description of planned marketing activities, expenditures, and target incremental sales. CX417 at UMG003390-003391. The memo requests that the operating companies respond by March 18, 1998. CX417 at UMG003382, 003390.

112. The opcos responded to Saintilan's request by submitting a description of planned marketing activities for 3T1. JX50 at UMG003661-62. Several of the PolyGram operating companies planned price discounting and advertising campaigns for 3T1 during 1998, which they

forecast would result in significant incremental sales. *E.g.*, JX50 at UMG003666 (Australia); JX50 at UMG003685 (France); JX50 at UMG003746 (United Kingdom). *See also* CX427; JX37 (price discounting in France would treble sales).

113. During 1998, the practice within PolyGram was that if an operating company wished to significantly reduce the price of 3T1, that operating company was supposed to request and obtain the consent of both Decca (the repertoire owner) and PolyGram Vice President Bert Cloeckaert. Cloeckaert Dep. (JX97) 52:2-13; Cloeckaert Dep. (JX98) 176:7-177:6; CX510 at UMG006328; CX543 at UMG006214 ("operating companies are not allowed to go below prices given to them on the price harmonization sheets."); Hoffman 313:10-18.

114. In the spring of 1998, several Polygram operating companies formally requested permission from Decca and PolyGram to discount and promote 3T1. JX35; CX401; CX402; CX403; CX404; CX427. PolyGram operating companies wished to offer 3T1 at a discount price for all or part of the period running from August 1 to October 15, 1998. CX403; CX428; CX429 at UMG003056; CX442 at UMG000195; JX35; JX46.

115. PolyGram Vice President Bert Cloeckaert expected that a temporary reduction in the price of 3T1 would lead to significantly higher sales levels. Cloeckaert Dep. (JX97) 81:1-82:9. PolyGram's reduction in the price of 3T1 in Europe during the pre-moratorium period did in fact lead to higher sales levels. Cloeckaert Dep. (JX97) 81:9-22.

116. In a series of memos, PolyGram instructed its operating companies: (i) that in view of the upcoming World Cup tournament, they could reduce the price of 3T1 and advertise its availability; but (ii) pursuant to an agreement with Warner, aggressive marketing campaigns in support of 3T1 would have to terminate by the end of July 1998;

1. "To keep in line with an agreement laid down with Atlantic and [PolyGram Classics President] Chris Roberts, we should not encourage any promotion on the original [Three Tenors] album from the day of release of the new album (probably in-store August 10) for a period of around 6 weeks." JX40.

2. "We have agreed with Warners to discourage any promotion on the first [Three Tenors] album from the day of release of the new album . . . for a period of around 6 weeks. So all promotion on the first album should have stopped by then." CX404 (emphasis in original).

3. "PolyGram has made an undertaking to Atlantic Records that no advertising or point of sale material originated for the launch of the new album will feature packshots of the 1990 album. This is based on Atlantic reciprocating by omitting the 1994 album in their initial POS [point of sale]/ads, and telling their OpCos to back off promoting the 1994 album worldwide until a sufficient window has been observed." JX28 at UMG001487.

4. "Following further discussions with Warners regarding the joint marketing of the 1998 '3 Tenors' album, it is now felt that we should avoid any aggressive price campaigns of the 1st "3 Tenors" album. This means that we will be unable to give consent to Germany and France for their campaigns and that we shall discourage any further requests from other opcos . . . . We do hope that you will appreciate that this decision is partly beyond our control and arises from a complex set of ongoing negotiations between PolyGram, Warners and the Rudas Organisation." JX42 (emphasis in original).

5. "After considerable discussion with Atlantic and other parties, the mid-price campaign first canvassed by Bert Cloeckaert in Europe has also been re-introduced (mid-price royalty break available from Stephen Greene on application) . . . . Atlantic and PolyGram have agreed that we will jointly refrain from any promotion of the previous albums that could potentially undermine sales of the new album around the time of the initial release." CX459 at UMG SK 0005.

6. *See also* CX391 at UMG003227 ("90/94 Catalogue – agreed no big push on this before 15 Nov"); CX393 at UMG000541; CX413 at UMG3058 (per agreement with Atlantic, all price discounting on 3T1 should be discontinued from July 24, 1998); JX48 ("[W]e will need a very aggressive marketing campaign on the Original Three Tenors to sell 60k units, which perhaps will see us in breach of the agreement with Warners – so it is a delicate situation.").

### C. PolyGram Seeks Assurances that Warner Is Also Preparing to Comply with the Moratorium Agreement

117. PolyGram was concerned that Warner might cheat on the moratorium agreement by discounting 3T2. In April 1998, Chris Roberts, President of PolyGram Classics, instructed Paul Saintilan to "ensure" that Warner would comply with the moratorium agreement. JX34. Saintilan understood compliance to mean that Warner would not discount or advertise 3T2 in the period following the release of 3T3. Saintilan Dep. (JX94) 129:13-23.

118. Saintilan's strategy to confirm that Warner intended to comply with the moratorium agreement was to request that Warner provide to PolyGram copies of Warner's internal directives to Warner operating companies instructing compliance with the moratorium agreement. JX34.

119. During 1998, Pat Creed was Senior Director for Product Development for Atlantic Records, and was responsible for marketing and promotional activities for 3T3 in the United States. Stip. ¶ 36. Creed had attended the March 10, 1998 marketing meeting at which the Three Tenors moratorium was first agreed upon by PolyGram and Warner. JX5 at UMG001523.

120. On April 29, 1998, Saintilan (Decca/PolyGram) sent a letter to Creed (Atlantic/Warner) seeking assurance that Warner was planning to abide by the moratorium. The letter to Warner references PolyGram's written instructions to PolyGram operating companies requiring an end to discounting of 3T1 by July 24, 1998. Saintilan requested confirmation that Warner planned to "enforce the same window." JX6.

121. Pat Creed forwarded Saintilan's April 29, 1998 letter to Anthony O'Brien, Executive Vice President and Chief Financial Officer of Atlantic. Creed's cover memo notes that Saintilan's

letter includes "a copy of the message sent by Decca to their affiliates around the world. They are still looking for some sort of assurance from us that the same is being done for Warner Music International." CX415 at 3TEN00010551.

122. Saintilan also sent a copy of his April 29, 1998 letter to Rand Hoffman (PolyGram Holding). Hoffman forwarded a copy of the letter to Margo Scott, an attorney for Warner. Hoffman 320:10-16.

### 1. Warner Music International Launches an Aggressive Discount and Promotion Campaign for 3T2

123. Warner had no responsibility for the sale, marketing or promotion of 3T3 outside the United States. For this reason, WMI personnel were not involved in planning for the release of 3T3, and were not aware of discussions concerning the moratorium. No WMI representatives attended any of the joint PolyGram/Warner marketing meetings, and there is no evidence that WMI was provided with any information regarding the marketing plans for 3T3. *See* CPF ¶¶ 94, 100.

124. In December 1997, WMI began planning a television advertising campaign for 3T2 to run in Europe from July through December 1998. WMI planned "to aggressively advertise, position and discount-price the 1994 album" throughout the second half of 1998. CX443 at 3TEN00003641; CX366 at 3TEN00007335; O'Brien 414:1-9.

125. WMI forecast that dropping the wholesale price of the 3T2 from $13.40 per unit to $8.50 per unit, combined with an aggressive advertising campaign, would increase the company's sales of 3T2 by 170 percent. JX31 at 3TEN00009930. In order to subsidize a price cut, in-store merchandising, and television and press advertising for 3T2, WMI asked the Rudas Organization to grant WMI a temporary reduction in royalties owed. JX60 at 3TEN00003561. WMI assured Rudas

that, given the anticipated increase in sales volume for 3T2, the Rudas Organization would garner higher profits at the lower royalty rate. JX60 at 3TEN00003561; JX31 at 3TEN00009930.

126. Warner did not require the consent of the Rudas Organization to lower the wholesale price of 3T2. Warner did need such consent in order to reduce the royalty owed to the Rudas Organization on sales of 3T2. CX398;

127. In May 1998, Tibor Rudas consented to a reduced royalty rate for the 3T2 audio and video products for the period from May to December 1998. CX426 at 3TEN00003557-58; JX60 at 3TEN00003561 ("to 1st Jan agree"); CX431 at 3TEN00009923; CX432; CX434 at 3TEN00011049; CX435 at 3TEN00017899; CX436; CX448 at 3TEN00011077-78.

128. On May 15, 1998, WMI issued a bulletin to its operating companies worldwide announcing the launch of a discount campaign for 3T2, effective from May 17, 1998 until December 31, 1998. CX435 at 3TEN00017900.

### 2. PolyGram Learns of Warner's Plans to Discount and Promote 3T2

129. A copy of WMI's bulletin announcing the discount campaign for 3T2, scheduled to run through December 1998, was obtained by PolyGram in June 1998. CX425 at UMG000166-67.

130. PolyGram had hoped to obtain internal Warner documents confirming Warner's intention to comply with the moratorium. Instead, PolyGram obtained information indicating that Warner would be selling 3T2 at a substantial discount. CX429 at UMG003056 ("it seems Warners are already in breach of the arrangement made by the two CEO's!"); CX441.

131. PolyGram's operating companies informed Saintilan and PolyGram's central management that they wanted to respond to Warner's price discounts on 3T2 by discounting

PolyGram's 3T1. CX425 at UMG000167 ("Warner has reduced 3T2 . . . So if consumers are going to buy 'other' product, I would prefer it to be a decca cd."); CX429 at UMG003056; CX440; CX442 at UMG000194.

### 3. WMI's Discounting Creates Concerns About the Implementation of the Three Tenors Moratorium Agreement

132. Rand Hoffman served as PolyGram's liaison with Warner for contract issues relating to the 3T3 project. In June 1998, Chris Roberts (PolyGram Classics) forwarded to Hoffman a note complaining that Warner was significantly discounting 3T2 in Europe. JX66.

133. Hoffman had attended the March 10, 1998 marketing meeting, and understood that PolyGram and Warner representatives had agreed to implement a moratorium on competitive activity for 3T1 and 3T2. Hoffman 280:10-14; JX5 at UMG001523.

134. On June 11, 1998, Hoffman sent a letter to Warner. Hoffman 322:4-6. Hoffman complained that in Denmark, and perhaps elsewhere in Europe, Warner was offering 3T2 at a "very low price." This action, Hoffman charged, contravened the understanding between PolyGram and Warner. Hoffman asked that Warner take steps to eliminate this discounting (JX64):

> This [low price] clearly violates the general understanding PolyGram and Atlantic reached about not promoting or selling the 1990 and 1994 albums in a manner that would negatively affect sales of the 1998 album. I understand the difficulty of communicating a consistent policy on a worldwide basis, but I must ask that you contact whomever is necessary in the Warner International organization so that this practice and others like it stop immediately.

135. Hoffman was not then aware that the moratorium period was scheduled to commence at the end of July. When informed of this fact, Hoffman revoked his letter. JX66; Hoffman 322:22-323:14; JX63 ("revoked by Rand Hoffman 6/12 (apparently there was an agreement that until July both could specially price prior records)").

136. PolyGram understood that its central management did not have complete control over the prices charged by its operating companies, and understood that Warner had similar problems controlling its operating companies. Saintilan Dep. (JX94) 153:4-17. PolyGram therefore was concerned that it would be difficult for both companies to implement the moratorium consistently on a worldwide basis. Hoffman 322:16-21; Saintilan Dep. (JX94) 153:4-17.

137. PolyGram managers discussed what to do about price discounting on 3T1 in light of the confusion regarding the starting date for the moratorium. Chris Roberts, President of PolyGram Classics, advised that the moratorium agreement was likely to fall apart because of the mutual distrust between PolyGram and Warner at the level of the operating companies. Saintilan Dep. (JX94) 134:22-136:6; JX66.

138. Saintilan concluded that PolyGram should not coax and cajole its local operating companies to abide by the moratorium: If Warner discounted 3T2 in a local market, the PolyGram operating company would be permitted to "retaliate" with discounts on 3T1. Saintilan Dep. (JX94) 138:17-21 ("I couldn't be constantly intervening in the 50 – the conversations going on in 50 countries around the world on this issue; and therefore, there was an option of stepping back and letting natural forces take hold."). Saintilan distributed an e-mail message to PolyGram executives seeking their concurrence in this course of action:

> [T]he moratorium will almost certainly fall apart between the two companies, and we should not police it within PolyGram. Is everyone OK with this? I'm reluctant to send an official note throughout the company, as it deliberately contradicts the earlier rationale we gave, and is completely inconsistent with a fax I actually sent to Atlantic saying that we vigorously police a window from "late July" through to "when the Christmas campaigns hit the shops." Better to let it fall apart naturally on a territory by territory basis with us failing to police any retaliation. That's my preferred option anyway.

JX66.

139. During June 1998, senior management at PolyGram concluded that there was likely to be discounting and promotion of the older Three Tenors products upon the release of 3T3, notwithstanding the agreement of senior executives at PolyGram and Warner to observe a moratorium. Saintilan Dep. (JX94) 139:9-19, 154:13-18. Nevertheless, PolyGram did not modify its plans for advertising and promoting 3T3. Saintilan Dep. (JX94) 139:20-23.

140. During June 1998, senior management at PolyGram expected that there might be no moratorium on the discounting and promotion of the older Three Tenors products upon the release of 3T3. Saintilan Dep. (JX94) 139:9-19, 154:13-18. *See* CPF ¶¶ 136-138. During this period, there is no evidence that:

- PolyGram abandoned (or considered abandoning) the PolyGram/Warner joint venture;

- PolyGram cancelled (or considered cancelling) the Paris concert;

- PolyGram modified (or considered modifying) its plans to manufacture, market, distribute, or sell 3T3 outside of the United States;

- PolyGram directed Warner to modify Warner's plans to manufacture, market, distribute, or sell 3T3 in the United States; or

- PolyGram ceased to coordinate with Warner marketing activity for 3T3.

141. In other words, PolyGram's only response to the expectation that Warner would be discounting 3T2 upon the release of 3T3 was to notify its operating companies that they were free to retaliate by discounting 3T1. JX9-B at 3TEN0000013 ("informal guidance has been given at a local level that in the event of failure by Warners to enforce any moratorium they should react as they feel appropriate"); JX1-B ("we have informally allowed [the moratorium] to collapse at a local level to allow a response to Warner pricing.").

### D. Warner and PolyGram Are Alarmed by the Proposed Repertoire for the Paris Concert

142. PolyGram and Warner hoped and expected that the 1998 Three Tenors recordings would consist of all new material. *See* CPF ¶¶ 84-89.

143. In June 1998, the Rudas Organization informed PolyGram and Warner of the intended repertoire for the upcoming Three Tenors concert. CX486; CX487; CX488. PolyGram and Warner were alarmed to learn that the intended repertoire for the 1998 Three Tenors concert was "not substantially new." CX490; CX489; O'Brien 424:23-425-13. Instead, the intended repertoire for the 1998 Three Tenors concert would overlap substantially with the repertoire of the earlier Three Tenors concerts: "4 out of the 5 songs Pavarotti is considering singing were performed in either 1990 or 1994. In addition, 7 of the 8 scheduled encores were performed in either 1990 or 1994." CX489; CX490.

144. The parties were concerned that if the overlap in repertoire between 3T3 and the earlier Three Tenors albums was too extensive, then 3T3 could lose sales to 3T1 and 3T2. O'Brien 426:4-8. The companies had expected new and exciting repertoire, and the failure to deliver such a repertoire risked the success of the venture. *See* CPF ¶¶ 71-77, 84-89.

145. On several occasions from mid-June through to the date of the concert, PolyGram and Warner expressed to Tibor Rudas their dissatisfaction with the intended repertoire. CX487; CX489; CX489; CX490.

146. PolyGram and Warner understood that the Tenors' failure to deliver a substantially new repertoire at the 1998 concert would jeopardize the commercial success of the 1998 album and video. According to Warner executive Anthony O'Brien:

[T]he problem that we had was that The Three Tenors [are] perhaps three of the laziest performers we have ever seen performing this type of music, and what we were hoping for, when we were making the '98 concert, was to have new and exciting repertoire... And they're not particularly given to sort of learning new arias, and so Nessun dorma! would come back again, or maybe Carreras would sing one of the Pavarotti songs or vice versa. And so although the album was different . . . it wasn't, perhaps, quite as new and exciting as we had hoped it to be.

O'Brien I.H. (JX101) 74:2-16.

### E. Atlantic Learns that WMI's Discounting Campaign Will Take Place During the Planned Moratorium Period

147. At about the same time that they learned that the repertoire would not be substantially new, Anthony O'Brien and other executives at Atlantic/Warner became aware that Warner's international operation, WMI, was using a discount campaign to sell 3T2, and hence that the Three Tenors moratorium agreement was in jeopardy of falling apart. JX68.

148. On June 24, 1998, Atlantic forwarded a memo to Ramon Lopez, the President of WMI. Atlantic warned WMI that its price cut on 3T2 could lead PolyGram to discount its catalogue Three Tenors album:

> WMI's campaign could have a serious negative impact on PolyGram's marketing of the new Three Tenors album . . . . PolyGram is planning on a moratorium on marketing their 1990 album . . . . [W]hen PolyGram learns of WMI's plans, PolyGram will be forced to market aggressively their 1990 album as well. When all is said and done, the real loser could be the Warner Music Group and its $9 million investment in the new album.

CX443 at 3TEN00003641.

149. Ramon Lopez, President of WMI, responded to Atlantic on July 1, 1998, insisting that PolyGram had initiated the price reduction:

> I am somewhat baffled by your assertion that PolyGram is planning a moratorium on the marketing of their 1990 album. You should be aware that PolyGram has been marketing and pricing very aggressively their 1990 album

> for approximately a month and a half already -- well ahead of us -- and in some markets they are actually giving the dealers incentives not to buy in our album . . . .
>
> Far from the Warner Music Group shooting itself in the foot by us marketing our album, we will be doing precisely that if we allow PolyGram to have a free run in marketing theirs with us doing nothing with ours.

JX8.

## VI. PolyGram and Warner Reaffirm the Moratorium Agreement

### A. Warner and PolyGram Provide Oral Assurances to One Another

150. On June 25, 1998, Anthony O'Brien (Atlantic/Warner) and Paul Saintilan (Decca/PolyGram) discussed by telephone the Three Tenors moratorium. JX9-A at 3TEN0000012 (referring to telephone conversation between O'Brien and Saintilan on June 25, 1998); JX74 (referring to telephone conversation between O'Brien and Saintilan two weeks in advance of July 10).

151. During the June 25, 1998 telephone conversation, Saintilan reaffirmed PolyGram's willingness to forgo discounting and advertising of 3T1, provided that Warner reciprocated with regard to 3T2. O'Brien assured Saintilan that his company, Atlantic, would comply with the moratorium agreement in the United States. O'Brien 433:3-20.

152. O'Brien also told Saintilan that he would communicate with representatives of WMI to ensure that WMI would also abide by the moratorium. O'Brien 433:21-25.

153. During the June 25, 1998 telephone conversation, O'Brien understood that Saintilan had the authority to agree, and did agree, to the moratorium on behalf of all of PolyGram. O'Brien 434:1-10.

## B. PolyGram Seeks Further Assurances of Compliance from Warner

154. On July 2, 1998, Paul Saintilan (PolyGram) forwarded a letter to Anthony O'Brien confirming the terms of the moratorium on competition, and requesting additional assurances that Warner intended to comply on a worldwide basis. The letter specifies that audio versions of 3T1 and 3T2 will not be discounted or advertised for the period from August 1 to October 15, 1998. JX9-E.

155. Later the same day, July 2, 1998, Paul Saintilan forwarded a revised letter to Anthony O'Brien confirming the terms of the moratorium on competition, and requesting additional assurances that Warner intended to comply on a worldwide basis. The revised letter differs only slightly from the original letter. The revised letter makes it clear that the proposed moratorium agreement should apply to both Three Tenors albums and Three Tenors videos:

> **re: THREE TENORS 1990 & 1994 MORATORIUM**
>
> I would like to confirm in writing [PolyGram's] position on the above, which was stated in our telephone conversation of June 25. We believe that without any firm agreement between our two companies, there will be unrestricted price competition on the 1990 and 1994 albums and videos, which will damage sales of the new release. Thus to protect our massive investment, we believe in the principle of a worldwide moratorium on discounting and promoting the previous albums and videos to create a window for the new release.
>
> The widest window that we believe is enforceable at the moment is from August 1 through to Thursday October 15. During this time we would not price discount the 1990 album/video below normal full price, nor would we incorporate the 1990 formats in any advertising or point of sale materials for the new release . . . . This is all clearly dependent upon Warners fully reciprocating, and providing the undertakings in such a way that we have complete confidence that they will be enforced.

JX9-A at 3TEN00000012.

156. O'Brien (Atlantic/Warner) understood the July 2, 1998 letter from Saintilan (Decca/PolyGram) to be for the purpose of detailing the terms of the moratorium that had already been agreed to for the United States. O'Brien 434:11-20.

157. The two letters dated July 2, 1998 from Saintilan (Decca/PolyGram) to O'Brien (Atlantic/Warner) were sent to Rand Hoffman (PolyGram Holding) in New York, who forwarded them on to O'Brien (Atlantic/Warner). JX9-A ("via Rand Hoffman") and JX9-E ("via Rand Hoffman").

### C. PolyGram Sends Follow-Up Letter Requesting Assurances of Compliance with the Moratorium

158. The Three Tenors performed in concert in Paris on July 10, 1998. O'Brien 435:15-17.

159. O'Brien was in Paris on July 10 to attend the Three Tenors concert. O'Brien 435:15-19.

160. On July 10, 1998, Saintilan (Decca/PolyGram) forwarded a follow-up letter to O'Brien (Atlantic/Warner) providing additional details regarding the implementation of the moratorium agreement, and again seeking formal confirmation of Warner's intention to comply on a worldwide basis:

> **re: THREE TENORS MORATORIUM ON 1990 & 1994 ALBUMS**
>
> As discussed, we fully support a moratorium on the above albums which we strongly believe will be to our mutual benefit. The dates we are prepared to commit to are from August 1 to November 15 (subject to the qualifications in italics below).
>
> The moratorium would constitute the following:

> **1. Advertising and promotion**
>
> The original 1990 album would not be advertised or promoted during this period. We have already omitted the 1990 album from all advertising and point of sale materials centrally originated for the new album.
>
> **2. Pricing**
>
> The original 1990 album would be sold at the top classical price point that it has historically traded at in each market . . . .
>
> As discussed before, PolyGram operating companies have already been advised of the above moratorium, however we have informally allowed it to collapse at a local level to allow a response to Warners pricing. When we have a clear undertaking from Warners that the above agreement will be adhered to, we will re-enforce things from our side . . . .
>
> So in summary, once a price agreement has been made, and we have clear evidence that Warners will enforce the moratorium, then we will re-enforce the moratorium on our side.

JX1-A-B.

**1. WMI Provides Assurances of Compliance with the Moratorium**

161. The PolyGram letters were distributed to senior executives within Warner, including Ramon Lopez, President of WMI. This led to a series of internal discussions. O'Brien 434:25-435:8, 437:3-21; CX202; CX457. Lopez acceded to the request of the Atlantic executives to comply with the moratorium between August 1, 1998 and October 15, 1998. O'Brien 437:22-438:2, 439:5-17; JX3; JX2.

162. Lopez advised O'Brien that he did not wish to enter into a detailed written contract with PolyGram regarding the Three Tenors moratorium "as this may constitute anti-competitive behaviour." JX3.

163. On July 13, 1998, WMI distributed a memorandum to Warner operating companies instructing that the company's discount campaign for 3T2 must end on July 31:

> The previously announced period of the Three Tenors mid price campaign has changed. This campaign must now finish July 31st. No further discounting or new marketing activities which are not already in place may occur between August 1st and October 15th.

CX458 at 3TFN00017892.

*See also* JX73 (draft version of WMI's July 13 directive, specifically attributing termination of mid-price campaign to agreement with PolyGram); O'Brien 438:3-6.

### 2. Atlantic Relays WMI's Assent to PolyGram

164. On July 13, 1998, Anthony O'Brien (Atlantic/Warner) telephoned Paul Saintilan (Decca/PolyGram) to confirm that WMI was on board and that the moratorium on discounting and promoting the older Three Tenors recordings would be honored throughout Warner, both in the United States and internationally. JX3; JX2; O'Brien 440:10-441:13. O'Brien further informed Saintilan that WMI had issued a directive instructing all Warner operating companies to observe the Three Tenors moratorium. JX3; JX2.

165. Saintilan independently confirmed (through a friend at Warner) that the directive had been issued throughout Warner. Saintilan was satisfied that the terms of the directive "complied perfectly" with his agreement with Warner. JX4 at UMG000207.

### 3. PolyGram Re-Enforces the Moratorium Internally

166. Later that day, July 13, 1998, Saintilan forwarded an e-mail message to various PolyGram executives and managers describing his conversation with O'Brien, and informing them that the moratorium agreement was now securely in place at Warner:

> Tony O'Brien advised today that Ramon Lopez had issued the directive through Warner that they will observe the moratorium from August 1 through to October 15. The exceptions will be in markets where four weeks notice of a price change is required. Lopez . . . believes that they should police us, and

> we should police them. The prices should be "normal" and not subject to any special discounts or promotion.

JX3.

The recipients of Saintilan's July 13 e-mail message include Chris Roberts (President, PolyGram Classics), Kevin Gore (Senior Vice President, PolyGram Classics in the United States), Rand Hoffman (Senior Vice President, PolyGram Holding), and Roger Lewis (President, Decca).

167. On or about July 14, 1998, Paul Saintilan (Decca/PolyGram) distributed a memorandum to PolyGram operating companies worldwide "re-enforcing" the company's intention to comply with the agreement not to compete with Warner:

> Ramon Lopez, the Chairman and CEO of Warner Music International issued a directive on July 13, that there should be no price discounting, advertising or promotion on the 1994 Warners Three Tenors album from August 1 until October 15. The only exceptions to this will be where legal obligations to retailers exist (such as four weeks notice of a price increase).
>
> We now seek to re-enforce the moratorium on PolyGram's side, from August 1 to October 15, on a worldwide, not simply European basis. The moratorium prohibits price discounting, advertising and promotion of the 1990 album and video during this period . . . .
>
> Should you find any evidence of Warners failing to comply with this agreement after August 1, please contact me providing as much detail as possible.

JX4 at UMG000208; Saintilan Dep. (JX94) 171:3-8.

### D. The Ineffectual Intervention of PolyGram and Warner Attorneys

168. In late July 1998, after the Paris concert but prior to the release of 3T3, the legal departments of PolyGram and Warner became involved with the moratorium issue. CPF ¶¶169-170, 176-180.

169. On July 17, 1998, Paul Saintilan forwarded his documents relating to the Three Tenors moratorium to PolyGram's General Counsel, Richard Constant. Saintilan then proceeded to "delete" such documents from his files:

> Subject: 3 Tenors 1 – Promotion & Pricing – Forwarded
>
> Dear Richard,
>
> Please find attached all the communication I have on file (which is now being deleted). This is the complete audit, and I've come clean about everything. Having now re-read it all, you will be concerned that the first e-mail attachment to the opcos specifically mentions an agreement, and the document 3t1 which does the same was included in a conference pack to classical delegates. The remaining documents are messages to Atlantic.
>
> The people who have generally been present at the Atlantic meetings and included in the discussions are Chris Roberts, Roger Lewis, Rand Hoffman, Alex Darbyshire and myself.

CX459 at UMG SK 0001.

170. In this e-mail message to PolyGram's General Counsel, Saintilan discusses "delet[ing]" communications, "com[ing] clean" about the moratorium and concern about "mention[ing] an agreement." These references suggest that Saintilan was aware of the antitrust risks associated with the moratorium.

171. On July 30, 1998, Paul Saintilan forwarded a memorandum to PolyGram operating companies denying the existence of the moratorium agreement between PolyGram and Warner:

> Contrary to any previous suggestion, there has been no agreement with Atlantic Records in relation to the pricing and marketing of the previous Three Tenors albums.

JX76 at UMG000213.

172. At trial, PolyGram executive Rand Hoffman acknowledged that Saintilan's statement that "there has been no agreement" was not correct. Hoffman 367:19-368:6. In light of the July 17 e-mail to PolyGram's General Counsel, it is reasonable to conclude that the July 30 memorandum was an attempt to cover up the moratorium agreement.

173. While disavowing the existence of a moratorium agreement, the July 30 memo also is careful to discourage any price discounting of 3T1:

> With immediate effect Decca has concluded that it is appropriate to adopt a flexible position that allows operating companies the chance to make their own commercial decisions on the optimum pricing of the 1990 album. We should emphasize, however, that in deciding how to market and price the 1990 album, operating companies should take full account of PolyGram's massive investment in the 1998 album and the need to maximize returns on this investment.

JX76 at UMG000213.

174. Saintilan's July 30, 1998 memorandum was likely understood by managers at the PolyGram operating companies as a pretense. First, these very same operating companies had, over the previous months, received at least three memoranda advising that there was an agreement between PolyGram and Atlantic restricting the discounting of previous Three Tenors albums. JX43 at UMG000479; JX43 at UMG000480; JX4 at UMG000208. Second, although the memorandum purports to give discretion over 3T1 pricing to the operating companies, the operating companies understood that they still could not discount 3T1 without the express consent of Decca and Bert Cloeckaert of PolyGram. Cloeckaert Dep. (JX98) 175:13-176:18; Stainer Dep. (JX89) 80:11-81:14; Hidalgo Dep. (JX88) 110:1-5.

175. Third, as Saintilan acknowledged at deposition, this notification came too late to permit the opcos to couple the release of 3T3 with a marketing campaign for 3T1. Saintilan Dep. (JX94) 183:3-184:7:

> Due to the very late nature of this communication, any real planning and campaigning would have been difficult to implement because it was so late in the day . . . . The first step would be to seek the internal permission from the repertoire owner [Decca]. The second key step is to seek the support of key retailers and to ensure retail support. Retailers require notice; retailers need to, you know, have forward planning. They produce materials, promotional materials, planning things, you know, some distance in advance of things taking place. Therefore a key impediment or a limitation is to ensure retailers are on board.

*See also* Gore Dep. (JX87) 46:4-16 (lead time of "30, 60, 90 days depending on the account" needed in order to institute a campaign"); Stainer Dep. (JX89) 15:1-5.

176. In 1998, Stephen Kon was outside counsel for PolyGram. Kon testified at deposition that he told Stuart Robinowitz, an in-house attorney at Warner, that PolyGram would be sending Warner a letter outlining its position on the moratorium. Kon Dep. (RX719) 9:1-11:17. However, no such letter was ever sent. O'Brien 473:15-474:1; CX596.

177. Attorneys for Warner and PolyGram reviewed a draft letter from O'Brien to Saintilan purporting to reject the moratorium agreement for non-U.S. markets. RX706 at UMG SK 0021; RX707 at UMG SK 0027; RX708 at UMG SK 0030.

178. On August 10, 1998, Anthony O'Brien was told to sign and forward to Paul Saintilan a letter that the attorneys had drafted. O'Brien followed this advice. O'Brien 452:2-24, 470:9-12.

179. The August 10, 1998 letter executed by O'Brien purports to reject the moratorium agreement, and asserts an intention to make unilateral decisions on pricing and promotion for 3T2.

JX81. As O'Brien pointed out at trial, however, the letter specifically references Warner Music International and thus "only pertains to the situation outside the U.S." O'Brien 471:3-4.

180. On or about August 10, 1998, Anthony O'Brien had a final telephone conversation with Paul Saintilan regarding the moratorium agreement. O'Brien informed Saintilan that he (O'Brien) had been requested by counsel at Warner to send the August 10 letter. O'Brien further informed Saintilan that the August 10 letter notwithstanding, Atlantic and Warner Music International still intended fully to comply with the moratorium agreement. O'Brien 470:17–471:2.

181. During his testimony at trial, O'Brien described his August 10 telephone conversation with Saintilan, during which O'Brien restated Warner's intention to comply with the moratorium. O'Brien described the same conversation at his deposition and at his investigational hearing, prior to Warner's agreement to settle this matter. O'Brien 470:17 - 471:2; O'Brien Dep. (JX100) 65:15-66:16; O'Brien I.H. (JX101) 176:24-180:7.

182. Paul Saintilan never communicated to Anthony O'Brien that PolyGram did not intend to implement the moratorium agreement. O'Brien 473:11-14.

183. Anthony O'Brien was Warner's lead negotiator with regard to the 3T3 project and the moratorium agreement. Stip. ¶ 50; JX2 (O'Brien "advised PolyGram" that he would be the "go-between for any problems"). Therefore, he would have been contacted by PolyGram if PolyGram wished to communicate an intention not to comply with the moratorium.

184. No representative of PolyGram ever communicated to Anthony O'Brien that PolyGram did not intend to implement the moratorium agreement. O'Brien 473:15-19; O'Brien I.H. (JX101) 181:5-14 (O'Brien testified that he "received no communication from PolyGram indicating that they – that they would be breaching that agreement").

185. No representative of PolyGram ever communicated to Anthony O'Brien that PolyGram intended to withdraw from the moratorium agreement. O'Brien 473:23-474:1, 494:18-23.

186. During the period August 1 through October 15, 1998, Anthony O'Brien understood that PolyGram intended to, and was in fact, complying with the moratorium agreement. O'Brien 472:11-13, 494:24-495:2.

**E. The 1998 Three Tenors Recordings Receive Generally Unfavorable Reviews**

187. The 1998 Three Tenors album and video were released on August 18, 1998. O'Brien 471:17-21.

188. Several music reviewers recognized the overlap in repertoire between the 1998 Three Tenors album and the earlier Three Tenors recordings. The Gazette (Montreal) (July 11, 1998) CX575 ("This was a rehash of material from earlier Three Tenors concerts."); The Seattle Times (Sept. 13, 1998) CX580-B ("a reprise of too many past hits (from 'O Sole Mio' to 'Nessun Dorma'), all sung at lower musical wattage than before"); The Boston Herald (Oct. 4, 1998) CX579-B-C ("the aria-song list is unchallenging and dull . . . Pavarotti gets through 'Nessun Dorma' one more time.").

189. Published reviews of 3T3 were generally unfavorable.

1. The San Francisco Chronicle (Oct. 4, 1998) CX576:

> Love them dearly, of course, but this is hardly a tribute to the considerable charms of the world's great tenor threesome, and there is an air of routine about their latest overhyped outing. All of them sound better elsewhere, the selections are both predictable and – for these three – unexciting, and the medleys by Lalo Schifrin are dull.

2. The Boston Globe at N1 (Oct. 4, 1998) CX577-C:

> The problem isn't the vocal condition of the singers – the public could not care less – but that they don't take the arias seriously enough, and

they take the pop music too seriously. Operatic music is ripped from context and delivered through the mikes like a rock anthem. The popular music is often unconvincing in delivery, unidiomatic in rhythm, phrasing, and style – this isn't crossover at all, because they sing pop songs like rock anthems too. Nothing is relaxed, nothing swings, nothing suggests intimacy or genuine feeling, and everything comes out sounding the same.

3. The Vancouver Sun at D12 (Sept. 26, 1998) CX578-D:

> Less singing than bawling . . . . Carreras wobbles, Pavarotti sobs and strains, only Domingo seems up to it. The Paris audience sounds bored.

4. The Star-Ledger (Newark, NJ) (Sept. 26, 1998) CX574-C:

> This is billed as "the concert of the century, recorded live." It's more like, "the cash cow of the century, Part 8." Leave it on the shelves.

5. The Jerusalem Post at 9 (Sept. 2, 1998) CX581-B:

> If you don't have the first Three Tenors disc, get it quick. The second is fun too. But the last is a disc to avoid.

### F. Warner Launches an Aggressive Marketing Campaign for 3T3 in the United States

190. Warner treated 3T3 as a high-priority record, and the marketing campaign for 3T3 in the United States was well-funded. Moore 71:5-13.

191. Warner's marketing campaign for 3T3 during 1998 included the following:

- PBS broadcast of the Three Tenors concert in Paris
- release of a single ("You'll Never Walk Alone")
- release of a music video
- advertisement in the Atlantic monthly sales catalogue
- four color sales brochures
- three minute sales presentation piece for the Warner convention
- six foot tall stand up floor merchandisers in the shape of the Eiffel Tower
- newspaper and magazine ads
- store circulars
- prominent positioning in retail stores (*e.g.*, endcaps, front counter displays, listening stations)

- radio spots
- televison ads
- posters
- mailers
- New York City transit bus tail ads
- Access Hollywood feature to coincide with album release
- E! Entertainment TV piece
- special web-site (featuring video interviews with the Tenors, conductor James Levine and Tibor Rudas, a tour of Pavarotti's dressing room and a fan bulletin board and chat room).

CX482, CX483.

192. Warner's campaign for 3T3 in the United States included a cooperative advertising program with retailers that funded extensive television and print advertisements. CX483 at 3TEN00001423-1424; CX482; Moore 74:1-76:7, 82:19-83:4.

193. Warner coordinated in-store displays for 3T3 and advertisements in circulars with major record chains. CX483 at 3TEN00001418-1419; CX482. This aspect of the marketing campaign involved "significant merchandising support," including nameboards, four-color lightboxes, six-foot-tall stand-up floor merchandiser in the shape of the Eiffel Tower, window displays, end caps and posters. Warner also arranged that 3T3 would be promoted as "album of the week" by some retailers. CX482 at 3TEN00009048; Moore 72:11-73:25, 79:13-82:18, 83:5-83:23.

194. Warner launched a publicity campaign that involved coordination with radio stations, release of an electronic press kit, a website, and solicitation of articles and reviews. CX483 at 3TEN001425-1426; Moore 76:24-79:12. Warner arranged to have the single "You'll Never Walk Alone" delivered to radio stations nationwide. Moore 77:21-79:17, 234:23-235:12; CX483 at 3TEN00001426.

195. Warner sought to increase sales of 3T3 by offering discounts to customers. The initial discount in the United States for 3T3 was seven percent to wholesale customers, and five percent to retail customers. CX483 at 3TEN00001418.

### G. PolyGram and Warner Comply with the Moratorium Agreement in the United States

196. Atlantic (Warner) and PolyGram both complied with the moratorium agreement in the United States. O'Brien 474:2-4, 476:3-6.

197. Between August 1, 1998 and October 15, 1998, Atlantic (Warner) did not aggressively discount 3T2 in the United States; 3T2 was sold by Atlantic at full price only. O'Brien 474:5-12.

198. Between August 1, 1998 and October 15, 1998, Atlantic (Warner) funded no advertising for 3T2 in the United States. O'Brien 474:13-16.

199. Between August 1, 1998 and October 15, 1998, Anthony O'Brien observed no discounting or advertising for 3T1 by PolyGram in the United States. No employee of Warner within the United States reported to O'Brien that PolyGram was not complying with the moratorium. It was O'Brien's understanding that PolyGram was in fact complying with the moratorium in the United States. O'Brien 476:3-14.

200. There is no evidence that during the moratorium period, PolyGram sold 3T1 at a discount price in the United States. *See* RX713 at UMG004899-4900. This is consistent with Kevin Gore's pledge that he would "seek to comply" with the moratorium in the United States. *See* CPF ¶ 110.

201. According to PolyGram's economic expert, Dr. Janusz Ordover, PolyGram's average wholesale price for 3T1 during the moratorium period (August/September/October 1998) was higher than two relevant benchmark periods: that is, (i) higher than the average wholesale price for

3T1 during the preceding three-month period (May/June/July 1998), and (ii) higher than the average wholesale price for 3T1 for the period August/September/October 1997. RX716 (Ordover Expert Report) ¶ 55.

202. Between August 1, 1998 and October 15, 1998, PolyGram's total expenditures for co-operative advertising for 3T1 was $437.50. RX728. Dr. Ordover's expert report erroneously indicates that PolyGram's co-operative advertising spent for 3T1 during the moratorium period was $10,437.50. Dr. Ordover has mistakenly attributed advertising expenditure during October 2000 to October 1998. Compare RX716 (Ordover Expert Report) ¶ 66 n.73 with RX728.

203. Respondents' expert, Dr. Ordover, calculated that if the moratorium had not been agreed to in the first place, PolyGram's sales of 3T1 in the United States (CD version only) during the months of August, September, and October 1998 would have been approximately $258,000. Stated differently, sales of 3T1 during the moratorium period would be "160 percent of the sales over the immediately prior three month period, *i.e.*, May to July." RX716 (Ordover Expert Report) ¶ 35.

204. During the months of August, September, and October 1998, PolyGram's actual net revenues from the sale of 3T1 in the United States (CD version only) were approximately $74,000. RX713 at UMG004899. Instead of increasing by 160 percent relative to the pre-moratorium benchmark (as predicted by Dr. Ordover), sales of 3T1 actually declined by approximately 55 percent relative to this benchmark.

205. Kevin Gore, Senior Vice President of PolyGram Classics during 1998 and currently President of Universal Classics, testified in his deposition that if he had found out that Warner was

discounting 3T2 during the moratorium period, PolyGram's pricing and discounting decisions for 3T1 could have been affected. Gore Dep. (JX87) 111:15-22, 113:4-11.

### H. PolyGram and Warner Comply with the Moratorium Agreement Outside of the United States

206. Warner complied with the moratorium agreement outside of the United States. O'Brien 474:17-20; CX453. This supports the conclusion that the moratorium was in effect worldwide, and not abandoned, as PolyGram claims.

207. Between August 1, 1998 and October 15, 1998, Warner did not discount or advertise 3T2 outside of the United States. O'Brien 474:5-20.

208. During the moratorium period, Warner's international operation (WMI) monitored PolyGram's prices for 3T1 outside of the United States. CX450 at 3TEN00009904. Had Warner observed PolyGram discounting 3T1 outside of the United States, WMI would have brought such noncompliance to the attention of Anthony O'Brien. The reason is that if PolyGram were cheating on the agreement, then WMI wanted to respond by discounting and advertising 3T2. O'Brien 476:21-477:6; CX450 at 3TEN00009904.

209. Anthony O'Brien received no complaints from WMI during the moratorium period concerning PolyGram's marketing activities in support of 3T2. O'Brien 476:3-477:14.

210. From August 1, 1998 through October 15, 1998, Warner perceived that PolyGram was substantially complying with the moratorium agreement outside of the United States. CX204; O'Brien 477:7-14.

211. Respondents claim that some units of 3T1 were sold by PolyGram at a discounted price outside of the United States. This is not evidence of non-compliance with the moratorium agreement.

1. Only a small volume of discounting of 3T1 occurred in Europe during the moratorium period. For example, a total of four units of 3T1 were sold at a discount price in the Czech Republic during the moratorium period. RX709 at UMG003021.
2. In negotiating the moratorium agreement, Warner and PolyGram recognized that outside of the United States, some discounting during the moratorium period would be unavoidable. JX74 at UMG000203 ("may be some spillage and late compliance"). For example, each company would need to honor commitments made to retailers. PolyGram and Warner agreed to be "completely transparent about these problems, tabling where issues exist and advising why compliance is difficult and when it would take effect." JX1-B. *See also* JX2; JX3; CX452; CX454; CX455; CX456.
3. One, and only one, PolyGram operating company (Spain) sought and received permission from Decca and PolyGra[illegible]ert Cloeckaert) to offer 3T1 at a significant discount during the moratorium period. RX725; Greene Dep. (JX95) 146:6-148:9, 149:1-24. This authorization was limited to allowing customers that purchased 3T3 to place a single order for 3T1 at a discounted price. Stip. ¶¶ 146, 147. This single order represented the "highest quantity" of discounted product sold during the moratorium period. Cloeckaert Dep. (JX98) 155:17-156:5.

### I. Before Renewing Discounting on 3T2, Warner Confirms that the Moratorium Has Expired

212. On October 2, 1998, Ramon Lopez (President, WMI) reminded Val Azzoli (Co-Chairman, Atlantic) that the term for the Three Tenors moratorium agreed upon by PolyGram and Warner was approaching its end. Lopez asked that Azzoli contact PolyGram and discuss an orderly transition away from the moratorium. CX204.

213. On October 15, 1998, the agreed-upon term for the Three Tenors moratorium came to an end. *E.g.*, JX3.

214. On October 16, 1998, Val Azzoli (Atlantic) provided Ramon Lopez (WMI) with confirmation that the moratorium on discounting the older Three Tenors products had come to an end, and that Warner and PolyGram were each now free to compete independently. CX462.

215. On October 26, 1998, WMI notified the Warner operating companies that the moratorium on discounting older Three Tenors products was no longer in effect. CX463.

216. With the expiration of the moratorium, Warner anticipated that PolyGram would "now discount heavily" 3T1. CX462.

**VII. Each of the Respondents Played a Significant Role in the Moratorium**

217. Respondent Decca, through its employees Paul Saintilan and Roger Lewis negotiated, agreed to, and helped implement the Three Tenors moratorium. *See* CPF ¶¶ 101, 104, 119-122, 150-160, 164.

218. Respondent UMG (formerly PolyGram Records), through its employees Chris Roberts (President, PolyGram Classics division) and Kevin Gore conceived of, approved, acquiesced in, and helped implement the Three Tenors moratorium. Roberts also managed and supervised the activities of Paul Saintilan with regard to the moratorium. *See* CPF ¶¶ 91-95, 110, 117, 132, 166, 169. PolyGram Records was responsible for the marketing, promotion, wholesale price and advertising strategy for 3T1 in the United States. In that capacity, it implemented the moratorium agreement in the United States, and instructed PGD to comply with the moratorium. *See* CPF ¶¶ 18, 110.

219. Respondent PolyGram Holding, through its Senior Vice President Rand Hoffman, participated in the negotiation and implementation of the moratorium agreement. Hoffman attended the March 1998 meeting at which PolyGram and Warner first agreed to the moratorium. *See* CPF ¶¶

100. Hoffman later complained to Warner that Warner was not complying with the moratorium agreement. Hoffman urged Warner to induce its operating companies to comply with the moratorium agreement. *See* CPF ¶¶ 132-135. Hoffman was responsible for overseeing contractual issues relating to the PolyGram/Warner collaboration, and in that capacity received, reviewed and forwarded to Warner, inter-company correspondence relating to the moratorium agreement. *See* CPF ¶¶ 122, 157, 166. Thus, PolyGram Holding approved of or acquiesced in the actions of its subsidiaries PolyGram Records and PGD with regard to the moratorium.

220. Respondent UMVD (formerly PolyGram Group Distribution, or "PGD") participated in the implementation of the moratorium in the United States by selling 3T2 at the conspiracy price during the moratorium period. Gore Dep. (JX87) 28:16-29:4 ("The distribution company is involved in setting up promotional plans with accounts, so they would have to, you know, in executing their promotional plan with the account, they would have to be involved in that discussion."); Caparro Dep. (CX609) 44:19-45:5. PGD executed the strategy developed by Decca and PolyGram Classic for the sale, promotion and marketing of 3T1 in the United States. *See* CPF ¶¶ 19-20, 110.

221. The distinctions among PolyGram corporate entities were not observed by PolyGram. "PolyGram was a labyrinth of companies set for specific legal and tax purposes." Kronfeld Dep. (JX86) 15:2-16. Throughout their dealings with Warner concerning the 3T3 collaboration, and including the negotiations concerning the moratorium, the PolyGram companies acted as a single entity and enterprise. Both PolyGram and Warner understood that with regard to the moratorium, PolyGram representatives Paul Saintilan, Rand Hoffman, and Roger Lewis represented all of PolyGram. *See* CPF ¶¶ 70, 104, 105, 134, 153.

222. Hoffman, an employee of PolyGram Holding, negotiated the 3T3 collaboration with Warner on behalf of all of PolyGram, and sought to enforce the moratorium on behalf of all of PolyGram. *See* CPF ¶¶ 70, 134.

223. Representatives from several different PolyGram companies (including Saintilan of Decca, Hoffman of PolyGram Holdings, and Roberts of PolyGram Records) attended the 3T3 meetings where the moratorium was discussed. *See* CPF ¶¶ 94, 100.

224. Decca's Saintilan sought approval for the moratorium from employees of PolyGram Records, including Chris Roberts. *See* CPF ¶¶ 137-138, 166, 169; JX3; JX4. Saintilan sent relevant correspondence regarding to the moratorium to PolyGram Holding's Rand Hoffman, and sought Hoffman's approval regarding the moratorium. *See* CPF ¶¶ 122.

225. PGD implemented the moratorium in the United States at the direction of Decca and PolyGram Records. *See* CPF ¶ 110.

226. Warner representative Anthony O'Brien reasonably understood that Paul Saintilan had the authority to agree to the moratorium on behalf of all of PolyGram. Saintilan believed that he was agreeing to the moratorium on behalf of all of PolyGram. CPF ¶¶ 105, 153; JX1-A-B.

227. As one of the entities responsible for the pricing of 3T1 in 1998, PolyGram Records had actual authority to determine the price of 3T1 charged by PGD in the United States. *See* CPF ¶ 18.

228. As one of the entities responsible for the pricing of 3T1 in 1998, Decca had actual authority to determine the price of 3T1 charged by PGD in the United States. Gore Dep. (JX87) 98:14-99:1.

## VIII. Other New Three Tenors Albums Are Released Without Restraints on Competitive Activity

### A. Sony Released a Three Tenors Recording Without a Moratorium on Competition

229. In 1999, Luciano Pavarotti was obligated by contract to record exclusively for PolyGram. CX224 at UMG004248. In 1999, PolyGram agreed to waive its exclusive rights to the recording services of Pavarotti so as to permit Pavarotti to record a Three Tenors album for Sony. CX515; CX516.

230. In October, 2000, Sony released an album derived from a performance of the Three Tenors in Vienna. The album is entitled *The Three Tenors Christmas*, and consists of Christmas songs from around the world. O'Brien 482:9-14; Gore Dep. (JX87) 66:23-67:9.

231. Sony did not request that Warner restrict competitive marketing activity in support of 3T2 and 3T3 at the time of the release of the 2000 Three Tenors album. Nor did Warner agree to forgo competitive marketing activity in support of 3T2 and 3T3 at the time of the release of the 2000 Three Tenors album. O'Brien 482:15-24.

232. Sony did not request that PolyGram restrict its competitive marketing activity in support of 3T1 and 3T3 at the time of the release of the 2000 Three Tenors album. Nor did PolyGram agree to forgo competitive marketing activity in support of 3T1 and 3T3 at the time of the release of the 2000 Three Tenors album. Hoffman 329:14-19.

### B. In 1994, Warner Released 3T2 Without Any Agreement with PolyGram Restricting the Discounting and Advertising of 3T1

233. In 1994, Warner controlled the rights to 3T2, while PolyGram controlled the rights to 3T1. Stip. ¶¶ 85, 90, 106. 3T2 was distributed and marketed by Warner without any agreement between Polygram and Warner concerning Polygram's pricing or marketing of 3T1. Stip. ¶ 149.

### 1. Warner Promotes 3T2 During 1994

234. During 1994, the effective marketing and promotion of 3T2 represented a major priority for Warner. Moore 89:24-90:8; CX247 at 3TEN00011271; CX241 at 3TEN000007230.

235. As it prepared its marketing campaign for 3T2, Warner anticipated that PolyGram would advertise and discount 3T1 at the time that Warner released 3T2. CX257; CX249 at 3TEN00011254; CX256 at 3TEN0004763, 4765-66 (Warner document noting that PolyGram was offering "Massive Price Reductions" on the first Three Tenors album); CX258 at 3TEN00005402 (Warner document noting that "PolyGram are spending considerable money on television advertising to promote the album and they are marketing the package as the 'ORIGINAL' version." (emphasis in original)); CX255; CX244.

236. One goal of Warner's marketing effort was to differentiate 3T2 from 3T1. CX259 at 3TEN00011109 ("the concept of the genuine or 'real thing' will underpin all local implementation" of marketing activity for 3T2); CX249 at 3TEN00011254-55 (describing strategy for differentiating 3T2, "we alone will have the actual repertoire from the concert, including the unique medleys"); CX242 at 3TEN00000441 ("The challenge will be to differentiate [3T2] from the last one, to capitalize on its potential on a global basis and to ensure that it becomes internationally recognized as 'the' event of the year."); CX248 at 3TEN00011260 ("In terms of positioning, we will be looking to establish this [Three Tenors] concert as 'the' event of the summer, highlighting the differences between this and the first collaboration, at the same time emphasizing the fact that it is both the first reunion event featuring all four artists and the first time that all of them have performed together in the United States.").

237. Warner launched an aggressive and expensive international marketing campaign in support of 3T2 with a campaign based on a "high-power pop marketing effort." CX247 at 3TEN00011271; O'Brien 405:22-406:1; Hidalgo Dep. (JX88 ) 46:15-47:10 (PolyGram executive viewed Warner's campaign in support of 3T2 as "the most impressive campaign I have seen in my days" and "one of those campaigns that you realize that the entire company has been put behind the product, which doesn't happen that often"); Stainer Dep. (JX89) 10:16-24.

238. Warner's marketing campaign for 3T2 in the United States was comprehensive and expensive. CX243 at 3TEN00007150-58. The marketing campaign included the following elements:

- Coordinated campaigns with major retailers;
- Newspaper and magazine advertisements;
- Advertisements in circulars;
- Television advertisements;
- In-store advertising in endcaps;
- Light boxes in major retailers;
- Outdoor billboards;
- Advertisements on the sides of buses; and
- Allowing retailers extra time to pay for their orders, in order to increase order size.

Moore 92:25-96:18; CX251.

239. Warner worked with retailers, and offered compensation, to secure prominent placement of 3T2 in music stores. CX251at 3TEN0008888-89 (cooperative advertising expenditures in support of 3T2 funded by Warner in the United States); CX249 at 3TEN00011253 (Warner negotiated "exclusive chain deals and prevented competitors from getting retail space"); CX259 at 3TEN00011110 (Warner developed an early sell-in campaign so that retailers would select Warner's products, rather than competitive products, for prime retail space and promotion).

240. Warner's U.S. and European operating companies were authorized to offer key accounts a five percent discount for all orders taken in advance of the first shipment. CX253 at

3TEN00011247. Warner also developed promotional programs to increase initial sales, including the introduction of a gold CD. CX260 at 3TEN00011224; CX332.

241. In the United States, Warner was successful in establishing a distinct identity for 3T2, and a commercially successful launch. CX261 at 3TEN00017820 ("Visibility is at an absolute maximum, nothing to worry about there."); CX262 at 3TEN00017828 (3T2 was "selling mega . . . Excellent product placement."); CX263 at 3TEN00017843 ("This is a Top 5 seller everywhere. [Point of purchase displays are] everyplace along with the stand ups and light boxes at Title Wave. This is endcapped/sale at virtually everywhere."); CX264 at 3TEN00017822 ("Massive . . . From indie [independent retailers] to chain no stores have been left untouched by this title."); CX265 at 3TEN00017852. ("This remai[illegible]p 10 at virtually every account and retail feels it will remain there through the holidays.").

242. Tibor Rudas was pleased with Warner's "total commitment and aggressive promotion" of 3T2. CX325 at UMG004698.

#### 2. PolyGram Actively Promotes 3T1 During 1994

243. PolyGram did not sit back and permit the release of 3T2 to eclipse sales of 3T1. PolyGram developed and implemented an aggressive campaign to increase sales of 3T1, employing both discounting and advertising. JX29 (PolyGram increased its sales of 3T1 worldwide "through aggressive TV advertising, print advertising, extensive rack exposure of their record at retail and a price reduction.").

244. PolyGram instructed its opcos to promote the "original" Three Tenors concert and recordings as "unique and unrepeatable." CX272 at UMG000524. *See* also CX270 at UMG005050 ("Objectives: To convey message to operating companies, trade and convince

consumers that the 'original' Three Tenors is unique and unrepeatable."); CX256 at 3TEN00004766 (PolyGram promoted to retailers the message that 3T1 was the "original and still the best.").

245. During 1994, PolyGram launched a marketing campaign in support of 3T1 which distinguished this product through the use of product stickers, new posters, promotional discs for radio, and a deluxe edition. CX283 at UMG005013 (fax to United States Operating Company); CX272 at UMG000526-527; CX271 at UMG005828; CX270 at UMG005051. In some territories, PolyGram utilized television advertising. CX276 at UMG005033; CX281 at UMG005028; CX258 at 3TEN0005402-5403.

246. In the United States, PolyGram spent $109,471 in cooperative advertising for 3T1 during 1994. JX103 at UMG006[illegible] PolyGram spent most of this money (nearly $60,000) in September 1994, the month following the release of 3T2. JX103 at UMG006407.

247. During 1994, PolyGram offered 3T1 at substantially discounted prices. CX275 at UMG005820 ("price will play an important part in the commercial and promotional campaigns which all markets will be running"); CX256 at 3TEN0004766 ("massive" price reductions on 3T1); CX279 at UMG005031 ("the best approach to renew the interest of consumers for our 3 Tenors product should be based in a combination of price and extra incentives."); CX258 at 3TEN0005402 (PolyGram offered a ten percent discount off its regular price); JX44 (Decca President Roger Lewis acknowledged that, in 1994, 3T1 was promoted with "an aggressive price-based campaign.").

248. One method employed by PolyGram to reduce the wholesale price of 3T1 during 1994 was to change the list price distributed to retailers; that is, in some sales territories PolyGram moved 3T1 from the company's "top" price tier to the "mid-price" tier. *E.g.*, JX32; CX400; CX428 (3T1 sold at mid-price in 1994); CX249 at 3TEN00011254 ("re-releasing the 1990 3 Tenors concert

(which has already sold over 10 million units) at mid price in a number of configurations including special combination packs").

249. A second method employed by PolyGram to reduce the wholesale price of 3T1 during 1994 was to offer special discounts, while maintaining the "top" tier designation for this album. For example, in the United Kingdom, PolyGram ran a successful campaign called "Three Tenors for under a Tenner," in which 3T1 was offered for less than 10 pounds. CX273; Stainer Dep. (JX89) 38:2-16. PolyGram's U.K. operating company offered these incentives without reducing the wholesale list price. CX275 at UMG005820.

250. A third method used by PolyGram to reduce the price of 3T1 during 1994 was to provide cooperative advertising funds to retailers. This method was used in the United States. JX103 at UMG006407. Cooperative advertising is a monetary commitment that the label makes to a retailer for positioning the album in a desirable location in the store or including the album in an out of store advertisement placed by the retailer. Kopecky Dep. (CX610) 21:24-22:3; Moore 47:8-48:19, 58:12-59:24.

251. When PolyGram provides cooperative advertising funds, the retailer deducts the value of the cooperative advertising from the amount it pays for product purchased from PolyGram. Kopecky Dep. (CX610) 28:24-29:21.

252. In September 1994 – the first full month after the release of 3T2 – PolyGram spent $57,178.00 on cooperative advertising for 3T1 in the United States. JX103 at UMG006407. During that same time period, PolyGram generated $630,738.00 in U.S. sales of 3T1. RX713 at

UMG004889. Thus, PolyGram returned to retailers through 3T1 cooperative advertising programs approximately nine percent of the money 3T1 generated.

253. Cooperative advertising funds create an incentive for retailers to place the advertised product on sale in order to move a higher volume of product. Moore 67:3-16; JX105-I (Moore Expert Report). When music companies provide cooperative advertising for their products, the retail price for consumers tends to decrease. Moore 65:16-66:18; Gore Dep. (JX87) 79:23-80:3. Although there is no data concerning actual retail prices of 3T1 in the United States following the release of 3T2, it is likely that these retail prices were lower than the standard price for 3T1.

254. As Warner observed later: "[I]n 1994, at the time of our release of the Three Tenors album, Decca dropped the price of their album to a midprice level. This was a temporary move by Decca to ensure sales of their recording at the time of our release of the 1994 album. At the end of 1994 Decca returned the pricing of the 1990 album back to the full line price." JX32.

### 3. Warner's Marketing Campaign for the 1994 Three Tenors Album and Video Is Successful

255. Competition from PolyGram notwithstanding, the 3T2 project was considered a business success within Warner. O'Brien 406:2-10. *See also* CX266 at 3TEN0009901. During 1994, Warner achieved platinum sales on ship out of 3T2 in the United States and numerous other countries. ; CX260 at 3TEN00011224. 3T2 was the second-best selling classical album in the United States in 1994 (even though it was only available for less than 4 months), and was the top-selling classical album in 1995. CX587; CX588.

256. There is no evidence that Warner's spending in support of 3T2 was negatively affected by PolyGram's campaign for 3T1. In fact, the head of Warner's marketing campaign in the United

Kingdom during 1994 (who later worked for PolyGram) testified in his deposition that PolyGram's 1994 campaign probably helped Warner's release. Stainer Dep. (JX89) 13:21-14:9. *See also* CX249 at 3TEN00011254-55 ("our belief is that the Decca hype will probably overall benefit us").

### C. PolyGram and Warner Compete Directly and Aggressively During the Three Tenors World Tour

257. During 1996 and 1997, The Three Tenors participated in a worldwide tour, including concerts in Tokyo, London, Munich, New York, Johannesburg, and Melbourne. Stip. ¶ 117. Neither Warner nor PolyGram had any financial involvement in the tour, but both firms capitalized on the opportunity to drive sales of their respective Three Tenors products. CX289; Stip. ¶¶ 118-119. *See* CPF ¶¶ 258-267.

258. PolyGram offered 3T1 at a significantly discounted price in many markets. CX305 at 3TEN00004983; CX307; CX400.

259. In 1996, PolyGram released a World Tour Commemorative Edition of the 1990 concert, digitally re-mastered on a gold CD. PolyGram placed promotional stickers on the albums to draw consumer attention to the product enhancement. Stip. ¶ 121; CX288 at UMG006106; CX272 at UMG000526.

260. Warner viewed the 1996/1997 Three Tenors tour to be " a powerful marketing tool" and "an ideal opportunity to exploit our product and new variants again." Stip. ¶ 118; CX294 at 3TEN00017902; CX295 at 3TEN00005917; CX296 at 3TEN0005910 ("The tour of the 3 Tenors is the most powerful marketing tool we can exploit regionally to drive the sales of the album and video.").

261. In 1996, Warner issued a special "Three Tenors World Tour Edition" of 3T2, consisting of the original 1994 Three Tenors CD, new packaging, and a booklet of unpublished

photographs and information about The Three Tenors. Stip. ¶ 120; CX296 at 3TEN00005912; CX299 at 3TEN00005904. Warner offered "[t]he concept of value added in the form of the slip case and celebratory photo book to counter the anticipated price cutting by Decca." CX300 at 3TEN00008946. The slip case contained cover art different from that contained on the original 3T2 cover. CX301; CX302.

262. Warner instructed its operating companies to develop marketing plans for 3T2 that took advantage of the Three Tenors concert tour. CX294 at 3TEN000017902; CX293 at 3TEN011189; CX299 at 3TEN0005903-04. Warner provided its operating companies with point of sale materials to promote 3T2. CX300 at 3TEN00008947.

263. To counter PolyGram's marketing activities for 3T1, Warner's marketing campaign highlighted the advantages of the 1994 album. *E.g.*, CX299 at 3TEN00005903 ("It is critical that local markets ensure that our advantages of [identical] logo, more recent launch, repertoire links etc. are fully exploited . . ."). Warner also downplayed the benefits of PolyGram's products. *E.g.*, CX305 at 3TEN00004983 ("The digital re-mastering will be detectable by very few . . . The so called 'Gold' disc is almost certainly not real gold.").

264. The Three Tenors performed in New York in July 1996. At that time, Warner launched a major television campaign in support of 3T2. CX298 at 3TEN00010826.

265. At the time of the 1996 world tour, PolyGram assured Tibor Rudas that the rivalry between Warner and PolyGram would be beneficial for The Three Tenors:

> Warner and we [PolyGram] will fight head on for every inch of advantage we could possibly gain over each other in exploiting the 3T tour with our respective product. Fair enough, competition is good for the business . . . . Nevertheless, be assured the competition will be lively and the whole project will greatly benefit from it.

CX309.

266. By 1996, Warner had sold more than eight million units of the 3T2 album and video, including more than two and a half million units in the United States. CX306 at 3TEN00004902.

267. The Three Tenors albums, 3T1 and 3T2, were both among the best-selling classical recordings in the United States in calendar years 1994, 1995, 1996, and 1997. CX587, CX588, CX589, CX590.

## IX. The Three Tenors Moratorium Agreement Is Presumptively Anticompetitive

### A. Respondents' Agreement Not to Discount Three Tenors Products Is Presumptively Anticompetitive

268. The agreement between PolyGram and Warner not to discount 3T1 and 3T2 is a form of price fixing. JX104-B (Stockum Expert Report); Stockum 586:15-22.

269. When horizontal competitors enter into an agreement to restrict price competition, the potential adverse effect is obvious and uncontroversial. Stockum 583:10-585:3; JX104-B (Stockum Expert Report). Complaint Counsel's economic expert, Dr. Stephen Stockum, testified at trial that the potential consequences of an agreement between competitors not to discount include: a loss of consumer welfare for those purchasing the products at higher prices; a deadweight loss to society because some potential purchasers choose not to buy the products at the higher prices; a loss of allocative efficiency due to resources being redirected toward less socially productive uses; and wasteful rent-seeking activity, as resources are devoted toward seeking out monopoly profits. Stockum 583:10-585:3; JX104-B (Stockum Expert Report).

270. Dr. Stockum therefore concluded that, absent an efficiency justification, the PolyGram/Warner agreement not to discount catalogue Three Tenors products is very likely to be anticompetitive. Stockum 581:19-586:22. Respondents' economic expert, Dr. Janusz Ordover – in his written expert report, agreed that a naked agreement between horizontal competitors to restrict price competition has "clearly pernicious effects on competition and consumers." RX716 (Ordover Expert Report) ¶ 61.

271. Price discounting is an important marketing tool in the recorded music industry, and is generally viewed by the industry as capable of leading to increased sales of the relevant products. Moore 44:21-45:19, 65:16-68:11; Stockum 600:16-602:12.

272. Executives from PolyGram and Warner testified that their companies often find it necessary to offer discounts to retailers in order to increase sales levels. This principle applies to the sale of catalogue products as well as new releases. O'Brien I.H. (JX101) 82:14-16 ("essential for an initial set-up to offer some discounts to get the product into the stores");

; Caparro Dep. (CX609) 49:22-50:6, 33:1-18, 43:3-22, 44:6-8 (in the United States, several times a year, PolyGram discounted its catalogue albums by five to seven percent (sometimes higher) in order "to encourage customers to buy more heavily."); Kopecky Dep. (CX610)12:3-14 (discounts offered to encourage retailers "to stock up"); Cloeckaert Dep. (JX97) 25:1-26:2 (purpose of temporary price reductions is "obviously" to garner additional sales); Stainer Dep. (JX89) 9:1-10:2 (PolyGram runs mid-price campaigns "because there can be short-term benefits in terms of sales by reducing the price of a full price item to mid price"); Greene Dep. (JX95) 58:9-19; Saintilan Dep. (JX94) 69:25-70:21 (customary in the United Kingdom for

PolyGram to drop price of certain CDs to a mid-price level for a short period of time; purpose is to generate a "short term major sales increase").

273. During 1994, PolyGram responded to the release of 3T2 by aggressively reducing the price of 3T1 in many markets. *See* CPF ¶¶ 247-254.

274. In 1996 and 1997, PolyGram offered discounts on 3T1 in order to compete with Warner's marketing of 3T2 and its special World Tour Edition. *E.g.*, CX308 (in 1997, Polygram moved 3T1 from top-price to mid-price and "will probably go even lower to try to counter any initiatives that we take"). *See also* CPF ¶¶ 257-265.

275. In 1998, many PolyGram and Warner operating companies determined that the best way to capitalize upon the public's revived interest in the Three Tenors was by dramatically reducing the price of these products (coupled with aggressive advertising campaigns). *See* CPF ¶¶ 112-114, 124-128.

276. In 1998, neither PolyGram nor Warner was willing, unilaterally, to forgo discounting of its catalogue Three Tenors product, and both companies requested and received assurances that the other would abide by the moratorium on discounting. *See* CPF ¶¶ 92, 116-122, 131, 136, 138, 141, 149-156, 160-161, 166-167.

277. Consumers consider price to be an important element in their decision to purchase classical music. CX540 at UMG006114 (price is a major component in the decision whether or not to purchase classical music); CX541 at UMG006151.

**B. Respondents' Agreement to Forgo Advertising for Three Tenors Products Is Presumptively Anticompetitive**

278. Standard economic models explaining how competition serves to promote consumer welfare and economic efficiency are premised upon the assumption that consumers are well-

informed. Information disseminated through advertising serves to educate consumers about the availability of alternatives, quality differences among competing products, sales locations, means of purchase, and pricing. This information assists consumers to find their preferred products at low prices, and thus serves to promote competition. JX104-C (Stockum Expert Report); Stockum 587:4-592:19; Moore 53:22-54:9, 59:7-18, 62:16-64:17 (describing the elements most often found in recorded music advertisements, including retail price and location of retailer).

279. Economists have studied the effect of advertising restrictions in numerous industries. Eighteen such articles have been collected and summarized in Appendix A to Complaint Counsel's Findings of Facts, Conclusions of Law, and Proposed Order: Empirical Literature Concerning Advertising Restrictions ("Appendix A"). These studies consistently conclude that advertising restrictions result in consumers paying higher prices. Appendix A; JX104-C-D (Stockum Expert Report); Stockum 592:20-600:10. One reason for this is that in the absence of the ability to advertise a low price, a firm has less incentive to charge a low price. Stockum 589:6-592:8; Ordover Dep. (JX90) 49:20-24.

280. Several of these studies were considered by Dr. Stockum in the course of developing his expert opinions. JX104-C-D (Stockum Expert Report); Stockum 592:20-600:10. For example, one study that showed that advertising bans of a short duration can lead to higher prices. This paper reviewed the effects of a newspaper strike in New York, where supermarkets advertised heavily. For about a 60 day period, there were virtually no advertisements in Queens, while in neighboring Nassau County a different paper continued to operate. The author found that the prices rose by 5.8 percent during the very first week of the strike. Stockum 599:6-600:10; Amihai Glazer,

*Advertising, Information and Prices – A Case Study*, 19 ECON. INQUIRY 661 (1981) (cited in Appendix A at Tab 9).

281. On the basis of economic theory and empirical findings, Dr. Stockum concluded that, absent an efficiency justification, Respondents' agreement not to advertise or promote catalogue Three Tenors albums is very likely to be anticompetitive. JX104-D (Stockum Expert Report); Stockum 587:4-592:19, 616:14-617:14.

282. Respondents' economic expert, Dr. Ordover, offered a similar conclusion in his deposition testimony: naked agreements between competitors not to advertise their respective products "are likely to be adverse to consumers." Ordover Dep. (JX90) 47:5-6.

283. Advertising is an important basis of rivalry in the recorded music industry. The desire to increase sales leads record companies to advertise extensively. Moore 59:21-24; Stockum 601:19-602:12; Caparro (CX609) 59:4-14; Kopecky Dep. (CX610) 50:5-10; Gore Dep. (JX87) 90:16-24.

284. Music companies spend huge amounts of money advertising recorded music products in the United States. Caparro Dep. (CX609) 57:15-17, 59:8-14 (PolyGram spends five percent of revenues on advertising for the purpose of achieving higher sales levels); O'Brien I.H. (JX101) 12:11-13:5 (Warner spends approximately 20 percent of revenues overall on marketing expenses).

285. Between July 1994 (release of 3T2) and August 1998 (moratorium), a number of aggressive and successful advertising campaigns were run separately by Warner and Polygram to increase sales of their respective Three Tenors products. *See* CPF ¶¶ 112-114, 124-128, 233-267.

286. In 1994 and thereafter, PolyGram used advertising in an effort to teach consumers that 3T1, was still the best performance, still widely available, and indeed often available at a discounted

price. CPF ¶¶ 243-246. *See also* JX12 at UMG005007; Stainer Dep. (JX89) 38:2-39:18 (in United Kingdom, PolyGram ran a campaign advertising 3T1 as "Three Tenors For Two Fivers"); Cloeckaert Dep. (JX97) 81:1-22 (during 1998, PolyGram temporarily decreased price of 3T1 in Europe with purpose and effect of increasing sales).

287. In 1994 and thereafter, Warner used advertising in its effort to create a distinct identity for 3T2, and to suggest to consumers that the newer release was the superior product. CPF ¶¶ 234-242; *see also* CX259 at 3TEN00011109 ("the concept of the genuine or 'real thing' will underpin all local implementation" of marketing activity for 3T2); CX249 at 3TEN00011254-55; CX254 at 3TEN0005589-0005590; Stainer Dep. (JX89) 10:3-11:23 (during 1994, Warner advertised 3T2 in posters, press, and television "to inform or communicate to people the availability of the album and to communicate the benefits of the album"); Stainer Dep. (JX89) 17:3-18:25 (to avoid diversion of sales to 3T1 during 1996, Warner tried to make sure that its marketing was better than its competitor – better trade positioning, better advertising, remind consumers that this was the more recent concert).

288. During 1998, Warner proposed to Tibor Rudas an aggressive marketing campaign for 3T2. Warner's strategy was "to aggressively advertise, position, and discount price the 1994 album." JX31 at 3TEN00009930; JX7 at 3TEN00001492; O'Brien I.H. (JX101) 99:25-100:15; JX29 at 3TEN00003592; JX32 at 3TEN000011058.

289. Warner forecast that by cutting the wholesale price of 3T2 and advertising on television and in other media, the company could increase sales by 170 percent and increase overall profits as well. CX396 at 3TEN00011072; JX31 at 3TEN00009930.

290. Likewise, during 1998, PolyGram authorized its operating companies to sell 3T1 at a significantly discounted prices, provided that the discount was supported by an appropriate advertising campaign. JX41 at UMG003075; JX43 at UMG000479-481; CX413 at UMG003058.

291. PolyGram's operating companies forecast substantial additional sales of 3T1 if they were permitted to discount and advertise. JX35 (sales of 30,000 to 50,000 units in France during a three-month campaign if discounting were allowed; 10,000-15,000 units if discounting were prohibited); Cloeckaert Dep. (JX97) 57:2-58:23 (PolyGram France forecast that by reducing price of 3T1 from top to mid-price level, sales could increase by eight or ten times); JX50 at UMG003746 (if 30,000 English pounds were spent, then there would be 40,000 additional units sold in the United Kingdom); CX427 (CD sales projected to increase from 150 to 2[illegible] [illegible]s at normal price to 1,000 to 1,500 units with discount).

292. Advertising of recorded music can create additional demand, and an environment in which discounting by music companies is more likely to occur. Stockum 589:6-591:10; JX104-C (Stockum Expert Report) ¶ 8; Ordover Dep. (JX90) 49:20-24 ("there are clearly economic models in which a restriction on advertising may affect the incentive to lower prices to the extent that you may not be able to attract a large number of people to your store with a lower price"); Caparro Dep. (CX609) 55:24-56:2 (If PolyGram were "running a mid line campaign, not only would there be a discount offer, we would look to promote and advertise and merchandise that product to the consumer as well."); *see also* Cloeckaert Dep. (JX97) 23:20-24:3, 52:2-53:16 ; Saintilan Dep. (JX94) 71:2-16; Moore 64:20-65:15, 67:3-16.

293. For this reason, when music companies advertise their products, the retail price for consumers tends to decrease. Moore 65:16-66:18; Gore Dep. (JX87) 79:23-80:3.

294. The very existence of the moratorium shows that the firms recognized that these two mechanisms, discounting and advertising, are two very significant elements of competition. The firms chose to restrict discounting and advertising in order to achieve their goal of limiting the sales of 3T1 and 3T2. Stockum 614:1-24.

## X. The Challenged Restraints Lack Any Valid Efficiency Justification

### A. The Moratorium Was Not Necessary to the Formation and Operation of the Collaboration

295. During the hearing, Respondents stipulated that the Three Tenors moratorium was not necessary to the formation of the PolyGram/Warner collaboration:

> MR. PHILLIPS: First of all, Your Honor, we have never contended that the moratorium agreement was necessary to the formation of the joint venture. The moratorium agreement, the evidence suggests, was not discussed before the formation of the joint venture. That's simply a nonissue in the case, Your Honor.
>
> JUDGE TIMONY: Okay.
>
> MR. PHILLIPS: [The President of PolyGram Classics] did approve the deal, but the moratorium agreement hadn't been discussed at the time he approved the deal, so how could he know, remember something that hadn't occurred.
>
> JUDGE TIMONY: You'd stipulate that?
>
> MR. PHILLIPS: That the moratorium agreement hadn't been entered into before the joint venture was formed?
>
> JUDGE TIMONY: And was not necessary to the agreement.
>
> MR. PHILLIPS: It wasn't necessary to their entering into the deal, correct.
>
> JUDGE TIMONY: Because they hadn't discussed it.
>
> MR. PHILLIPS: Because they didn't discuss or even think about it. Because they didn't discuss or even think about it.

PHC Tr. 83:4-84:1.

296. PolyGram and Warner were contractually committed to the 3T3 project well before entering into the moratorium agreement. *Compare* JX10 *with* JX5 at UMG001527 (moratorium first agreed to in March 1998) *and* CX388 at 3TEN0008009 (same). PolyGram and Warner were committed to the formation of the PolyGram/Warner collaboration, the production of the Paris concert, the creation of 3T3, and the distribution of 3T3 in the United States well before discussions of the moratorium even commenced. Thus, the moratorium cannot be necessary for any of these elements of the 3T3 project.

297. If no moratorium on competition had been agreed to by PolyGram and Warner, Warner would still have distributed 3T3 in the United States; Warner was not going to walk away from its $9 million investment. O'Brien 446:25-447:8; Stockum 623:3-18. Respondents estimate that the moratorium made only a small contribution to the value of the PolyGram/Warner collaboration. RX716 (Ordover Expert Report) ¶ 35; Stainer Dep. (JX89) 46:9-25, 49:25-51:6 (possible discounting of 3T2 by Warner had no affect on sales projections in United Kingdom); Saintilan Dep. (JX94) 106:1-10 (anticipated diversion of sales to 3T1 and 3T2, absent a moratorium, was "not a lot"; no effort at quantification at PolyGram).

### B. The Challenged Restraints Are Outside – and Not Reasonably Related to the Collaboration Between Polygram and Warner

298. At the time that PolyGram and Warner executed their agreement to collaborate on the distribution of 3T3, the firms retained the unconstrained right to exploit their respective Three Tenors catalogue products, 3T1 and 3T2. JX10 at UMG001843-844. PolyGram's rights to 3T1 pre-date the arrangement and were not part of the collaboration for 3T3.

299. PolyGram's U.S. marketing operation was not involved in the 3T3 collaboration, and thus was not used efficiently for the betterment of the collaboration. Gore Dep. (JX87) 59:8-10, 60:2-10 (head of PolyGram's U.S. operating company testified at deposition that his opinion on 3T3 was solely "from an outsider's perspective").

300. PolyGram's U.S. distribution assets were uninvolved in the distribution of 3T3. Caparro Dep. (CX609) 24:24-25:4, 39:25-40:3.

### C. The Purpose of the Three Tenors Moratorium Was to Shield 3T3 from Competition

301. The parties were concerned that 3T3 may lose sales to 3T1 and 3T2, but not because this diversion of sales would affect advertising and promotion in support of 3T3. O'Brien 490:19-22 ("I think that 3T3 would have been appropriately marketed and promoted in the United States without regard for the moratorium with PolyGram.").

302. The parties were concerned that competition among Three Tenors products may adversely affect the profitability of the 3T3 project. Anthony O'Brien, the Warner executive responsible for the moratorium agreement, testified at trial that the purpose of the moratorium was to protect the company's profits by impeding consumers from discovering and selecting a lower priced alternative to 3T3:

> Q: And during 1998 you were concerned that 3T3 would lose sales to 3T1 and 3T2; is that right?
>
> A: That's correct.
>
> . . .
>
> Q: Were you concerned, Mr. O'Brien, that consumers would be unable to distinguish among the three different Three Tenors albums.

> A: My concern was not that they would not be able to distinguish between them. My concern was that there would be some level of confusion perhaps, but then you know, if presented, you know, with a clear choice, if you have those three pieces displayed together, even though our promotion for 3T3 may have driven them into the store in the first instance and they may – they may look at the price of the product, they may look at the repertoire of the product, and they may determine that, frankly, 3T2 at a lower price is similar enough to what they went in for the first place for.
>
> Q: Your concern was that consumers might pick them up and compare them and then decide that 3T2 was their preference rather than 3T3?
>
> A: My concern was twofold. One, that certainly given the similarity of the – the visual similarity of the product there could be some confusion, coupled with the fact that they may start comparing the repertoire along with the price and make a determination that, you know, the '94 concert is just fine for a few dollars less.

O'Brien 485:21-487:13.

303. Warner received no profit from sales of 3T1 (owned by PolyGram), a smaller profit from each sale of 3T2 (substantial royalty owed to Rudas), and a larger profit from each sale of 3T3. JX10 at UMG001843-844 (3T1 owned by PolyGram); O'Brien 406:8-10 (advance on 3T2 had been recouped, therefore incremental royalties owed on each sale); Hoffman 300:24-301:23 (explaining recoupment). For this reason, Warner did not want consumers to compare the recordings and to determine that a catalogue Three Tenors album "is just fine for a few dollars less." O'Brien 485:21-487:13

304. Rand Hoffman, PolyGram's representative in the United States also testified that the function of the moratorium was to deter consumers from purchasing 3T1 and 3T2, with the expectation that such consumers would by default select 3T3.

> Q: Why did PolyGram care about Warner's marketing of the 1994 album during calendar year 1998?

A: As I explained – or as I tried to explain earlier, Warners and PolyGram had come together, made a large investment in the 1998 album. And both to maximize the upside and to prevent erosion, to protect their investment, they – both companies, didn't want to divert potential sales – potential buyers of the 1998 album, to, instead either the 1990 album or the 1994 album.

Q: Were there any other reasons that you're aware of?

A: No.

Hoffman I.H. at 43:10-23.

305. This strategy, Hoffman expected, would protect the venturers' investment in the new Three Tenors album.

Q: Internally, were PolyGram executives of the view that this transaction wouldn't be profitable unless we had this agreement on pricing of the earlier albums?

A: I don't recall a specific agreement or specific conversation to that effect. The feeling was that both we and Warners were investing a lot of money so that the 1998 album could exist. And it was necessary to protect that investment when we had – we and Warners together had related product that conceivably consumers might buy instead.

Hoffman I.H. at 47:4-14.

306. Paul Saintilan, the PolyGram manager responsible for negotiating the moratorium agreement, testified at deposition that the purpose of the moratorium was to protect the company's profits by impeding consumers from discovering and selecting a lower priced alternative to 3T3:

Q: Okay. And you were concerned that aggressive price discounting of 3T2 would lead to confusion at the retail level?

A: Yes. Or, in fact, even more than confusion. That consumers would choose, instead of buying the new album, to take advantage of the cheaper price of the old album and buy the old album.

Saintilan Dep. 90:9-19. *See also* JX9-A ("We [PolyGram] believe that without any firm agreement between our two companies, there will be unrestricted price competition on the 1990 and 1994 ... albums and videos, which will damage sales of the new release.").

307. Chris Roberts was the President of PolyGram Classics during 1998, the originator of the Three Tenors moratorium, and one of the PolyGram executives that supervised Saintilan with respect to negotiating the moratorium. Roberts was also identified as a Rule 3.33(c) witness with regard to the factual basis for the efficiency justifications proffered by Respondents. Stip. ¶ 63. At deposition, Roberts professed not to know the purpose of the moratorium; disclaimed knowledge as to whether the moratorium was necessary for the formation, efficient operation or financial success of the 3T3 project; and was unaware of how the moratorium or lack of a moratorium may a[illegible]t marketing strategy or advertising spending on 3T3. Roberts Dep. (JX92) 50:25-55:12; Roberts Dep. (JX93) 141:3-10, 142:18-145:23. When asked about the effect of the availability of 3T1 and 3T2 on 3T3, he responded as follows:

> Q. Do you think it was a problem for Three Tenors III that there were two other Three Tenors' products potentially available to consumers during the Launch Period?
>
> A. I don't know what I thought at that time. I don't remember what I would have thought at that time.
>
> Q. What do you think now?
>
> A. It's hard to say. I don't really know what I think now about whether or not having [3T1] and [3T2] available at that time had a negative impact on [3T3] or had any impact on [3T3], good or bad. The only thing we knew then and I know now is that all three existed, and so we had to – we had to deal with that reality. Continues to be the case today.

Roberts Dep. (JX92) 84:13-85:1.

308. Stephen Greene was identified as a Rule 3.33(c) witness with regard to the factual basis for the efficiency justifications proffered by Respondents. Stip. ¶ 64. Greene testified at deposition that he did not know if promotion of older Three Tenors records around the time of the release of 3T3 would have harmed the 3T3 project in any way, and could not identify any risks to 3T3 if the older albums were promoted around the time of the release of 3T3. Greene Dep. (JX95) 192:23-193:10, 194:16-23.

**D. Respondents Have Not Demonstrated a Free-Riding Problem**

309. The chief proponents of the free-riding defense are Respondents' two expert witnesses, Dr. Janusz Ordover and Dr. Yoram Wind. Respondents elected not to call either Dr. Ordover or Dr. Wind to testify at trial, and neither of these witnesses was subject to cross examination, although their expert reports and depositions were offered and admitted in evidence. Trial Tr. 846:4-11.

310. The assumption underlying the free-riding defense is that "[s]ome consumers who come to the store, because of the promotion of the 1998 Album and intending to buy that album, may [in the absence of the moratorium] be attracted by the cheaper 1990 and 1994 albums and buy them instead." RX717 (Wind Expert Report) ¶ 5(b). There is potential consumer harm only if the free riding is so pervasive that Warner declines to advertise 3T3 in an appropriate manner at the time that the album is released. *See* RX716 (Ordover Expert Report) ¶ 30-32; Stockum 624:9-22, 730:1-16, 739:20-741:19 (Consumers who may be drawn into a retail establishment by an advertisement for one product may then purchase a different product based on a well-informed choice. This does not mean that there is a free-riding problem).

311. No witness and no contemporaneous document expresses concern related to the moratorium about incentives to advertise, either in the United States or abroad.

### 1. The Diversion of Sales Identified by Respondents Is Commonplace

312. That advertising for one product may benefit another company's product is a ubiquitous phenomenon. Stockum 625:20-22, 626:7-8, 629:11-25, 633:12-16; CX612 (Stockum Rebuttal Expert Report) at ¶ 17 ("It is common for advertising and other promotional activity to benefit a competitor different from (and in addition to) the firm that funded the advertising."). Wind Dep. (JX91) 126:6-127:1 ("I know as a fact that whenever one company advertises, it affects other companies. For example, if Heinz advertises ketchup, other sales of other ketchup also tend to go up. So many times what you have is, in a sense, by stimulating the demand for a given brand, you are stimulating the demand for other products, other substitute products or similar products. . . . So that's a fact of life.").

313. Respondents' expert, Dr. Wind, testified in deposition that there are "tons of examples" of one firm capitalizing upon the marketing activities of a competitor. Wind Dep. (JX91) 133:15-134:8. Dr. Wind explained that sellers generally respond to this challenge by sharpening their marketing campaigns, and by using advertising and other marketing tools to create a distinct identity for the target product. Wind Dep. (JX91) 125:4-127:8, 128:10-129:6.

314. Respondents' own experts concede that firms view the "spillover" effect of advertising as a "fact of life" and the prospect of free riding does not lead sellers of consumer products to abandon advertising. Wind Dep. (JX91) 127:1-5; Ordover Dep. (JX90) 199:11-15 ("[T]here are plenty of activities that firms undertake fully aware of these kinds of spillover effects and saying to themselves, well, the effect is there but it's either insignificant or I can live with it and do what I intend to do."). The testimony of the other witnesses support this. *See* Stockum 635:25-636:7; CX612 (Stockum Rebuttal Expert Report) at ¶ 17 ("With regard to what Dr. Ordover calls

'marketing buzz,' some degree of spillover is an inevitable, and probably inconsequential by-product of a competitive market – most often ignored by firms and policy-makers alike."); Kopecky Dep. (CX610) 55:5-10 (when Universal has a priority release that it is promoting, the fact that consumers may come to the record store and buy a different album would not affect the amount of advertising you would purchase); Caparro Dep. (CX609) 85:8-15.

315. Within the recorded music industry, the diversion of sales identified by Respondents is commonplace: Advertising intended to benefit one album often leads to sales of competing albums (perhaps an older album by the same artist on a different label, perhaps an album by an entirely different artist). RX716 (Ordover Expert Report) at ¶ 36. (Dr. Ordover admits that the "incremental consumer foot traffic at music retailers" generated by promotion of 3T3 may have benefitted not just 3T1 and 3T2, but recorded classical music taken as a whole); Ordover Dep. (JX90) 130:1-21 (potential for spillover effects whenever one company is releasing an artist's new album and a competing company controls the older albums: "I think the externalities occur potentially at any such time. Their magnitude may depend on the circumstance."); Cloeckaert Dep. (JX98) 122:14-123:1 ("Consumers always have the option to either buy the new record, to buy the catalogue or to buy both or to ignore totally this release and buy something from the competition."); Moore 59:7-24.

316. A strong, popular album creates spillover effects that are beneficial to the entire recorded music industry. For this reason, both labels and retailers often blame slow overall store traffic on the absence of heavily-advertised major new releases during a particular fiscal quarter." JX105-F (Moore Expert Report) at ¶ 23. *See also* Cloeckaert Dep. (JX97) 46:3-17 (PolyGram benefits when a competitor offers an attractive product because more "people are tempted to go to a

record store. And it's not like groceries where you have to go to the store to eat. For music, you go when you find something exciting, and when you go there, there is a chance that you pick up . . something else. Since we are a major player, the chance they pick anything from us is significant."); Kopecky Dep. (CX610) 52:17-54:8 ("[W]hen great products are available [from a competing company], it's good for business;" if competitors release strong popular albums, traffic at retailers increase; PolyGram has benefitted from this phenomenon). *See also* Caparro Dep. (CX609) 83:22-85:1.

317. In 1994, as Warner was preparing to market 3T2, it anticipated competition from PolyGram (3T1). CPF ¶¶ 233, 235.

318. Warner advertised 3T2, and did not enter into a moratorium with its rival. CPF ¶¶ 233-242.

319. Instead, Warner devised a marketing campaign aimed at convincing consumers that 3T2 was preferable to 3T1. CPF ¶ 236. The company's marketing campaign for 3T2 was a success and 3T2 was profitable. CPF ¶¶ 255-256.

320. In 1996 and 1997, Warner was anxious to distribute 3T3 independently, with no prospect of a moratorium with PolyGram. CX321 at 3TEN00004277.

321. In 1996 and 1997, PolyGram (certainly aware of its own marketing activity in 1994), was anxious to distribute 3T3 independently, with no prospect of a moratorium with Warner. CX323 at UMG000487-88; CX324 at UMG004669; CX327 at UMG004679. Other music companies also were interested in distributing 3T3, with no prospect of a moratorium with PolyGram and Warner. CX317 (noting "MCA's interest in the 1998 project").

322. The fourth Three Tenors album, Three Tenors Christmas, was produced and marketed by Sony in 2000 without restricting competition from 3T1, 3T2 or 3T3. *See* CPF ¶¶ 230-232.

### 2. There Is No Evidence that the Potential Free Riding Threatened Advertising for 3T3

323. Advertising in support of 3T3 would not have disappeared or been substantially curtailed on account of free riding. Stockum 637:15-638:21. Witnesses representing both Warner and PolyGram testified that 3T3 would have been appropriately promoted without the moratorium, and indeed that the moratorium had no significant effect on the resources devoted to advertising and promoting 3T3. "I think that 3T3 would have been appropriately marketed and promoted in the United States without regard for the moratorium with PolyGram." O'Brien 490:19-22. *See also* O'Brien 448:12-21; Roberts Dep. (JX92) 50:25-52:24 (Chris Roberts, President of PolyGram Classics, declined to endorse the proposition that the moratorium was necessary to the effective promotion of 3T3).

324. At deposition, Paul Saintilan testified that PolyGram's advertising budget for 3T3 was determined in January or February 1998, before the moratorium was agreed upon. After February 1998, there was little opportunity for PolyGram to increase or decrease marketing expenditures for 3T3. And even if there were such an opportunity, PolyGram did not view competition from Warner (3T3) as a rationale for altering its advertising expenditures:

> Q: Would it be to PolyGram's advantage to spend more money at the time of release in order to address the competition from 3T2?
>
> A: No.
>
> Q: Would it be to PolyGram's advantage to spend less money at the time of the release of 3T3 in order to address competition from 3T2?

A: No.

Q: Is PolyGram's optimal advertising expenditure unaffected by whether 3T2 is or is not discounted at the time of 3T3's release?

A: Marketing budgets for a major album, such as 3T3, would be determined significantly in advance of the album. And therefore the capacity of the company to react competitively by hugely varying the amount, particularly expending far more, would be severely constrained by the fact that the budget had been set and agreed to.

Saintilan Dep. (JX94) 88:18-89:17; Saintilan Dep. (JX94) 194:2-195:9.

325. In June 1998, when it appeared to PolyGram that the Three Tenors moratorium would fall apart, PolyGram did not alter its marketing strategy or cut back on its advertising budget. The company's only response was to notify its operating companies that if Warner was found selling 3T2 at discounted prices in any territory, then the local PolyGram operating company could respond by discounting 3T1. CPF ¶¶ 139-141.

326. PolyGram executives were not concerned that PolyGram operating companies would not use their best efforts to promote 3T3 at the time of the launch, regardless of whether they were allowed to discount 3T1 or Warner discounted 3T2. Greene Dep. (JX95) 89:23-90:10, 189:19-190:1.

**3. Respondents Fail to Validate the Free-Riding Defense**

327. In 1998, PolyGram and Warner did not quantify the extent to which consumers drawn to record stores by promotion for 3T3 would (absent the moratorium) have purchased 3T1 or 3T2. O'Brien 491:13-18 ("We would not have – we would not have attempted to quantify the impact of that. It would be extraordinarily difficult to do."); Saintilan Dep. (JX94) 82:4-11.

328. That PolyGram or Warner executives may have been concerned that 3T3 may lose sales to 3T1 and 3T2 is not a reliable gauge of the magnitude of the free-riding effect. As PolyGram executive Bert Cloeckaert testified in his deposition:

> For every major release in any record company there is always an element of anxiety because of big investment, because of big expectations, to make sure that everything is set up to deliver the quantities we need to make money on that project. There was not any difference on this one. And, yeah, that's – so it's trying to do the utmost to make the best of this significant release, which was a significant release in the third quarter of PolyGram in 1998.

Cloeckaert Dep. (JX97) 42:17-43:6

329. Dr. Ordover calculated that absent the moratorium agreement the magnitude of sales diverted from 3T3 to 3T1 in the United States due to free riding during the moratorium period (August - October 1998) would have been quite small (sales of less than $86,000 per month). RX716 (Ordover Expert Report) ¶ 35; Ordover Dep. (JX90) 158:5-10. Dr. Ordover was thus unable to conclude that free riding in the United States would have had a significant impact on the venturers' incentives to advertise 3T3. Ordover Dep. (JX90) 158:25-159:21 ("That I don't know. . . I can't opine. As I said before, it seems to me that at least in the United States the whole thing was likely to be – turned out to be a non-event for a variety of reasons.").

330. Dr. Ordover acknowledged in his deposition that discounting and promotion of 3T1 by PolyGram may actually increase (rather than decrease) Warner's incentive to promote 3T3. Stated differently, the effect of the moratorium may be to decrease Warner's incentive to advertise 3T3. Ordover Dep. (JX90) 115:16-116:13, 118:8-119:1.

331. Dr. Ordover testified in deposition that he "cannot answer the question" whether the moratorium was reasonably necessary for the efficient marketing of 3T3 in the United States.

Ordover Dep. (JX90) 55:2-8. Significantly, Dr. Ordover does not conclude that free riding was a significant problem for PolyGram and Warner in the United States – only that it was a plausible concern. Ordover Dep. (JX90) 66:12-22 ("we cannot conclude one way or the other"); Ordover Dep. (JX90) 36:2-37:4 ("the answer is there's always some free riding . . . It did not seem to be an issue in the United States in 1994"). Dr. Ordover did not consider any less restrictive alternatives to the moratorium. Ordover Dep. (JX90) 77:8-11.

332. Although Dr. Ordover's report states that the moratorium is "reasonably necessary" to avoid free riding (apparently outside the United States), he has in mind an idiosyncratic definition of "reasonably necessary." For purposes of this matter, Dr. Ordover defines "reasonably necessary" as meaning plausible, or not obviously pretextual.

> [T]he moratorium was reasonably necessary by which I mean that it could not have been dismissed as a pretext for accomplishing objectives that were not related to the joint venture. I never testify, I never stated it was necessary in the sense that but for that moratorium there would be no joint venture or the joint venture would have fallen apart or something of that sort. . . . I never said that it was a requirement that was — if it was not in place, would have caused the whole thing to collapse or joint venture would not proceed without it."

Ordover Dep. (JX90) 50:10-51:10.

333. Dr. Ordover contends that "a quick look of restraints would be best left for those joint ventures that are a sham." He further argues that any restraint related to a legitimate joint venture should be analyzed under the fullest rule of reason. Ordover Dep. (JX90) 44:2-22 ("I would say that a – a quick look of restraints would be best left for those joint ventures that are a sham"). As a result, Dr. Ordover did not determine whether the restraint in this case actually promoted the efficient operation of the venture, or whether the efficiency justifications were valid.

334. For these reasons, and due to the fact that he did not testify at trial and was not subject to cross examination, Dr. Ordover's testimony is given little weight.

### 4. The Hypothesized Free-Riding Problem Could Have Been Remedied by the Sharing of Advertising Expenses

335. A common method of addressing a free-riding problem associated with advertising is to ensure that all those who benefit from such advertising contribute toward the funding for the advertising. CX612 (Stockum Rebuttal Expert Report) at ¶ 25; Stockum 816:22-818:25; Ordover Dep. (JX90) 94:4-17, 96:16-21 ("That's often a way to deal with it.").

336. The collaboration agreement between Warner and PolyGram provides that the two music companies shall each be entitled to 50 percent of the net profits and net losses derived from sales of 3T3 worldwide. Any advertising or marketing expenses incurred by either party are to be deducted from revenues for purposes of calculating net profits (losses). Given the financial structure of the venture, every dollar spent in the United States by Warner to promote 3T3 is partially reimbursed by PolyGram; fifty cents comes from each of the venturers. Stockum 735:1-4; JX10-Q at UMG001072; JX10-1 at UMG0001075; O'Brien 419:18-420:9 (if Warner purchased a television advertisement for 3T3, then half the cost would be borne by Warner and half the cost would be borne by PolyGram); CX348 at UMG002158 (explaining mechanism for implementing cost sharing arrangement); JX20 (collaboration will require "estimated accountings quarterly with payment of 80% of the amount then due, and a formal 'settling up' annually"); CX532 at 3TEN00009949 (adjustment of accounts to implement cost sharing); CX533 (same); CX534 at UMG000577 (same).

337. If the proportional benefit to each party of the advertising is equivalent to the proportional cost of advertising borne by each party, then there is no distortion of incentives. For example, if Warner pays 50 percent of the cost of advertising 3T3, and receives 50 percent of the benefit (*e.g.*, because sales of 3T1 are comparable to sales of 3T2), that is an efficient arrangement. Stockum 819:19-820:13; Ordover Dep. (JX90) 114:17-115:15.

338. If the forecasted benefit to PolyGram and Warner from advertising 3T3 (taking into account all profits from the sale of 3T1, 3T2, and 3T3) were not equal, then the parties could have altered the cost-sharing mechanism accordingly. For example, if Warner were expected to gain 52 percent of the benefit of the advertising, then the parties could have agreed that Warner would pay 52 percent of the cost. Stockum 820:18-821:17.

339. It is efficient for PolyGram and Warner to allocate advertising costs based upon forecast (rather than actual) sales levels because Warner's advertising expenditures in support of 3T3 in the United States were also based upon forecast rather than actual sales levels. Stockum 820:18-822:6; CX321 at 3TEN00004279 (only five percent of PAP – promotion, advertising, and publicity – expenditures assumed to be variable; "the remainder will be a fixed commitment made at the time of releasing the record"); Saintilan Dep. (JX94) 88:18-89:17, 194:2-195:9 (advertising budget for 3T3 fixed in January/February 1998); O'Brien 542:11-19 ("A fairly significant component of the initial marketing plan would be set up and committed to in advance of the release . . ."); O'Brien 401:12-17 (PAP defined).

340. If PolyGram and Warner were unable to make a reasonably reliable forecast regarding the relative benefits from advertising 3T3, then each party's contribution to the advertising of 3T3 could have been determined by the parties after the launch of 3T3. Stockum 822:7-823:17.

### 5. The Moratorium Was Not Intended to Address a Free-Riding Problem in the United States

341. Respondents' economic expert, Dr. Ordover, opined that if there were any serious free-riding problem in connection with the marketing of 3T3, it existed in Europe, but not the United States. Ordover Dep. (JX90) 36:24-37:4 ("for whatever reason, the United States market seemed to have somewhat different dynamics that the feared dynamics in other countries"); Ordover Dep. (JX90) 25:24-25 (moratorium "would have been a non-event from the standpoint of U.S. distribution"); 27:15-16 (moratorium was "a non-issue in the U.S. Although it might have been viewed as a major issue in Europe.").

342. There is no evidence that, during the moratorium period, discounted copies of 3T1 and 3T2 would have been resold, or transshipped, from the United States to Europe. Nor is there evidence that such transshipment would disrupt the marketing of 3T3 in the United States or anywhere else. No evidence was presented describing how risk of transshipment is related to the moratorium generally, or a ban on advertising in particular. No evidence was presented concerning the level of discounting that would generate transshipment, the level of transshipment that would cause an inefficiency, the actual risks of transshipment of product or how the moratorium may limit transshipment.

343. PolyGram considered transshipment to be a problem only withing Europe. For example, when PolyGram ran a campaign to discount 3T1 during June and July 1998, it was concerned about ensuring that prices in Europe were roughly equivalent, or "harmonize[d]." JX40 No effort was made to "harmonize" prices between Europe and the U.S. *See* Cloeckaert Dep. (JX97) 12:21-13:7; Gore Dep. (JX87) 24:19-23.

### 6. The Hypothesized Free-Riding Problem Could Have Been Remedied by Making 3T3 More Distinct from 3T1 and 3T2

344. Firms generally respond to spillover by "emphasiz[ing] the uniqueness of their offering." Wind Dep. (JX91) 127:1-5. "A lot of the incentive behind direct marketing, personalization of marketing messages, customization of marketing messages, all of these are designed to try to avoid some of the impact of spillover and increase the likelihood that your message gets the more desirable result." Wind Dep. (JX91) 129:1-6.

345. Dr. Ordover acknowledged that the free-riding problem would be ameliorated if 3T3 were more distinct from 3T1 and 3T2 in terms of repertoire and appearance. Ordover Dep. (JX90) 126:8-21, 130:1-21, 144:15-23 ("Surely, the further away you put the product in a product space, the less of a competitive challenge it faces from the catalogue of the same performer."); RX716 (Ordover Expert Report) ¶ 16.

346. In 1994, Warner used the ordinary tools of marketing (*e.g.*, packaging, advertising) to create a unique identity for 3T2, distinct from 3T1. *See* CPF ¶¶ 236-241. A similar strategy could have been pursued for 3T3 in 1998. Moore 123:10-135:9.

## E. The Moratorium Was Not Necessary to Avoid Consumer Confusion

### 1. There Is No Evidence of Actual Confusion

347. The principal proponent of the contention that the Three Tenors moratorium addressed a consumer confusion problem is Paul Saintilan. Saintilan was, he says, concerned that consumers would find it confusing to choose among three different Three Tenors albums. This concern was not based upon research, data, or observation. According to Saintilan, "It was simply a concern." Saintilan Dep. (JX94) 81:15-82:3.

348. Saintilan did not testify at trial and was not subject to cross-examination; however, his deposition was offered and admitted in evidence. Saintilan Dep. (JX94); Trial Tr. 846:4-11.

349. At the time of the moratorium, PolyGram had not performed any consumer research on Three Tenors products. Saintilan Dep. (JX94) 20:18-21. Saintilan had not worked on any other marketing campaign where a similar issue of confusion was presented. Saintilan Dep. (JX94) 82: 12-16.

350. There is no evidence that consumers were actually confused in selecting among the various Three Tenors albums. Hidalgo Dep. (JX88) 84:13-85:5 (PolyGram executive explained that assertion about consumer confusion is "speculation"); Greene Dep. (JX95) 193:12-25,195:8-18 (Respondents' designated Rule 3.33(c) witness on efficiencies testified that claim of consumer confusion "was speculation," and that he could not say what sort of confusion may arise); Stainer Dep. (JX89) 42:10-43:5 (in United Kingdom, PolyGram was not concerned about confusion "because this [3T3] was the new album, and this was the album that the record trade would focus on as a new album. If you walked into a major supermarket, this was the one that would have been racked in the chart racks.").

### 2. Confusion Could Have Been Avoided Without a Moratorium

351. PolyGram designed the cover art for 3T3 and was free to design packaging for 3T3 that was distinct from, and would not be confused with, the older Three Tenors products. CX500; CX501; CX502; CX503; CX505; CX508. *See also* JX5 at UMG001523-001524. JX26 at UMG000372; CX383 at UMG003284.

352. There was no confusion between 3T1 and 3T2 prior to the release of 3T3. Stainer Dep. (JX89) 12:9-13:20, 19:1-20:11 (head of Warner's U.K. campaign in 1994 testified that Warner was

not concerned about confusion during 1994; packaging is different; cover art is different; titles are different; images are different); Hidalgo Dep. (JX88) 22:1-24:3 ("it was particularly impossible for the customers to confuse" 3T2 and 3T1 during 1994).

353. In 1994, PolyGram and Warner independently used standard marketing techniques to distinguish their respective Three Tenors products, including slip case covers (a type of CD packaging), enhanced photo books, and product stickers. CX272 at UMG00526 (use of sticker); CX288 at UMG006106 (use of sticker); CX296 at 3TEN00005912 (use of photo book); CX299 at 3TEN00005904 (use of photo book); CX300 at 3TEN00008946 (use of slip case); *see also* Moore 127:22-135:9.

354. Advertising campaigns on behalf of 3T1 and 3T2, emphasizing the distinctive features of these older albums, could have helped to differentiate these products from the new Three Tenors release. This was done in 1994 to distinguish 3T2 from 3T1. Stainer Dep. (JX89) 21:5-11; CX249 at 3TEN00011254; CX259 at 3TEN00011108.

355. Significant discounting of 3T1 and 3T2 also could have helped to differentiate these products from the new Three Tenors release. Saintilan Dep. (JX94) 91:5-92:11 (discounting need not lead to confusion if products are displayed appropriately at retail).

356. Consumer confusion, where it exists at all, is related to the retail display of the albums. Saintilan Dep. (JX94) 91:22-25. If products are displayed appropriately, discounting need not lead to consumer confusion. Saintilan Dep. (JX94) 92:1-11; *see also* Wind Dep. (JX91) 169:17-170:6 (concurrent advertising of products that are close substitutes will not create consumer confusion where the advertising is properly executed).

357. Record retailers have the incentive and ability to display their products in a manner that does not confuse consumers. Saintilan Dep. (JX94) 83:12-17; Caparro Dep. (CX609) 70:8-71:7.

358. PolyGram and Warner could have remedied any consumer confusion by requesting that retailers display 3T3 separately from 3T1 and 3T2 (*e.g.*, not in the same end of aisle display). Saintilan Dep. (JX94) 84:13-85:21.

359. In addition, Warner could have secured commitments from retailers that 3T3 would be positioned prominently in the stores, and that 3T1 would not be positioned alongside 3T3. CX612 (Stockum Rebuttal Expert Report) at ¶ 30; Stockum 793:12-794:9; Wind Dep. (JX91) 81:20-86:9. For example, Warner could have prevented any CD other than 3T3 from being placed in the special Ei[illegible] Tower display it provided to retailers. O'Brien Dep. (JX100) 82:11-15. Record companies have been able to achieve exclusive space in retail establishments. CX249 at 3TEN00011253 (in 1994, Warner negotiated "exclusive chain deals and prevented competitors [of 3T2] from getting retail space"); Caparro Dep. (CX609) 66:4-67:10 (in a promotion with a retailer a wall of greatest hits records, "it's generally assumed that because Universal is funding the advertising and promotion of it, that no other companies would be attached along for a free ride"); Kopecky Dep. (CX610) 36:24-37:9, 64:1-9; Moore 52:7-12, 261:23-262:18.

360. A clear marketing message is also a key to limiting confusion:

> Q. If there were a situation where the catalog would cannibalize sales of the new release, is there anything you could do to limit that?
>
> . . .
>
> A. You know, it's all about the message that you send in your marketing, and if the marketing is strong enough to point consumers to the new record, then you could only – you could only do so much to lead the consumer to the purchase. At that point it's the consumer's responsibility to figure out what they want, and it's your

> duty to make sure that the message is as clear as possible as the owner of that content.

Gore Dep. (JX87) 72:12-73:1.

#### 3. Respondents' Expert Did Not Validate the Confusion Claims

361. Respondents' expert witness, Dr. Yoram Wind, opined that it is theoretically possible that some consumers faced with too much variety may elect to postpone their purchase because they are not yet certain of the relative merits of the various products. Wind Dep. (JX91) 20:19-22:2, 131:25-133:6. However, the theory is premised upon "small studies" that are "not necessarily generalizable to the whole population." Wind Dep. (JX91) 25:2-20. Dr. Wind does not know how many, if any, consumers would find the offering of three albums so confusing that they buy none. Wind Dep. (JX91) 23:14-18 ("I have no empirical evidence of this. This is an empirical question.").

### F. The Moratorium Was Not Necessary to Achieve a Commercially Sound Marketing Strategy

362. PolyGram Vice President Bert Cloeckaert testified that, in considering how best to co-market a new release and catalogue albums by the same artist, "there are as many theories as they are people in the record industry." Some marketers prefer to promote catalogue albums at the same time as the new release, others do not. Cloeckaert Dep. (JX97) 98:9-101:8.

363. Respondents' executives conclude that disappointing sales of 3T3 were probably attributable to the "tiring of the concept more than anything else." Cloeckaert Dep. (JX97) 73:19-74:6. *See also* Stainer Dep. (JX89) 74:15-18 ("the repertoire had nothing significantly new, the act itself came across on television as slightly formulaic"); Hidalgo Dep. (JX88) 91:2-4, 60:7-61:11, ("they are not adding anything which is exciting . . . As a matter of fact, I am sure that if I play the record – different records for some people, they wouldn't be able to distinguish which is which");

Saintilan Dep. (JX94) 35:6-37:1 (failure to achieve sales expectations was "probably due to the fact that it was a formula being repeated for the third time"). *See also* Ordover Dep. (JX90) 147:12-12-25 ("First of all, the third release is a flop, and it's my understanding that it flopped not necessarily or exclusively because of the competition from other Three Tenors but because of what proved to be inevitable, which is when you reheat the same soup three times, it may become somewhat less palatable").

364. The proponent of the "sound commercial strategy" argument is Respondents' expert, Dr. Yoram Wind. Dr. Wind's opinion is entirely dependent upon the assumption that 3T1, 3T2, and 3T3 are part of a single product line. Wind Dep. (JX91) 78:22-24. Dr. Wind assumes that, when marketing a product line, the goal is to target the various products to different segments of the market. Wind Dep. (JX91) 77:10-78:21. However, Dr. Wind's essential assumption is inconsistent with the facts of the case – where Warner and PolyGram specifically retained their rights to exploit 3T1 and 3T2. *See* CPF ¶¶ 66-68.

365. Respondents elected not to call Dr. Wind to testify at trial. Trial Tr. 846:4-11.

366. Dr. Wind admits that he did not review the evidence in this case to determine if the moratorium was actually necessary, as opposed to merely theoretically or "plausibly" necessary. Wind Dep. (JX91) 10:12-11:20 ("So I did not analyze what actually happened."). According to the list of documents Dr. Wind reviewed or relied upon, Dr. Wind considered no documents from the files of Warner; no deposition testimony of any individual responsible for marketing 3T3 in the United States; and no deposition testimony of any Warner employee. Complaint Counsel's

Findings of Fact, Conclusions of Law, Order and Memorandum of Law in Support Thereof Appendix B: Unpublished Materials Cited in Trial Memorandum In Support Complaint Counsel's Findings of Fact, Conclusions of Law and Order, Tab 1.

367. Dr. Wind has not studied the recorded music industry, has not worked in the recorded music industry, and has not consulted to the recorded music industry. Wind Dep. (JX91) 5:16-24.

368. Catherine Moore, an expert in the marketing of recorded music products who did testify at trial, explained that while it may be useful to market recorded music products by one artist together, this is not necessary because a new release must be given its own unique identity and form its own message to consumers. Moore 139:11-19.

369. Unlike Dr. Wind, Professor Moore has substantial experience in marketing music products. Professor Moore is the director of the music business program at New York University, and is also a professor in that program. The music business program is an academic program that trains students for careers in the music industry, particularly in marketing, advertising, and promotion. Professor Moore teaches courses that focus on marketing and pricing issues in the recorded music industry. In addition, Professor Moore has nearly 20 years of experience working and consulting in the recorded music industry for operations as varied as retail music stores, distribution companies and labels. Moore 8:21-18:1.

370. For these reasons, and because Dr. Wind was listed as an expert witness by Respondents but never called, Dr. Wind's opinions about the "necessity" of a "commercially sound" strategy are given little weight.

## XI. There Is a Significant Risk that the Unlawful Conduct Will Recur

371. It is not unusual for an artist to release material on more than one label. Moore 85:4-9; Hoffman 293:3-294:8; Gore Dep. (JX87) 68:8-69:4; Caparro Dep. (CX609) 76:16-19 ("artists jump labels, contracts expire"); Constant Dep. (JX96) 97:10-19 ("It happens all the time in the music business . . . ); CX604-D ("many artists and orchestral contracts are short in duration and refer only to specific recordings"). Examples of artists that have switched from one label to another include Janet Jackson, Mariah Carey, Rod Stewart, Placido Domingo, Jose Carreras, Vladimir Horowitz, Daniel Barenboim and Leonard Bernstein. Moore 85:4-87:14. Other examples identified by PolyGram witnesses include Terry Dexter and Fabulous (Hoffman 293:4294:8); Elton John and Willie Nelson (Caparro Dep. (CX609) 73:25-74:14); and Miles Davis, George Benson, Sarah Brightman, Peter White, and Keith Jarrett (Gore Dep. (JX87) 63:7-64:25, 68:8-69:4). Since it is common for an artist to record for more than one label over time, many artists have catalogue albums that appear on a label different from the label that releases the artist's new records. When that occurs, the same incentives to enter into an agreement not to compete will exist that caused PolyGram and Warner to enter into the Three Tenors moratorium agreement.

372. Collaborations where competitors share financial interests in a product, and therefore may have the incentive to enter into a moratorium agreement to protect new products from competing with extra-venture products, are common. For example, it is common for one music company to "release" an exclusive artist to a competing company for purposes of a particular project. Moore 39:4-40:9. The music company that receives the services of another company's exclusive artist, may reciprocate by releasing one of its exclusive artists for a future project. CX513; CX515; CX516.

373. A music label may release an artist from his exclusive recording contract in return for a royalty on the artist's first album on his new label. When this occurs, the two competing labels have a shared financial interest in the success of a particular album. Hoffman 357:12-25. Unless enjoined by the Court, Universal may seek a moratorium agreement to limit discounting or advertising of an artist's catalogue items on a competitor's label where it has obtained a release to have that artist perform for it.

374. Universal Music Group and Sony Music Entertainment have formed a joint venture to distribute music over the Internet. Universal, Sony, and other music companies will provide their music to the venture, known as "pressplay" on a non-exclusive basis. Accordingly, the music products marketed by the joint venture may also be marketed through traditional retail outlets. CX553.

UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION

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| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation,<br><br>UMG RECORDINGS, INC.,<br>a corporation,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,<br>a corporation. | Docket No. 9298 |

To: The Honorable James P. Timony
Administrative Law Judge

## COMPLAINT COUNSEL'S PROPOSED CONCLUSIONS OF LAW

1. The Federal Trade Commission has jurisdiction over the subject matter of this proceeding, and over Respondents PolyGram Holding, Inc., Decca Music Group Limited, UMG Recordings, Inc., and Universal Music & Video Distribution Corp. (collectively, "PolyGram" or "Respondents").

2. At all relevant times, each respondent was a corporation within the meaning of Section 4 of the Federal Trade Commission Act, 15 U.S.C. § 44.

3. Respondents' acts and practices, including the challenged acts and practices, are in or affect commerce as "commerce" is defined in the Federal Trade Commission Act, 15 U.S.C. § 44.

4. Respondents have entered into contracts, combinations, or conspiracies with their competitor, Warner Music Group ("Warner"), constituting unfair methods of competition, in violation of Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45.

5. An antitrust plaintiff may prove the existence of a contract, combination, or conspiracy by providing either direct or circumstantial evidence sufficient to warrant a finding that the conspirators had a unity of purpose or common design or understanding or a meeting of the minds in an unlawful arrangement.

6. In 1998, PolyGram and Warner agreed to observe a "moratorium" on competitive activity. The parties agreed to forgo discounting and advertising of older Three Tenors audio and video products (referred to as "3T1" and "3T2") for a period of time following the release of a new Three Tenors recording (referred to as "3T3").

7. Certain categories of restraints almost always tend to raise price or reduce output, and hence are presumptively anticompetitive.

8. The moratorium agreement between PolyGram and Warner to forgo discounting and advertising is likely, absent an efficiency justification, to lead to higher prices or reduced output, and hence is presumptively anticompetitive.

9. Where a presumptively anticompetitive agreement is proven, the burden shifts to the Respondents to prove the existence of a plausible and valid efficiency justification for the restraint. That is, Respondents must show that the moratorium was necessary in order to promote competition and benefit consumers.

10. Where a presumptively anticompetitive restraint is said to be ancillary to a collaboration, Respondents must show that the restraint is necessary in order to achieve the pro-competitive benefits of that collaboration.

11. An agreement entered into following the formation of a joint venture to forgo discounting and advertising for the pre-existing, separately produced, and separately distributed products of the individual venturers is not ancillary to the joint venture agreement. The price restraint is *per se* illegal.

12. Where the proffered efficiency justifications are either implausible on their face or invalid in view of the relevant facts, the presumptively anticompetitive restraint can be condemned, without defining the relevant market, assessing market power, or examining actual anticompetitive effects.

13. An efficiency argument is implausible (insufficient on its face) where, for example, it is pretextual, inapposite to the factual circumstances presented, or where the argument is premised upon the claim that competition is unworkable or undesirable.

14. An efficiency justification should be rejected as invalid where, for example, it is speculative or unproven, where the argument sweeps too broadly, where there is a less restrictive alternative, or where the restraint is not an effective remedy for the competitive problem that it purports to address.

15. It is not sufficient for Respondents merely to advance a plausible hypothesis as to why a suspect restraint could have been efficiency-enhancing. Respondents must produce evidence to demonstrate that the restraint did in fact promote efficiency.

16. Respondents have not met their burden of identifying a plausible efficiency justification for the challenged restraints. Respondents' claim that the moratorium agreement addresses a market failure in Europe can not justify the agreement to restrain competition in the United States.

17. Even if the justifications proffered by Respondents were deemed plausible, Respondents have not met their burden of proving the existence of a valid efficiency justification.

18. In order to demonstrate a valid free-riding defense, Respondents must show that: (i) absent the challenged restraints, free riding was likely to have the effect of eliminating some valued service from the marketplace; (ii) there was no reasonable means by which the competitor that benefitted from the valued service (the alleged free rider) could have compensated the firm that was providing such service; and (iii) there were no less restrictive alternatives. Respondents have satisfied none of these requirements.

19. In the recorded music industry, it is common for advertising and other promotional activity to benefit a competitor different from (and in addition to) the firm that funded the advertising. Generally, this does not lead record companies to abandon or even significantly to curtail advertising. The evidence does not support a finding that the venturers' advertising expenditures in support of 3T3 would have significantly decreased in the United States without the moratorium agreement.

20. Where firms that share the benefits from advertising also share the costs of such advertising, free-rider problems are reduced or eliminated. Even assuming that there was a potential free-riding problem in connection with advertising for 3T3, PolyGram and Warner effectively remedied the free-riding problem by sharing the costs of advertising 3T3.

21. Other substantially less restrictive alternatives for addressing the purported free-riding concern were also available to PolyGram and Warner. For example, Respondents could have limited the moratorium to Europe (the site of the alleged free-riding problem).

22. The Three Tenors moratorium agreement was not necessary to eliminate consumer confusion. The evidence does not support a finding that consumers were actually confused in selecting among the various Three Tenors products. Further, the potential for confusion could have been remedied by making the packaging for 3T3 more distinct, and/or by working with retailers to ensure that the Three Tenors products were displayed in a manner that consumers would not find confusing.

23. The claim that suppressing promotion of similar, competing products is necessary in order to eliminate confusion conflicts with the basic policy of the antitrust laws. Confusing competition is preferred to the clarity offered by cartelization.

24. The Three Tenors moratorium agreement was not necessary for the formation of the 3T3 collaboration between Warner and PolyGram.

25. The Three Tenors moratorium agreement was not necessary for the effective marketing of 3T3 in the United States.

26. Modest cost savings may be achieved by any joint selling arrangement; this hoewever is not a sufficient justification for the adoption of presumptively anticompetitive restraints.

27. When a firm withdraws from the market at the behest of a rival, this will enable the surviving competitor to generate additional consumer attention, publicity, and sales. These effects may be the by-product of any market division agreement, and are not a cognizable antitrust defense.

28. Section 5 of the FTC Act proscribes anticompetitive agreements. Respondents' claim that the moratorium agreement was not implemented in the United States is not supported by the evidence, and is not a valid antitrust defense.

29. Respondents claim that they withdrew from the moratorium agreement is not supported by the evidence, and is not a valid antitrust defense. To establish withdrawal from a conspiracy, Respondents must show that affirmative acts inconsistent with the object of the conspiracy were communicated in a manner reasonably calculated to reach co-conspirators. Respondents did not effectively communicate to Warner an intention to withdraw from the moratorium.

30. Respondents' claim that, absent the moratorium agreement, PolyGram would not have discounted 3T1 during the moratorium period is not supported by the evidence, and is not a valid antitrust defense. This is tantamount to claiming that the price level agreed upon by competitors PolyGram and Warner was reasonable. It is a long-standing antitrust principle that the reasonable price is the one generated by the interaction of buyers and sellers in the marketplace, and not a price chosen by sellers.

31. The acts or practices of Respondents were and are to the prejudice and injury of the public. The acts or practices constitute unfair methods of competition in or affecting commerce in violation of Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45. These acts may recur in the absence of the Proposed Order entered in this proceeding.

32. Entry of the Proposed Order is in the public interest, and is necessary to protect the public now and in the future.

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**

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|---|---|
| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation,<br><br>UMG RECORDINGS, INC.,<br>a corporation,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,<br>a corporation. | Docket No. 9298 |

**ORDER**

**I.**

A. "PolyGram Holding" means PolyGram Holding, Inc., its directors, officers, employees, agents, representatives, successors, and assigns; its subsidiaries, divisions, groups, and affiliates controlled by PolyGram Holding, Inc.; and the respective directors, officers, employees, agents, representatives, successors, and assigns of each.

B. "Decca Music" means Decca Music Group Limited, its directors, officers, employees, agents, representatives, successors, and assigns; its subsidiaries, divisions, groups, and affiliates controlled by Decca Music Group Limited; and the respective directors, officers, employees, agents, representatives, successors, and assigns of each.

C. "UMG" means UMG Recordings, Inc., its directors, officers, employees, agents, representatives, successors, and assigns; its subsidiaries, divisions, groups, and affiliates controlled by UMG Recordings, Inc.; and the respective directors, officers, employees, agents, representatives, successors, and assigns of each.

D. "UMVD" means Universal Music & Video Distribution Corp., its directors, officers, employees, agents, representatives, successors, and assigns; its subsidiaries, divisions, groups, and affiliates controlled by Universal Music & Video Distribution Corp.; and the respective directors, officers, employees, agents, representatives, successors, and assigns of each.

E. "Respondents" means PolyGram Holding, Decca Music, UMG, and UMVD, individually and collectively.

F. "Commission" means the Federal Trade Commission.

G. "Audio Product" means any prerecorded music in any physical, electronic, or other form or format, now or hereafter known, including, but not limited to, any compact disc, magnetic recording tape, audio DVD, audio cassette, album, audiotape, digital audio tape, phonograph record, electronic recording, or digital audio file (*i.e.*, digital files delivered to the consumer electronically to be stored on the consumer's hard drive or other storage device).

H. "Video Product" means any prerecorded visual or audiovisual product in any physical, electronic, or other form or format, now or hereafter known, including, but not limited to, any videocassette, videotape, videogram, videodisc, compact disc, electronic recording, or digital video file (*i.e.*, digital files delivered to the consumer electronically to be stored on the consumer's hard drive or other storage device).

I. "Seller" means any Person other than a Respondent that produces or sells at wholesale any Audio Product or Video Product.

J. "Joint Venture Agreement" means a written agreement between a Respondent and a Seller that provides that the parties to the agreement shall collaborate in the production or distribution (including, without limitation, through the licensing of intellectual property) of Audio Products or Video Products.

K. An Audio Product or Video Product is "Jointly Produced" by a Respondent and a Seller when, pursuant to a written agreement between such Respondent and such Seller, each contributes significant assets to the production or distribution of the Audio Product or Video Product (including, without limitation, personal artistic services, intellectual property, technology, manufacturing facilities, or distribution networks) to achieve procompetitive benefits. For example and without limitation, an Audio Product or Video Product is "Jointly Produced" by a Respondent and a Seller when (1) such product is manufactured or packaged by such Seller and sold at wholesale by such Respondent, or (2) such product is manufactured or packaged by such Respondent and sold at wholesale by such Seller.

L. "Person" means both natural persons and artificial persons, including, but not limited to, corporations, partnerships, and unincorporated entities.

M. "Officer, Director, or Employee" means any officer or director or management employee of any Respondent with responsibility for the pricing, marketing, or sale in the United States of Audio Products or Video Products.

N. "United States" means the fifty states, the District of Columbia, the Commonwealth of Puerto Rico, and all territories, dependencies, and possessions of the United States of America.

## II.

**IT IS FURTHER ORDERED** that Respondents shall cease and desist from, directly, indirectly, or through any corporate or other device, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, soliciting, participating in, entering into, attempting to enter into, implementing, attempting to implement, continuing, attempting to continue, or otherwise facilitating or attempting to facilitate any combination, conspiracy, or agreement, either express or implied, with any Seller:

A. to fix, raise, or stabilize prices or price levels, in connection with the sale in or into the United States of any Audio Product or any Video Product; or

B. that prohibits, restricts, regulates, or otherwise places any limitation on any truthful, non-deceptive advertising or promotion in the United States for any Audio Product or any Video Product.

## III.

**IT IS FURTHER ORDERED** that:

A. It shall not, of itself, constitute a violation of Paragraph II.A. of this Order for a Respondent to enter into, attempt to enter into, or comply with a written agreement to set the prices or price levels for any Audio Product or Video Product when such written agreement is reasonably related to a lawful Joint Venture Agreement and reasonably necessary to achieve its procompetitive benefits.

B. It shall not, of itself, constitute a violation of Paragraph II.B. of this Order for a Respondent to enter into, attempt to enter into, or comply with a written agreement that regulates or restricts the advertising or promotion for any Audio Product or Video Product where such written agreement is reasonably related to a lawful Joint Venture Agreement and reasonably necessary to achieve its procompetitive benefits.

C. It shall not, of itself, constitute a violation of Paragraph II.A. of this Order for a Respondent and a Seller to enter into, attempt to enter into, or comply with a written agreement to set the prices or price levels for any Audio Product or Video Product that is Jointly Produced by such Respondent and such Seller.

D. It shall not, of itself, constitute a violation of Paragraph II.B. of this Order for a Respondent and a Seller to enter into, attempt to enter into, or comply with a written agreement that regulates or restricts the advertising or promotion for any Audio Product or Video Product that is Jointly Produced by such Respondent and such Seller.

E. It shall not, of itself, constitute a violation of Paragraph II.B. of this Order for a Respondent to enter into, attempt to enter into, or comply with a written agreement, industry code, or industry ethical standard that is: (1) intended to prevent or discourage the advertising, marketing, promotion, or sale to children of Audio Products or Video Products labeled or rated with a parental advisory or cautionary statement as to content, and (2) reasonably tailored to such objective.

F. In any action by the Commission alleging violations of this Order, each Respondent shall bear the burden of proof in demonstrating that its conduct satisfies the conditions of Paragraph(s) III.A., III.B., III.C, and III.D. of this Order.

IV.

**IT IS FURTHER ORDERED** that:

A. Within sixty (60) days after the date this Order becomes final, each Respondent shall submit to the Commission a verified written report setting forth in detail the manner and form in which the Respondent has complied and is complying with this Order.

B. One (1) year after the date this Order becomes final, annually for the next nine (9) years on the anniversary of the date this Order becomes final, and at other times as the Commission may require, each Respondent shall file with the Commission a verified written report:

1. setting forth in detail the manner and form in which it has complied and is complying with this Order; and

2. identifying the title, date, parties, term, and subject matter of each agreement between any Respondent and any Seller, entered into or amended on or after the date this Order becomes final, that: (a) fixes, raises, or stabilizes prices or price levels in connection with the sale in or into the United States of any Audio Product or Video Product, or (b) prohibits, restricts, regulates, or otherwise places any limitation on any truthful, non-deceptive advertising or promotion in the United States for any Audio Product or any Video Product (other than those Audio Products and Video Products that are Jointly Produced).

PROVIDED HOWEVER that Respondents shall not be required to identify in their reports to the Commission any agreement that: (i) was previously identified to the Commission pursuant to Paragraph IV.B.2., and (ii) was not amended following such previous identification.

C. Each Respondent shall retain copies of all written agreements identified pursuant to Paragraph IV.B.2. above; and shall file with the Commission, within ten (10) days' notice to the Respondent, any such written agreements as the Commission may require.

V.

**IT IS FURTHER ORDERED** that each Respondent shall notify the Commission at least thirty (30) days prior to any proposed change in the Respondent such as dissolution, assignment, sale resulting in the emergence of a successor corporation, or the creation or dissolution of subsidiaries or any other change in the corporation that may affect compliance obligations arising out of the Order.

VI.

**IT IS FURTHER ORDERED** that, for the purpose of determining or securing compliance with this Order, upon written request, each Respondent shall permit any duly authorized representative of the Commission:

A. Access, during office hours and in the presence of counsel, to all facilities and access to inspect and copy all books, ledgers, accounts, correspondence, memoranda and other records and documents in the possession or under the control of the Respondent relating to any matters contained in this Order; and

B. Upon five (5) days' notice to the Respondent and without restraint or interference from it, to interview officers, directors, or employees of the Respondent.

VII.

**IT IS FURTHER ORDERED** that each Respondent shall:

A. Within thirty (30) days after the date on which this Order becomes final, send a copy of this Order by first class mail to each of its Officers, Directors, and Employees;

B. Mail a copy of this Order by first class mail to each person who becomes an Officer, Director, or Employee, no later than (30) days after the commencement of such person's employment or affiliation with the Respondent; and

C. Require each Officer, Director, or Employee to sign and submit to the Respondent within thirty (30) days of the receipt thereof a statement that: (1) acknowledges receipt of the Order; (2) represents that the undersigned has read and understands the Order; and (3) acknowledges that the undersigned has been advised and understands that non-compliance with the Order may subject the Respondent to penalties for violation of the Order.

VIII.

**IT IS FURTHER ORDERED** that this Order shall terminate twenty (20) years after the date on which the Order becomes final.

James P. Timony
Administrative Law Judge

DATED:

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

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| In the Matter of | ) | |
| | ) | |
| POLYGRAM HOLDING, INC., a corporation, | ) | |
| DECCA MUSIC GROUP LIMITED, a corporation, | ) | |
| | ) | Docket No. 9298 |
| UMG RECORDINGS, INC., a corporation, | ) | |
| and | ) | |
| UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP., a corporation. | ) | |

**COMPLAINT COUNSEL'S GLOSSARY OF ABBREVIATIONS, TECHNICAL TERMS, PERSONNEL, AND COMPANY NAMES**

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## Abbreviations

**3T1**: The first Three Tenors album, *The Three Tenors*, released in 1990 by PolyGram.

**3T2**: The second Three Tenors album, *Three Tenors in Concert 1994*, released in 1994 by Warner.

**3T3**: The third Three Tenors album, *The Three Tenors - Paris 1998*, released in 1998 as a collaboration between PolyGram and Warner.

**A&R**: Artist and Repertoire (see definition in Technical Terms).

**Opco**: An Operating Company (see definition in Technical Terms).

**PAP**: Promotion, Advertising, and Publicity, term used within Warner for money expended on marketing an album. (O'Brien 401:12-17)

**POS**: Point of Sale.

## Technical Terms

**Artist and Repertoire:** A business unit within a recorded music company responsible for finding the artist, matching the artist with repertoire, and ensuring that what the artist is recording conforms with what the label anticipated when the artist was signed on the label. (JX105-D (Moore Expert Report) at ¶ 14; Moore 12:23-24, 30:12-31:8, 125:25-126:10, 261:8-14)

**Catalogue:** Older album(s) that continue to be offered for sale by a music company. An album will generally be considered a catalogue recording when it has been marketed for two or more years. (Hoffman 309:22-310:3; Moore 25:9-15; JX105-G (Moore Expert Report) at ¶ 30; O'Brien 394:19-23)

**Exploit:** A term that, when used in reference to a recording, encompasses selling, advertising, marketing, and promoting the album. (O'Brien 422:6-11)

**Label Group:** A firm that coordinates, oversees, and assists the operations of several labels. (Stip. ¶ 78; Moore 32:5-34:18)

**Label/Label Company:** A firm that develops, acquires, and produces recorded music. (Stip. ¶ 73; Moore 28:17-32:4)

**O-Card/Slip Case:** A type of packaging for compact discs. Made from cardboard package, and often containing different art work from the CD, the o-card/slip case is placed over the standard, plastic jewel case. An o-cards/slip case is used by record companies to make the packaging of a product more distinctive, and to have it stand out at retail. (Moore 113:21-114:22)

**Operating Company ("Opco"):** A subsidiary, affiliate, or division of a record company responsible for sales within a particular country. The opco generally will act as a distributing and marketing center for that territory. (Stip. ¶ 148; Moore 36:21-37:7)

## Personnel

**Azzoli, Val**: Co-Chairman and Co-Chief Executive Officer of Atlantic Recording Corp. during 1998.

**Baruch, Wayne**: Executive employed by Resorts Production, Ltd. (part of the Rudas Organization) during 1998.

**Caparro, James**: In 1998, the President and CEO of PolyGram Group Distribution, and currently the Chairman and CEO of the Island DefJam Music Group, a label within Universal Music Group.

**Carreras, Jose**: One of the Three Tenors.

**Cloeckaert, Bert**: Vice President for Polygram in Continental Europe during 1998, and currently the Senior Vice President of Commercial Affairs for Universal Music International.

**Constant, Richard**: General Counsel of PolyGram N.V. during 1998, and currently General Counsel to Universal Music International, Ltd.

**Creed, Pat**: Senior Director for Product Development for Atlantic Recording Corp. during 1998; responsible for the marketing and promotional activities for 3T3 in the United States.

**Domingo, Placido**: One of the Three Tenors

**Ertegun, Ahmet**: Co-Chairman and Co-Chief Executive Officer of Atlantic Recording Corp. during 1998.

**Germaise, Vicky**: Senior Vice President of Marketing for Atlantic Recording Corp.

**Gore, Kevin**: Senior Vice President and General Manager of PolyGram Classics and Jazz during 1998, and currently President of Universal Classics Group, U.S.

**Greene, Stephen**: Commercial Planning Manager for the Decca Record Company during 1998.

**Hidalgo, Melchor**: Managing Director of Classics and Jazz for PolyGram's Spanish operating company.

**Hoffman, Rand**: Senior Vice President of Business Affairs for PolyGram Holding during 1998.

**Kommerell, Roland:** President of Decca Record Company, Ltd. between 1989 and July 1996.

**Kon, Stephen**: An outside attorney for Polygram during 1998.

**Kopecky, Gerald**: Senior Vice President of Sales for the Universal Classics Group.

**Kronfeld, Eric**: President and Chief Operating Officer of Polygram Holding through March 1, 1998.

**Levine, James**: Conductor of the 1998 Three Tenors concert.

**Levy, Alain**: President of PolyGram Records through 1998.

**Lewis, Roger**: President of the Decca Record Company through October 1998.

**Lopez, Ramon**: President of Warner Music International during 1998.

**Mehta, Zubin**: Conductor of the 1990 and 1994 Three Tenors concerts.

**Moore, Catherine**: Complaint Counsel's recorded music industry expert. Professor Moore has substantial experience in marketing music products. Professor Moore is the director of the music business program at New York University, and is also a professor in that program teaching courses that focus on marketing and pricing issues in the recorded music industry. Professor Moore has nearly 20 years of experience working and consulting in the recorded music industry for operations as varied as retail music stores, distribution companies, and labels.

**O'Brien, Anthony**: Chief Financial Officer and Executive Vice President of Atlantic Recording Corp., and Warner's lead negotiator with regard to the Three Tenors agreements with PolyGram, and with Tibor Rudas.

**Ordover, Janusz**: Respondents' economic expert.

**Pavarotti, Luciano**: One of the Three Tenors.

**Roberts, Chris**: President of PolyGram Classics and Jazz.

**Robinowitz, Stuart**: Senior legal advisor to Warner Music Group during 1998.

**Rollefson, Richard**: Senior Vice President of marketing for the Decca Record Company through 1995.

**Rudas, Tibor**: The Three Tenors concert promoter, and President of Resorts Production, Ltd.

**Saintilan, Paul**: Director of Strategic Development in early 1998, then Senior Marketing Director, for the Decca Record Company beginning in mid-1998. Saintilan was PolyGram's chief liaison with Warner in 1998 with regard to the marketing of 3T3 and the moratorium.

**Scott, Margo**: Vice President of Business and Legal Affairs for Atlantic Recording Corp.

**Stainer, Dickon**: The head of Decca Records, U.K. since 1997; Marketing Manager for Warner Classics during 1994.

**Stockum, Stephen**: Complaint Counsel's economic expert. Dr. Stockum is Senior Vice President of Glassman-Oliver Economic Consultants, with three degrees in economics including a doctorate from the University of Pennsylvania. He has held several positions as an economist at the Federal Trade Commission, and has published approximately ten articles on antitrust economics.

**Wild, Phil**: Executive Vice President of Business and Legal Affairs for Atlantic Recording Corp. during 1998.

**Wind, Yoram (Jerry)**: Respondents' marketing expert.

## Company Names

**AOL Time Warner Inc.**: The parent company of Warner Communications Inc.

**Atlantic Recording Corp. ("Atlantic")**: The Warner label in the United States responsible for marketing 3T2 and 3T3 in the United States.

**The Decca Music Group Limited ("Decca MGL")**: The successor to the Decca Record Company Ltd.

**The Decca Record Company Ltd. ("Decca")**: In 1998, a PolyGram label that owned the copyright to the master recording of 3T1. Responsible for marketing 3T3 outside of the United States. Decca was the predecessor to the Decca Music Group Limited.

**Deutsche Grammophon**: A PolyGram/Universal label that was part of PolyGram Classics and Jazz in 1998.

**Island DefJam Music Group**: A PolyGram/Universal label.

**London Records**: The alter ego of Decca in the United States.

**Philips Classics**: A PolyGram/Universal label that was part of PolyGram Classics and Jazz in 1998.

**PolyGram**: A group of firms – affiliated with PolyGram N.V. – that were for many years engaged in the business of producing, marketing, and distributing recorded music and videos in the United States and worldwide. Among the firms composing Polygram were Decca, PolyGram Records, PolyGram Distribution, and PolyGram Holding. In December 1998, PolyGram became part of the Universal Music Group.

**PolyGram Classics and Jazz**: A label group and division of PolyGram Records, Inc. during 1998. The labels in this group were Decca, Philips Classics, Deutsche Grammophon, and Verve. PolyGram Classics and Jazz is the predecessor of Universal Classics Group.

**PolyGram Group Distribution, Inc. ("PGD")**: A PolyGram company responsible for distributing and selling audio and video products in the United States, including 3T1. PolyGram Group Distribution was the predecessor to UMVD.

**PolyGram Holding, Inc.**: A PolyGram company that provided services to PolyGram subsidiaries, including legal services, financial services, business affairs services, and human resources services.

**PolyGram Records, Inc.**: Predecessor to UMG Recordings, Inc. PolyGram Classics and Jazz was a division of PolyGram Records, Inc.

**Resorts Production, Ltd.**: A company owned by the Rudas Organization that produced the 1994 and 1998 Three Tenors concerts. Resorts Production, Ltd. licensed to Warner the right to distribute audio and video recordings of 3T2 and 3T3.

**Sony Classical**: A music company that distributes the 2000 album *The Three Tenors Christmas*.

**Teldec**: A Warner label affiliated with Warner Music International.

**UMG Recordings, Inc. ("UMG")**: A subsidiary of PolyGram Holding, Inc. and successor to PolyGram Records, Inc.

**Universal Classics Group**: A division of Universal Music Group and successor to PolyGram Classics and Jazz.

**Universal Music Group ("Universal")**: The company into which PolyGram was merged during 1998.

**Universal Music & Video Distribution Corp. ("UMVD")**: A subsidiary of PolyGram Holding, Inc., and the successor to PolyGram Group Distribution, Inc.

**Verve**: A PolyGram/Universal label that was part of PolyGram Classics and Jazz in 1998.

**Vivendi Universal S.A.**: The parent company of UMG Recordings, Inc.

**Warner Benelux B.V.**: The Warner company that executed the 1997 collaboration agreement with PolyGram regarding the distribution of products derived from the 1998 Three Tenors World Cup concert.

**Warner Communications Inc.**: The parent company of Warner.

**Warner Music Group ("Warner")**: A group of firms – affiliated with Warner Communications – engaged in the business of producing, marketing, and distributing recorded music and videos in the United States and worldwide.

**Warner Music International ("WMI")**: A Warner division that manages and coordinates the music operations of Warner's operating companies located outside of the United States.

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

| | | |
|---|---|---|
| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation,<br><br>UMG RECORDINGS, INC.,<br>a corporation,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,<br>a corporation. | ) | Docket No. 9298 |

**STIPULATED INDEX OF WITNESSES AND EXHIBITS**

Pursuant to Commission Rule 3.46, the parties respectfully submit their Index of Witnesses and Exhibits.

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INDEX OF TRIAL WITNESSES . . . . . 1

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INDEX OF EXHIBITS OFFERED BUT NOT ADMITTED INTO EVIDENCE . . . . . 35

## INDEX OF TRIAL WITNESSES

| Witness Name | Identification | Testimony Pages | *In Camera* Testimony Pages |
|---|---|---|---|
| Prof. Catherine Moore | Complaint Counsel's Marketing Expert | 4:1-272:5 | None |
| Rand Hoffman | Senior V.P. of Business Affairs for PolyGram Holding during 1998 | 278:12-368:12 | 373:6-381:18 |
| Anthony O'Brien | Chief Financial Officer and Executive V.P. of Atlantic Records | 389:6-557:20 | None |
| Dr. Stephen Stockum | Complaint Counsel's Economic Expert | 563:13-840:3 | None |

## INDEX OF DEPONENTS WHOSE DESIGNATED DEPOSITION TESTIMONY WAS ADMITTED INTO EVIDENCE[1]

| Witness Name | Identification | Exhibit No. |
|---|---|---|
| James Caparro | Chairman and CEO of the Island DefJam Music Group;<br><br>Respondents' 3.33(c) witness regarding the promotion of new products in the United States when catalog products are owned by another company. | CX609 |
| Bert Cloeckaert | Senior V.P. of Commercial Affairs for Universal International;<br><br>Respondents' 3.33(c) witness regarding the marketing by Universal Music Group of newly released audio products where certain of the featured artists' catalogue audio products are distributed by a competing music company distributor in Europe;<br><br>Respondents' 3.33(c) witnesses regarding the factual basis for the contentions in Respondents' Third and Fourth Additional Defenses. | JX97 (Volume 1) |
| Bert Cloeckaert | Senior V.P. of Commercial Affairs for Universal International;<br><br>Respondents' 3.33(c) witness regarding the marketing by Universal Music Group of newly released audio products where certain of the featured artists' catalogue audio products are distributed by a competing music company distributor in Europe;<br><br>Respondents' 3.33(c) witnesses regarding the factual basis for the contentions in Respondents' Third and Fourth Additional Defenses. | JX98 (Volume 2) |

1. The designated portions of this testimony are listed in the Parties' Consolidated Deposition Designations. For the convenience of the Court, we enclose an additional copy of these designations herewith.

| | | |
|---|---|---|
| Richard Constant | General Counsel to Universal Music Int'l, Ltd.;<br><br>Respondents' 3.33(c) witnesses regarding the factual basis for the contentions in Respondents' Fifth Additional Defense. | JX96 |
| Eric Fuller | Respondents' 3.33(c) witness regarding data concerning wholesale prices, price levels, price points, discounting and price reductions related to the 1990 Three Tenors album in the United States from 1990 through the present. | CX608 |
| Kevin Gore | President of Universal Classics Group, U.S.;<br><br>Respondents' 3.33(c) witness regarding the marketing by Universal Music Group of newly released audio products where certain of the featured artists' catalogue audio products are distributed by a competing music company distributor;<br><br>Respondents' 3.33(c) witness regarding the marketing by Universal Music Group of newly released video products where certain of the featured artists' catalogue video products are distributed by a competing music company distributor.;<br><br>Respondents' 3.33(c) witness regarding the sale, marketing, distribution and pricing in the United States of the 1990 Three Tenors audio and video products during 1998. | JX87 |
| Stephen Greene | Business Manager of Catalog Development for Universal Music International;<br><br>Respondents' 3.33(c) witnesses regarding the factual basis for the contentions in Respondents' Third Additional Defense and Fourth Additional Defense. | JX95 |
| Melchor Hidalgo | Managing Director of Classics and Jazz in Spain. | JX88 |
| Rand Hoffman | Senior V.P. of Business Affairs for PolyGram Holding, Inc. | JX99 |

| | | |
|---|---|---|
| Stephen Kon | Outside counsel for PolyGram Holding, Inc.;<br><br>Respondents' 3.33(c) witnesses regarding the factual basis for the contentions in Respondents' Fifth Additional Defense. | RX719 |
| Gerald Kopecky | Senior V.P. of Sales for the Universal Classics Music Group;<br><br>Respondents' 3.33(c) witness regarding the sale, marketing, distribution and pricing in the United States of the 1990 Three Tenors audio and video products during 1994. | CX610 |
| Eric Kronfeld | President and COO of PolyGram Holding. | JX86 |
| Jonathon Lieberman | V.P. of Business and Legal Affairs for Island DefJam Music Group. | CX611 |
| Catherine Moore | Complaint Counsel's Expert Witness on the Recorded Music Industry. | JX84 |
| Anthony O'Brien | CFO of Atlantic Records. | JX100 |
| Anthony O'Brien | CFO of Atlantic Records. | JX101 (Investigative Hearing) |
| Janusz Ordover | Respondents' Economic Expert Witness. | JX90 |
| Christopher Roberts | President of PolyGram Classics and Jazz;<br><br>Respondents' Rule 3.33 (c) designee re: the factual basis for the contentions in Respondents' Third and Fourth Additional Defenses. | JX92 (Volume 1) |
| Christopher Roberts | President of PolyGram Classics and Jazz;<br><br>Respondents' Rule 3.33 designee re: the factual basis for the contentions in Respondents' Third and Fourth Additional Defenses. | JX93 (Volume 2) |
| Paul Saintilan | Director of Strategic Development, then Senior Marketing Director for Decca Records. | JX94 |

| | | |
|---|---|---|
| Dickon Stainer | Head of Decca Records (U.K.). | JX89 |
| Dr. Stephen Stockum | Complaint Counsel's Economic Expert Witness. | JX85 |
| Yoram (Jerry) Wind | Respondents' Marketing Expert Witness. | JX91 |

## INDEX OF TRIAL EXHIBITS

### Joint Exhibits

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 1A-E | Fax Letter from Saintilan to O'Brien re: Three Tenors Moratorium on 1990 & 1994 Albums (UMG000204-UMG000205 and 3TEN00010477-3TEN00010479) | 12 | | No |
| JX 2 | Handwritten Note by O'Brien (3TEN00011275) | 12 | 439-442 | No |
| JX 3 | e-Mail from Saintilan to Roberts, Hoffman, Clancy, Lewis, Darbyshire, Cloeckaert, et. al. re: Three Tenors Moratorium (UMG000206) | 12 | 326-327 | No |
| JX 4 | e-Mail from Saintilan to Roberts, Clancy, Kleinman, Darbyshire, Hoffman, Cloeckaert, et. al. re: Three Tenors Moratorium (UMG000207-UMG000209) | 12 | 327-328<br>362 | No |
| JX 5 | 3T3 Meeting Notes (UMG001523-UMG001529) | 12 | 307-312<br>319 | No |
| JX 6 | Fax Letter from Saintilan to Creed (UMG002673-UMG002674) | 12 | 318-320 | No |
| JX 7 | Fax Letter from Wild to Azzoli (3TEN00001491-3TEN00001493) | 12 | 535–541<br>789-792 | No |
| JX 8 | Memo from Lopez to Azzoli (3TEN00001456) | 12 | 103-104 | No |
| JX 9A-F | Fax from Saintilan to O'Brien re: Three Tenors 1990 & 1994 Moratorium (3TEN00000012-3TEN00000014) | 12 | 325-326<br>434-435 | No |
| | Fax from Scott to Mansbridge (3TEN00003730-3TEN00003732) | 12 | | No |
| JX 10 | 1998 Concert/License Agreement (UMG001834-1846, UMG001069-UMG001079 ) | 12 | 302-307<br>340-354<br>380-381<br>419-424<br>513-514<br>754-756<br>780-783 | No |
| JX 11 | Memo from Hoffman to Distribution enclosing Master Recording Licensing Agreement (UMG001778-UMG001796)(Designated *In Camera*) | 12 | 219-220 | Yes |
| JX 12 | Memo from Greene to Distribution (UMG005006-UMG005010) | 12 | | No |
| JX 13 | RESERVED | | | |
| JX 14 | RESERVED | | | |
| JX 15 | RESERVED | | | |
| JX 16 | RESERVED | | | |

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 17 | RESERVED | | | |
| JX 18 | RESERVED | | | |
| JX 19 | RESERVED | | | |
| JX 20 | e-Mail from Hoffman to Clancy (UMG001706) | 12 | | No |
| JX 21 | Memo from Hoffman to Kronfeld re. The Three Tenors -- Volume 3/Status (UMG001704-UMG001705) | 12 | | No |
| JX 22 | Memo from Hoffman to Approvers re: The Three Tenors/Volume 3 (Revised) (UMG001342-UMG001344) | 12 | 298-302<br>333 | No |
| JX 23 | Fax from Clancy to Cook, Lawlan, Rebillard, and Hoffman re: Three Tenors 3 (UMG001345-UMG001356) | 12 | | No |
| JX 24 | Memo from O'Brien to Daly (3TEN00002257-3TEN00002258) | 12 | | No |
| JX 25 | e-Mail from Saintilan to Marnier, Wichman, Stainer, Shinohara, Imahori, Gratton, et. al. (UMG005601) | 12 | | No |
| JX 26 | 3 Tenors Meeting Minutes (UMG000371-UMG000373) | 12 | | No |
| JX 27 | 3T3 Paris Meeting Notes (UMG000033-UMG000037) | 12 | | No |
| JX 28 | Fax Memo from Saintilan to Baruch re: Three Tenors in Paris- Marketing Plan (UMG001485-UMG001495) | 12 | | No |
| JX 29 | Memo from O'Rourke to Distribution (3TEN00003592-3TEN00003593) | 12 | | No |
| JX 30 | RESERVED | | | |
| JX 31 | Memo from Caradine to Rudas re: 1994 Three Tenors Recording with attachments (3TEN00009930-3TEN00009934) | 12 | 526-527<br>604-610 | No |
| JX 32 | Fax Memo from Caradine to Sandau re: The Three Tenors- 1994 Album Pricing (3TEN00011058) | 12 | | No |
| JX 33 | e-Mail from Saintilan to Greene re: 3 Tenors 1 (UMG000055) | 12 | | No |
| JX 34 | e-Mail from Saintilan to Clancy re: Three Tenors TV Advertising (UMG001504) | 12 | 317-318 | No |
| JX 35 | e-Mail from Marnier to Greene re: 3 Tenors 1 (UMG000054) | 12 | | No |
| JX 36 | e-Mail from Greene to Cavell re: 3 Tenors 1 (UMG000057-UMG000058) | 12 | | No |
| JX 37 | e-Mail from Greene to Saintilan re: 3 Tenors 1 (UMG000056) | 12 | | No |
| JX 38 | e-Mail from Strooker to Greene re: 3 Tenors 1 (UMG000068) | 12 | | No |
| JX 39 | e-Mail from Stainer to Saintilan (UMG003156) | 12 | | No |
| JX 40 | e-Mail from Saintilan to Greene re: 3T1 Discounting (UMG000080) | 12 | 312-316 | No |

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 41A-C | Memo from Cloeckaert to Classical MD's/Classical Marketing Managers re: Pricing 1st Three Tenors Album(UMG003075)<br>Memo from Cloeckaert to Classical MD's/Classical Marketing Managers re: Pricing 1st Three Tenors Album (UMG000012-UMG000013) | 12 | | No |
| JX 42 | e-Mail from Greene to Huysman and Cloeckaert re: Pricing 1st Three Tenors Album (UMG003074) | 12 | | No |
| JX 43 | Memo from Cloeckaert to Classical MD's/Classical Marketing Managers re: Pricing 1st Three Tenors Album (UMG000478-UMG000481) | 12 | 316-317 | No |
| JX 44 | e-Mail from Lewis to Cloeckaert and Roberts re: 3T Catalog (UMG003950) | 12 | | No |
| JX 45 | e-Mail from Stainer to Lewis and Saintilan re: Faure Pavane (UMG003760) | 12 | | No |
| JX 46 | e-Mail from Tweed to Harveye and Haywood re: 3 Tenors 1 – Promotion & Pricing (UMG003056) | 12 | | No |
| JX 47 | e-Mail from Greene to Tweed re: 3 Tenors 1 – Promotion & Pricing (UMG003053) | 12 | | No |
| JX 48 | e-Mail from Tweed to Greene re: 3 Tenors I Promotion & Pricing (UMG000122) | 12 | | No |
| JX 49 | e-Mail from Greene to Coninx re: Video 3T1 (UMG000144) | 12 | | No |
| JX 50 | Three Tenors III/Pavarotti & Friends 5: Decca Marketing Campaign Overview [Various Countries] (UMG003638-UMG003749) | 12 | | No |
| JX 51 | Fax from Cloeckaert to Lewis re: Pricing 3T3 attaching Classical Price Information- CD Super Top Price (UMG004432-UMG004433) | 12 | | No |
| JX 52 | RESERVED | | | |
| JX 53 | RESERVED | | | |
| JX 54 | RESERVED | | | |
| JX 55 | RESERVED | | | |
| JX 56 | RESERVED | | | |
| JX 57 | RESERVED | | | |
| JX 58 | RESERVED | | | |
| JX 59 | RESERVED | | | |

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 60 | Fax from Still to Caradine re: The Three Tenors Mid-price for 1994 Album with attachments (3TEN00003559-3TEN00003562) | 12 | | No |
| JX 61 | Memo from O'Rourke to Distribution re: Royalty Break (3TEN00011075) | 12 | 427-430 | No |
| JX 62 | Fax Letter from Saintilan to Creed (3TEN00003536-3TEN00003548) | 12 | | No |
| JX 63 | Fax from Hoffman to Scott (3TEN00008183) | 12 | | No |
| JX 64 | Fax from Hoffman to Scott (UMG000375) | 12 | 322<br>430-432 | No |
| JX 65 | Fax from Hoffman to Scott (UMG003041) | 12 | | No |
| JX 66 | e-Mail from Lewis to Cavell, Greene, and Saintilan (UMG000161) | 12 | 323-324 | No |
| JX 67 | e-Mail from Hidalgo to Cloeckaert re: Warners 3 Tenors (UMG003040) | 12 | | No |
| JX 68 | Letter from Moorhead to Scott with attachments (3TEN00001498-3TEN00001503) | 12 | | No |
| JX 69 | e-Mail from Ikin to Mansbridge (3TEN00003555) | 12 | | No |
| JX 70 | Fax from Maclaren to Still re: The Three Tenors: 1994 (3TEN00000020) | 12 | | No |
| JX 71 | Fax from Maclaren to O'Brien re: The Three Tenors: 1994 enclosing June 26, 1998 Fax from Rudas to Still re: Price Structure (3TEN00010535-3TEN00010536) | 12 | | No |
| JX 72 | Fax from Azzoli to Lopez (3TEN00010120-3TEN00010123) | 12 | | No |
| JX 73 | Fax from O'Rourke to Distribution re: Three Tenors Mid Price Campaign (3TEN00003532) | 12 | | No |
| JX 74 | e-Mail from Saintilan to Roberts, Clancy, Kleinman, Lewis, Cavell, Greene, et. al. re: Three Tenors Moratorium (UMG000203-UMG000205) | 12 | 323 | No |
| JX 75 | Memo from Caradine to Azzoli (3TEN00000005) | 12 | | No |
| JX 76 | e-Mail from Saintilan to Roberts, Kleinman, Clancy, Constant, Bradley, Hoffman, et. al. re: Thee Tenors 1990 Album Pricing attaching July 30, 1998 Memo from Saintilan to Distribution re: 1990 Three Tenors Album - 430 433-2/4 Pricing (UMG000212-UMG000213) | 12 | 363-364 | No |
| JX 77 | Letter from Hidalgo to Saintilan (UMG005909-UMG005910) | 12 | | No |
| JX 78 | e-Mail from Hidalgo to Saintilan re: 3 Tenors 3 (UMG005869) | 12 | | No |

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 79 | Fax Letter from Cloeckaert to Hidalgo re: 3 Tenors 3- El Corte Ingles (UMG002956- UMG002967) | 12 | | No |
| JX 80 | e-Mail from Hidalgo to Saintilan re: 3 Tenors 3 (UMG003065-UMG003066) | 12 | | No |
| JX 81 | Letter from O'Brien to Saintilan (3TEN00001428-3TEN00001431) | 12 | 452-471 | No |
| JX 82 | 1998 Album British Marketing Materials | 12 | | No |
| JX 83A-D | 1998 Album British Marketing Materials | 12 | | No |
| JX 84 | Designated Portions of the Deposition Transcript of Catherine Moore | 12<br>681 | 681 | No |
| JX 85 | Designated Portions of the Deposition Transcript of Stephen Stockum | 12<br>681 | 609 | No |
| JX 86 | Designated Portions of the Deposition Transcript of Eric Kronfeld | 12 | | No |
| JX 87 | Designated Portions of the Deposition Transcript of Kevin Gore | 12 | 65-66 | No |
| JX 88 | Designated Portions of the Deposition Transcript of Melchor Hidalgo | 12 | | No |
| JX 89 | Designated Portions of the Deposition Transcript of Dickon Stainer | 12 | | No |
| JX 90 | Designated Portions of the Deposition Transcript of Janusz Ordover | 12 | | No |
| JX 91 | Designated Portions of the Deposition Transcript of Yoram Wind | 12 | | No |
| JX 92 | Designated Portions of the Deposition Transcript of Christopher Roberts, Volume 1 | 12; 89 | 78-90 | No |
| JX 93 | Designated Portions of the Deposition Transcript of Christopher Roberts, Volume 2 | 12; 89 | 78-90 | No |
| JX 94 | Designated Portions of the Deposition Transcript of Paul Saintilan | 12 | | No |
| JX 95 | Designated Portions of the Deposition Transcript of Stephen Greene | 12; 95 | 90-95 | No |
| JX 96 | Designated Portions of the Deposition Transcript of Richard Constant | 12; 98 | 95-98 | No |
| JX 97 | Designated Portions of the Deposition Transcript of Bert Cloeckaert, Volume I | 12 | | No |

| JX Number | Document Description | Admitted | Pages Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| JX 98 | Designated Portions of the Deposition Transcript of Bert Cloeckaert, Volume II | 12 | | No |
| JX 99 | Designated Portions of the Deposition Transcript of Rand Hoffman | 12 | | No |
| JX 100 | Designated Portions of the Deposition Transcript of Anthony O'Brien (Designated *In Camera*) | 12 | | Yes, 84:25-86:12; 29:13-34:21; 49:1-6; 60:22-61:3; 90:23-92:6; 106:14-107:15 |
| JX 101 | Investigational Hearing Transcript of Anthony O'Brien, dated January 5, 2001 | 12 | 120-123 | No |
| JX 102 | Investigational Hearing Transcript of Rand Hoffman dated January 31, 2001 | 12 | | No |
| JX 103 | Three Tenors History of Sales 1990-September 2001 (UMG006407-UMG006408) | 12 | | No |
| JX 104A-H | Expert Report of Stephen Stockum | 12 | | No |
| JX 105A-N | Expert Report of Catherine Moore | 12 | 19-20 | No |
| JX 106A-E | Rebuttal Expert Report of Catherine Moore | 12 | 19-20 | No |
| JX 107 | Compact Disc: "Carreras, Domingo, Pavarotti, Mehta: The Three Tenors in Concert" | 12 | | No |
| JX 108 | Compact Disc: "Tibor Rudas Presents Carreras, Domingo, Pavarotti with Mehta: The 3 Tenors in Concert 1994" | 12 | | No |
| JX 109 | Compact Disc: "Tibor Rudas Presents Carreras, Domingo, Pavarotti with Levine: The 3 Tenors Paris 1998" | 12 | | No |

## Complaint Counsel's Exhibits

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 201 | Memo from O'Rourke to Distribution re: Three Tenors Mid Price Campaign (3TEN00010394-3TEN00010399) | 12 | 438 | No |
| CX 202 | Memo from Azzoli to Lopez (3TEN00008230-3TEN00008232) | 12 | | No |
| CX 203 | Memo from Saintilan to Distribution with attachments (UMG004910-UMG004915) | 12 | 69-71 | No |
| CX 204 | Memo from Lopez to Azzoli (3TEN00010426) | 21 | 14<br>16-21<br>491-494 | No |
| CX 205 | Contract: Videogram Licensing Agreement (3TEN00000187-3TEN00000199)(Designated *In Camera*) | 12 | | Yes |
| CX 206 | Contract: Television Program Agreement (3TEN00000173-3TEN00000186) (Designated *In Camera*) | 12 | | Yes |
| CX 207 | RESERVED | 12 | | |
| CX 208 | RESERVED | 12 | | |
| CX 209 | RESERVED | 12 | | |
| CX 210 | Contract between Pavarotti/Breslin and Decca (UMG004258-UMG004277) | 12 | | No |
| CX 211 | Letter from de Wildt to Carreras attaching October 25, 1988 Exclusive Artist's Recording Agreement (3TEN00004302-3TEN00004320) (Designated *In Camera*) | 12 | | Yes |
| CX 212 | Fax from Kommerell to Harrold re: Pavarotti, Domingo, Carreras in One and the Same Concert (UMG004315-UMG004318) | 12 | | No |
| CX 213 | Contract between Quinn Holdings Limited and the Decca Record Company (UMG006412-UMG006417) | 12 | | No |
| CX 214 | Contract between Pavarotti, Carreras, Domingo, and Top Film (UMG004280-UMG004284) | 12 | | No |
| CX 215 | Rider to the Agreement dated February 9, 1990 between Quinn Holdings Limited and The Decca Record Company and Top Film (UMG006418-UMG006420) | 12 | | No |
| CX 216 | Contract between Pavarotti/Breslin and Decca (UMG004236-UMG004245) | 12 | | No |
| CX 217 | Letter from Greene to Distribution (UMG004870-UMG004873) | 12 | | No |
| CX 218 | Memo from Kommerell to Distribution (UMG004814) | 12 | | No |
| CX 219 | Letter from Greene to Distribution (UMG004809-UMG004813) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 220 | Letter from Greene to Distribution (UMG004805-UMG004808) | 12 | | No |
| CX 221 | RESERVED | | | |
| CX 222 | Letter from Constant to Franzen (UMG004189-UMG004192) | 39 | 35-39 | No |
| CX 223 | Letter from Kronfeld to Breslin (UMG004215-UMG004217) | 62 | 60-62 | No |
| CX 224 | Supplemental Agreement between Pavarotti and Decca (UMG004248-UMG004257) | 62 | 60-62 | No |
| CX 225 | RESERVED | | | |
| CX 226 | Contract between Pavarotti/Breslin and Decca (UMG004224-UMG004225) | 12 | | No |
| CX 227 | RESERVED | | | |
| CX 228 | Draft Contract between Rudas and Decca (UMG004789-UMG004801) | 12 | | No |
| CX 229 | Contract between Decca and Pavarotti (UMG004218-UMG004223) | 12 | | No |
| CX 230 | Draft Contract between Resort Productions Ltd. and Decca (UMG004779-UMG004788) | 39 | 35-39 | No |
| CX 231 | Draft Contract between Resort Productions Ltd. and Decca (UMG004754-UMG004778) | 39 | 35-39 | No |
| CX 232 | Contract: Master Recording Licensing Agreement (3TEN00000052-3TEN00000062)(Designated *In Camera*) | 12 | | Yes |
| CX 233 | Contract: Videogram Licensing Agreement (3TEN00000640-3TEN00000651)(Designated *In Camera*) | 12 | | Yes |
| CX 234 | Letter Contract: Television Program Agreement Amendment (3TEN00005522-3TEN00005542)(Designated *In Camera*) | 12 | | Yes |
| CX 235 | RESERVED | | | |
| CX 236 | Handwritten Notes (UMG004727-UMG004731) | 12 | | No |
| CX 237 | Contract between Decca, Warner, and Resorts Production Ltd. (3TEN00003755-3TEN00003765)(Designated *In Camera*) | | | Yes |
| CX 238 | RESERVED | 12 | | |
| CX 239 | RESERVED | 12 | | |
| CX 240 | RESERVED | 12 | | |
| CX 241 | Fax from Rost to Lopez (3TEN00007229-3TEN00007237) | 48 | 41-48 | No |
| CX 242 | Public Relations Proposal for the International Promotion of the Domingo, Carreras, Pavarotti & Mehta World Cup Concert (3TEN00000440 3TEN00000453) | 48 | 41-48 | No |
| CX 243 | Memo from Germaise to Azzoli (3TEN0007148- | 48 | 41-48 | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| | 3TEN00007158) | | | |
| CX 244 | e-Mail from Dawert to Kulin (3TEN00004863) | 48 | 41-48 | No |
| CX 245 | Meeting Minutes (3TEN00017959-3TEN00017962 & 3TEN00005304-3TEN00005307) | 48 | 41-48 | No |
| CX 246 | Press Release re: Warner Music Group Companies Acquire Worldwide Rights for New Three Tenors Television Broadcast, Album, and Video (3TEN00017695-3TEN00017696) | 12 | 41-48 | No |
| CX 247 | Letter from Lopez to Tagarro (3TEN00011271-3TEN00011274) | 48 | 41-48 | No |
| CX 248 | Letter from Laister and Turner to Tagarro (3TEN00011259-3TEN00011270) | 48 | 41-48 | No |
| CX 249 | e-Mail from Pitman to Distribution (3TEN00011249 -3TEN00011255) | 48 | 41-48<br>96-101 | No |
| CX 250 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00011241-3TEN00011246) | 12 | | No |
| CX 251 | Memo from Germaise to Azzoli (3TEN00008887-3TEN00008896) | 48 | 41-48,<br>93-96 | No |
| CX 252 | Memo from Kulin to Cream (3TEN00004756) | 48 | 41-48 | No |
| CX 253 | Memo from Evans to Distribution (3TEN00011247-3TEN00011248) | 48 | 41-48 | No |
| CX 254 | Memo from Bledsoe to Distribution (3TEN00005574-3TEN00005597) | 48 | 41-48 | No |
| CX 255 | Fax Memo from Nicol to Distribution with attached Music Week article "Decca Joins Tenors LP Fray," dated May 28, 1994 (3TEN00005264-3TEN00005265) | 48 | 41-48 | No |
| CX 256 | Fax from Day to Caradine, Mansbridge, Pitman, and Laister with attachments (3TEN00004762-3TEN00004767) | 48 | 41-48 | No |
| CX 257 | Memo from Caradine to Murphy (3TEN00004761) | 48 | 41-48 | No |
| CX 258 | Fax from Andry to Caradine with attachment (3TEN00005401-3TEN00005403) | 48 | 41-48 | No |
| CX 259 | Memo from Pitman to Distribution attaching Marketing Plan (3TEN00011106-3TEN00011125) | 12 | 90-92 | No |
| CX 260 | Marketing Information for Three Tenors (3TEN00011224-3TEN00011225) | 12 | | No |
| CX 261 | Atlantic PDR Report (3TEN00017819-3TEN00017820) | 12 | | No |
| CX 262 | Atlantic PDR Report (3TEN00017825-3TEN00017830) | 12 | | No |
| CX 263 | Atlantic PDR Report (3TEN00017841-3TEN00017843) | 12 | | No |
| CX 264 | Atlantic PDR Report (3TEN00017821-3TEN00017822) | 12 | | No |
| CX 265 | Atlantic PDR Report (3TEN00017850-3TEN00017853) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 266 | Memo from Morgado to Staff (3TEN00009901-3TEN00009903) | 48 | 41-48 | No |
| CX 267 | RESERVED | | | |
| CX 268 | RESERVED | | | |
| CX 269 | RESERVED | | | |
| CX 270 | Slides concerning marketing of 1990 3 Tenors album (UMG005049-UMG005051) | 12 | | No |
| CX 271 | European Major Markets Marketing Meeting (UMG005826-UMG005829) | 53 | 52-53 | No |
| CX 272 | Memo from de Cottinges to Distribution (UMG000523-UMG000528) | 53 | 52-53, 104-110, 179-184 | No |
| CX 273 | Memo from Rollefson to Pateman (UMG005040) | 53 | 52-53 | No |
| CX 274 | Memo from Rollefson to Distribution (UMG005037-UMG005039) | 53 | 52-53 | No |
| CX 275 | Fax Memo from Rollefson to Decca Label Managers (UMG005820-UMG005821) | 53 | 52-53 | No |
| CX 276 | e-Mail from Greene to Coninx (UMG005033-UMG005036) | 53 | 52-53 | No |
| CX 277 | e-Mail from Greene to Delatronchette (UMG005029-UMG005030) | 53 | 52-53 | No |
| CX 278 | e-Mail Letter from Greene to Hidalgo (UMG005832) | 53 | 52-53 | No |
| CX 279 | Fax Letter from Hidalgo to Rollefson (UMG005031-UMG005032) | 53 | 52-53 | No |
| CX 280 | e-Mail from Greene to Hernandez and Hidalgo (UMG005818) | 53 | 52-53 | No |
| CX 281 | e-Mail from Greene to McKerrow and Derry (UMG005028) | 53 | 52-53 | No |
| CX 282 | Fax Letter from Hidalgo to Kommerell (UMG005795-UMG005796) | 53 | 52-53 | No |
| CX 283 | Letter from Press to Winn, Takei, Wang, Kim, Ho, and Kadar (UMG005013-UMG005018) | 53 | 52-53 | No |
| CX 284 | Memo from Greene to Distribution (UMG005019-UMG005021) | 12 | | No |
| CX 285 | RESERVED | 12 | | |
| CX 286 | Memo with attachment from Greene to Rollefson (UMG004702-UMG004703) | 12 | | No |
| CX 287 | e-Mail from Pateman to Rollefson (UMG004803) | 12 | | No |
| CX 288 | Memo re: The Three Tenors New Product for 1996 from Millward to Distribution (UMG006103-UMG006108) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 289 | Memo from Robson to Barbero, Mori, Moseley, and Wichmann re: Three Tenors Tour 1996 (UMG005833) | 54 | 54 | No |
| CX 290 | Letter from Hernandez to Saintilan (UMG003339) | 12 | | No |
| CX 291 | Fax from Andry to Caradine and Mansbridge with attachments re: The Three Tenors World Concert Tour (3TEN00005163-3TEN00005171) | 54 | 54 | No |
| CX 292 | RESERVED | | | |
| CX 293 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00011189-3TEN00011210) | 54 | 54 | No |
| CX 294 | e-Mail from Focke to Pitman re: 3 Tenors World Tour 1996/7 (3TEN00017902-3TEN00017903) | 54 | 54 | No |
| CX 295 | e-Mail from Pitman to Mansbridge, Nicol, Letchford, Ikin, and Focke attaching Marketing Information for 1994 3 Tenors Concert (3TEN00005916-3TEN00005921) | 54 | 54 | No |
| CX 296 | e-Mail from Robinson to Mansbridge and Caradine attaching Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00005909-3TEN00005915) | 54 | 54<br>111-112 | No |
| CX 297 | e-Mail Memo from Caradine to Ikin attaching Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00004058-3TEN00004064) | 54 | 54 | No |
| CX 298 | Memo from Germaise to Baruch re: The 3 Tenors -- July 1996 (3TEN00010826-3TEN00010827) | 54 | 54 | No |
| CX 299 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00005902-3TEN00005907) | 54 | 54 | No |
| CX 300 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00008946-3TEN00008948) | 54 | 54<br>112-114 | No |
| CX 301 | Memo from Mansbridge to Pitman re: 3 Tenors Special Edition (3TEN00005012) | 54 | 54 | No |
| CX 302 | Cover of Special Edition World Tour CD (3TEN00005034) | 54 | 54 | No |
| CX 303 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00010893) | 54 | | No |
| CX 304 | RESERVED | | | |
| CX 305 | Memo re: Marketing Information for 1994 3 Tenors Concert (3TEN00004983-3TEN00004986) | 54 | 54<br>114-118 | No |
| CX 306 | Memo with attachment from Brown to Distribution re: Three Tenors Sales at 11/9/96 (3TEN00004901-3TEN00004904) | 54 | 54 | No |
| CX 307 | e-Mail from Caradine to Foster (3TEN00003603) | 54 | 54 | No |
| CX 308 | e-Mail from Pitman to Still (3TEN00011131) | 54 | 54 | No |
| CX 309 | Fax from Kommerell to Rudas (3TEN00005089) | 12 | 119 | No |
| CX 310 | RESERVED | | | |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 311 | RESERVED | | | |
| CX 312 | RESERVED | | | |
| CX 313 | RESERVED | | | |
| CX 314 | RESERVED | | | |
| CX 315 | Letter from Roberts to Levy (UMG004143) | 12 | | No |
| CX 316 | Fax from Kommerell to Roberts (UMG004700-UMG004701) | 12 | | No |
| CX 317 | Memo from Caradine to Lopez (3TEN00004282) | 54 | 54 | No |
| CX 318 | Memo from Roberts to Levy with attachments (UMG004144-UMG004154) | 12 | | No |
| CX 319 | Fax Memo from Rudas to Ertegun (UMG004205) | 12 | | No |
| CX 320 | Fax from Kommerell to Roberts (UMG004206) | 12 | | No |
| CX 321 | Memo from Cooper to Daly, Gold, Semel with attachment re: The 3 Tenors Breakeven Analysis (3TEN00004276-3TEN00004281) | 12 | | No |
| CX 322 | Memo from Caradine to O'Brien with attachment (3TEN00006987-3TEN00006997)(Designated *In Camera*) | 12 | | Yes |
| CX 323 | Memo from Kommerell to Clancy re: 3 Tenors 3 (UMG000486-UMG000492) | 12 | | No |
| CX 324 | Fax from Kommerell to Roberts with attachment (UMG004669-UMG004674) | 12 | | No |
| CX 325 | Fax Memo from Kommerell to Roberts re: 3 Tenors 98, Paris (UMG004698-UMG004699) | 12 | | No |
| CX 326 | Fax from Kommerell to Roberts re: Sacred Albums Luciano & 3 Tenors with attachment (UMG004675-UMG004678) | 12 | | No |
| CX 327 | Fax from Roberts to Ames with attachment (UMG004679-UMG004687) | 12 | | No |
| CX 328 | Memo from Kommerell to Roberts re: Deal Application (2nd version) (UMG004688-UMG004697) | 12 | | No |
| CX 329 | e-Mail from Kronfeld to Clancy (UMG001688-UMG001689) | 12 | | No |
| CX 330 | Three Tenors 3 Investment Pre-Calculation: Summary of Contribution at Various Sales Levels (UMG000512-UMG000514) | 12 | | No |
| CX 331 | Memo from Roberts to Ertegun re: Three Tenors Three (UMG004183-UMG004184) | 12 | | No |
| CX 332 | e-Mail from Courtney to Roberts and Clancy Atlantic Marketing Plan (UMG001695) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 333 | Fax Memo from Lewis to Roberts re: Roger Lewis Meeting with Tibor Rudas at Grand Hotel, Amsterdam (UMG004374-UMG004375) | 12 | | No |
| CX 334 | e-Mail from Hoffman to Roberts and Clancy (UMG001694) | 12 | | No |
| CX 335 | Fax Letter from Sandau to Scott (3TEN00009789) | 12 | | No |
| CX 336 | Fax from Hoffman to Clancy with attachment (UMG001690-UMG001692) | 12 | | No |
| CX 337 | e-Mail from Hoffman to Roberts and Kronfeld (UMG001685) | 12 | | No |
| CX 338 | Fax from Roberts to Lewis with attachments (UMG003326-UMG003329) | 12 | | No |
| CX 339 | Fax from Hoffman to Clancy with attachment (UMG001680-UMG001681) | 12 | | No |
| CX 340 | Memo from Scott to O'Brien and Wild (3TEN00000523-3TEN00000524) | 12 | | No |
| CX 341 | Fax Memo from Ames to Levy (UMG004180) | 12 | | No |
| CX 342 | Letter from Roberts to Ertegun with attachment re: Proposed Repertoire (UMG004628-UMG004630) | 12 | | No |
| CX 343 | e-Mail from Marnier to Saintilan (UMG003337) | 12 | | No |
| CX 344 | Letter from Roberts to Hockman re: Songs for 3 Tenors 3 (UMG004179) | 12 | | No |
| CX 345 | Memo from Clancy to Cook, Lawlan, and Hoffman with attachment (UMG001635-UMG001640) | 12 | | No |
| CX 346 | Memo from Germaise/Creed to Distribution (3TEN00008907) | 12 | | No |
| CX 347 | e-Mail from Roberts to Lewis re: 3T3 (UMG004624) | 12 | | No |
| CX 348 | Memo from Hoffman to Ames re: The Three Tenors/Volume 3 (UMG002157-UMG002158) | 12 | | No |
| CX 349 | Memo from Wild to Ertegun, Azzoli, O'Brien (3TEN00000520-3TEN00000521) | 12 | | No |
| CX 350 | RESERVED | 12 | | |
| CX 351 | RESERVED | 12 | | |
| CX 352 | Memo from Clancy to Cook, Lawlan, Rebillard, Dhillon re: Three Tenors 3 with attachment (UMG001603-UMG001614) | 12 | | No |
| CX 353 | Fax from Lieberman to Clancy with attachment Memo re: The Three Tenors -- Heads of Agreement (UMG001618-UMG001624) | 12 | | No |
| CX 354 | Memo from Wild to Azzoli, Ertegun, and O'Brien (3TEN00002270-3TEN00002273) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 355 | Memo from Scott to O'Brien and Wild re: The Three Tenors/Record Agreement (3TEN00003298-3TEN00003299)(Designated *In Camera*) | 12 | | Yes |
| CX 356 | Fax from Scott to Gold, O'Brien, Robinson, Wild, and Wistow (3TEN00002245-3TEN00002254) | 12 | 414-418 | No |
| CX 357 | Fax from Lieberman to Scott enclosing Draft Agreement between Polygram SA and Warner Music Netherlands B.V. (3TEN00017990-3TEN00017996)(Designated *In Camera*) | 12 | 373-374 | Yes |
| CX 358 | Fax from Scott to Lieberman enclosing Draft of Split Profits Arrangement (3TEN00002438-3TEN00002449)(3TEN00002438-3TEN00002443 Designated *In Camera*) | 12 | 374-375 | Yes, 3TEN00002438-3TEN00002443 only |
| CX 359 | Memo from Scott to Lieberman enclosing Draft of Polygram Split Profits Arrangement (3TEN00002404-3TEN00002412)(Designated *In Camera*) | 12 | 376-377 | Yes |
| CX 360 | Fax from Scott to Rothsdeicher (3TEN00002255) | 12 | | No |
| CX 361 | Fax from Lieberman to Scott enclosing Draft Warner/Polygram Agreement (3TEN00002392-3TEN00002403)(Designated *In Camera*) | 12 | 377-378 | Yes |
| CX 362 | Fax from Scott to Lieberman enclosing Draft Split Profits Arrangement (3TEN00002308-3TEN00002323)(3TEN00002308-3TEN00002320 Designated *In Camera*) | 12 | 379-380 | Yes, 3TEN00002308-3TEN00002320 only |
| CX 363 | Fax Memo from Mansbridge to Manning (3TEN00003601-3TEN00003602) (Designated *In Camera*) | 12 | | Yes |
| CX 364 | Memo from O'Brien to Daly (3TEN00007339-3TEN00007341) | 12 | | No |
| CX 365 | Memo from O'Brien to Daly (3TEN00002264-3TEN00002265) | 12 | | No |
| CX 366 | Memo from O'Brien to Daly (3TEN00007334-3TEN00007338) | 12 | 411-414 502-513 | No |
| CX 367 | Memo from Scott to Mansbridge re: The Three Tenors/Box Set and "Greatest Hits" Album (3TEN00000488) | 12 | | No |
| CX 368 | Memo from Lieberman to Parent re: Warner/Polygram Agreement (UMG002261) | 12 | | No |
| CX 369 | Letter from Sandau to Scott re: The Three Tenors-Paris 1998 Agreements (3TEN00001513) | 12 | | No |
| CX 370 | Letter from Lieberman to Scott re: Execution Copies of Warner-Polygram Agreement (3TEN00002244) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 371 | Letter from Hoffman to Scott (3TEN00003051) | 12 | | No |
| CX 372 | Fax from Sandau to Scott enclosing Fully Executed Copy of The Three Tenors-Paris 1998 Agreement (3TEN00000209-3TEN00000216)(Designated *In Camera*) | 12 | | Yes |
| CX 373 | Memo from Scott to Caradine re: The Three Tenors 1998/Expected Payment Schedule (3TEN00004183) | 12 | | No |
| CX 374 | The Three Tenors- Record Agreement Summary (3TEN00007490-3TEN00007496) | 12 | | No |
| CX 375 | RESERVED | | | |
| CX 376 | RESERVED | | | |
| CX 377 | RESERVED | | | |
| CX 378 | RESERVED | | | |
| CX 379 | RESERVED | | | |
| CX 380 | Press Release: "Three Tenors Announce World Cup Spectacle in Paris" (3TEN00003979-3TEN00003980) | 12 | | No |
| CX 381 | Three Tenors Paris 1998 Concert Publicity Proposal (3TEN00000245-3TEN00000258) | 12 | | No |
| CX 382 | Memo from Creed to Anderson, Bates, Davis, Gidion, Scott, Silver, and Slight re: The Three Tenors Logistics Meeting with attachments (3TEN00007983-3TEN00007989) | 12 | | No |
| CX 383 | Atlantic Meeting Notes (UMG003282-UMG003289) | 12 | | No |
| CX 384 | Memo from Saintilan to Ellender and Rees-Parnall attaching 3T3/Atlantic Meeting Notes (UMG003091-UMG003100) | 12 | | No |
| CX 385 | The Three Tenors- Paris 1998 (3TEN00008798) | 12 | | No |
| CX 386 | The 3 Tenors Meeting Agenda (UMG004593-UMG004597) | 12 | | No |
| CX 387 | Fax from Rudas to Kulesza enclosing March 6, 1998 Meeting Minutes (UMG003146-UMG003151) | 12 | | No |
| CX 388 | 3T3 Proposed Agenda (3TEN00008004-3TEN00008011) | 12 | | No |
| CX 389 | e-Mail from Saintilan to Kleinman, Schulten, Holland, Allard enclosing March 10, 1998 3T3 Meeting Notes (UMG004121-UMG004128) | 12 | | No |
| CX 390 | e-Mail from Cavell to Saintilan re: 3T3 (UMG003200) | 12 | | No |
| CX 391 | The Three Tenors Concert 1998 (3T3) PVP General Update and Action List (UMG003216-UMG003229) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 392 | Memo from Scott to O'Brien re: Polygram Split Profits Arrangement/Cost Management (3TEN00008003) | 12 | | No |
| CX 393 | Fax Memo from Saintilan to Baruch re: Three Tenors in Paris Marketing Plan (UMG000539-UMG000550) | 12 | | No |
| CX 394 | All-Time 3 Tenors Classical Operating Statement Summary: February 1998 All-Time to Date (3TEN00003977-3TEN00003978)(Designated *In Camera*) | 12 | | Yes |
| CX 395 | Memo from O'Rourke to Lopez re: The Three Tenors Royalty Break with attachment (3TEN00011068-3TEN00011074) | 12 | | No |
| CX 396 | e-Mail from O'Rourke to Caradine (3TEN00003569) | 12 | | No |
| CX 397 | e-Mail from Caradine to Still (3TEN00003568) | 12 | | No |
| CX 398 | e-Mail from Caradine to O'Rourke (3TEN00003564) | 12 | | No |
| CX 399 | e-Mail from Still to Ikin (3TEN00011065) | 12 | | No |
| CX 400 | e-Mail from Johnston to Greene (UMG000051-UMG000052) | 12 | | No |
| CX 401 | e-Mail from Greene to Marnier re: 3 Tenors 3 (UMG000067) | 12 | | No |
| CX 402 | e-Mail from Gratton to Saintilan re: TTT - P&F5 (UMG003416) | 12 | | No |
| CX 403 | e-Mail from Greene to Marnier re: 3T1 (UMG003079) | 12 | | No |
| CX 404 | e-Mail from Greene to Cloeckaert re: Three Tenors Pricing (UMG002997) | 12 | | No |
| CX 405 | e-Mail from Greene to Saintilan, Cavell and Cloeckaert re: Note to Bert - Opinion Please! (UMG000087) | 12 | | No |
| CX 406 | e-Mail from Cloeckaert to Allard, et. al. re: Pricing First Album 3 Tenors attaching April 21, 1998 Memo from Cloeckaert to Classical MD's/Classical Marketing Managers re: Pricing 1st Three Tenors Album (UMG000091-UMG000092) | 12 | | No |
| CX 407 | e-Mail from Roberts to Lewis re: 3t Catalog (UMG003949) | 12 | | No |
| CX 408 | RESERVED | 12 | | |
| CX 409 | RESERVED | 12 | | |
| CX 410 | RESERVED | 12 | | |
| CX 411 | RESERVED | 12 | | |
| CX 412 | e-Mail from Saintilan to Marnier re: Pavarotti Hits and More (UMG000101) | 12 | | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 413 | e-Mail from Greene and Saintilan to European Classical MDs and European Label Mangers re: 3 Tenors 1 Promotion and Pricing (UMG003058-UMG003061) | 12 | 787-788 | No |
| CX 414 | Fax Memo from Saintilan to Creed (UMG002661-UMG002662) | 12 | | No |
| CX 415 | Memo from Creed to O'Brien and Scott with attachment (3TEN00010551-3TEN00010553) | 12 | | No |
| CX 416 | e-Mail from Cloeckaert to Nigel re: 3 Tenors 1 Promotion & Pricing (UMG000118) | 12 | | No |
| CX 417 | Fax from Saintilan to Distribution with attachments (UMG003380-UMG003392) | 12 | | No |
| CX 418 | Decca Campaign Overview: Increase in Back Catalogue Sales CD (UMG000246-UMG000251) | 12 | | No |
| CX 419 | DC5 Classics Marketing Priority: Belgium (UMG003500-UMG003502) | 12 | | No |
| CX 420 | DC5 Classics Marketing Priority: Denmark (UMG003530-UMG003532) | 12 | | No |
| CX 421 | DC5 Classics Marketing Priority: Malaysia (UMG003577-UMG003579) | 12 | | No |
| CX 422 | DC5 Classics Marketing Priority: Sweden (UMG003606-UMG003608) | 12 | | No |
| CX 423 | DC5 Classics Marketing Priority: Spain (UMG003603-UMG003605) | 12 | | No |
| CX 424 | DC5 Classics Marketing Priority: UK (UMG003563-UMG003565) | 12 | | No |
| CX 425 | e-Mail from Greene to Heyden re: Pavarotti (UMG000166-UMG000167) | 12 | | No |
| CX 426 | Fax from Still to Caradine re: 3 Tenors Mid-price (3TEN00003556-3TEN00003558) | 12 | | No |
| CX 427 | e-Mail from Fischer to Greene re: Three Tenors One Campaign (UMG002968) | 12 | | No |
| CX 428 | e-Mail from Greene to Derry (UMG000152) | 12 | | No |
| CX 429 | e-Mail from Haywood to Tweed and Cloeckaert re: 3 Tenors 1 – Promotion & Pricing (UMG003055-UMG003057) | 12 | | No |
| CX 430 | Fax Letter from Still to Rudas re: The Three Tenors Mid-price attaching Warner Classics International The Three Tenors 1994: 6 Month Push, World Cup Summer 1998 (3TEN00009918-3TEN00009919) | 12 | | No |
| CX 431 | Fax from Still to Rudas re: The Three Tenors Mid-price (3TEN00009923-3TEN00009925) | 12 | | No |

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|---|---|---|---|---|
| CX 432 | e-Mail from Stephens to Still re: The 3 Tenors Midprice Campaign (3TEN00010921) | 12 | | No |
| CX 433 | e-Mail from Bach to Richardson re: 3 Tenors Mid Price (3TEN00010922) | 12 | | No |
| CX 434 | Fax from Still to Clay (3TEN00011049-3TEN00011051) | 12 | | No |
| CX 435 | e-Mail from Rice to Distribution re: The Three Tenors Video (3TEN00017899-3TEN00017900) | 12 | | No |
| CX 436 | e-Mail from Still to Distribution (3TEN00017713) | 12 | | No |
| CX 437 | Fax from Scott to O'Brien with attachment (3TEN00010127-3TEN00010129) | 12 | | No |
| CX 438 | e-Mail from Greene to Grandi re: 3 Tenors 1 Promotion & Pricing (UMG003045-UMG003046) | 12 | | No |
| CX 439 | e-Mail from Greene to Saintilan re: 3 Tenors 1 (UMG000157-UMG000159) | 12 | | No |
| CX 440 | e-Mail from Greene to Saintilan re: '90 Three Tenors Special Price Campaign (UMG000193) | 12 | | No |
| CX 441 | e-Mail from Greene to Saintilan re: 3T2 Spain (UMG000181) | 12 | | No |
| CX 442 | e-Mail from Greene to Law re: '90 Three Tenors Special Price Campaign (UMG000194-UMG000196) | 12 | | No |
| CX 443 | Fax from Wild to Azzoli attaching June 24, 1998 Memo from Azzoli to Lopez (3TEN00003640-3TEN00003647) | 12 | | No |
| CX 444 | Fax from Maclaren to O'Brien re: The Three Tenors: Paris 1998 Concert (3TEN00010550) | 12 | | No |
| CX 445 | Memo from Ertegun to Daly (3TEN00007442) | 12 | | No |
| CX 446 | e-Mail from O'Rourke to Still re: Three Tenors/Polygram (3TEN00009913) | 12 | | No |
| CX 447 | Memo from Still to O'Rourke re: 3 Tenors Mid-price with attachment (3TEN00009911-3TEN00009912) | 12 | | No |
| CX 448 | Fax from Still to O'Rourke re: 3 Tenors Mid-price with attachment (3TEN00011076-3TEN00011078) | 12 | | No |
| CX 449 | Fax from Maclaren to O'Brien re: The Three Tenors: 1994 (3TEN00010533-3TEN00010534) | 12 | | No |
| CX 450 | Memo from Still to Lopez re: 3 Tenors Mid-price (3TEN00009904-3TEN00009905) | 12 | | No |
| CX 451 | e-Mail from Focke to Figari, Razzini, and Pascual (3TEN00011162) | 29 | 25-35 | No |
| CX 452 | e-Mail from Figari to Pascual, Focke, and Razzini (3TEN00011159) | 29 | 25-35 | No |
| CX 453 | e-Mail from Pascual to Focke (3TEN00011156) | 29 | 25-35 | No |

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|---|---|---|---|---|
| CX 454 | e-Mail from Focke to Cosgrove re: 3 Tenors/ Midprice (3TEN00011157) | 29 | 25-35 | No |
| CX 455 | e-Mail from Pascual to Focke (3TEN00011160) | 29 | 25-35 | No |
| CX 456 | e-Mail from Razzini to Figari, Pascual, and Focke (3TEN00011161) | 29 | 25-35 | No |
| CX 457 | Fax Transmission Verification Report (3TEN00010114-3TEN00010119) | 12 | 435-437 | No |
| CX 458 | e-Mail from Wood to Distribution (3TEN00017891-3TEN00017896) | 12 | | No |
| CX 459 | e-Mail from Saintilan to Constant re: 3 Tenors 1 Promotion & Pricing (UMGSK0001-UMGSK0009) | 12 | | No |
| CX 460 | Fax from Caradine to Azzoli (3TEN00003965) | 12 | | No |
| CX 461 | Fax from Robinson to Scott (3TEN00008187-3TEN00008188) | 12 | | No |
| CX 462 | e-Mail from Rudolph to Distribution (3TEN00003533) | 24 | 14<br>22-24<br>494-495 | No |
| CX 463 | Memo from O'Rourke to Distribution (3TEN00004497-3TEN00004498) | 25 | 24-25 | No |
| CX 464 | RESERVED | | | |
| CX 465 | RESERVED | | | |
| CX 466 | RESERVED | | | |
| CX 467 | RESERVED | | | |
| CX 468 | RESERVED | | | |
| CX 469 | Information from O'Neil and Saintilan to Polygram Classics & Jazz General Managers, Decca Label Managers, Local Press, and Promotional Depts. (UMG004908-UMG004909) | 12 | | No |
| CX 470 | Fax from Hoffman to Clay re: The Three Tenors/Single (UMG002834) | 12 | | No |
| CX 471 | Fax Letter from Baruch to O'Neill and Saintilan re: Three Tenors Dreamchasers Promo (UMG003860-UMG003862) | 12 | | No |
| CX 472 | Fax Letter from Baruch to O'Neil and Saintilan (UMG003839) | 12 | | No |
| CX 473 | RESERVED | | | |
| CX 474 | Letter from Siegel to Distribution re: 3 Tenors Press Plan (3TEN00001085-3TEN00001089) | 12 | | No |
| CX 475 | e-Mail from Marnier to Saintilan re: Three Tenors Marketing Plan (UMG003540) | 12 | | No |
| CX 476 | RESERVED | 12 | | |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 477 | Press Release: "Atlantic, Decca, Rudas Organization Join Forces for Worldwide Release of New Three Tenors Concert Recording…" (3TEN00008808-3TEN00008811) | 12 | | No |
| CX 478 | Statement from the City Hall of Paris (UMG003905-UMG003915) | 12 | | No |
| CX 479 | e-Mail to Wagner re: Three Tenors Marketing Planner (3TEN00018003) | 12 | | No |
| CX 480 | e-Mail from Romero to Guerry re: Jose Carreras (3TEN00004502) | 12 | | No |
| CX 481 | e-Mail from Coley to Distribution re: 3 Tenors 1998 TV (3TEN00003728-3TEN00003729 | 12 | | No |
| CX 482 | Memo from Crawford, Pavicic, Valdiviez, and Moore to Distribution re: Three Tenors "Paris 1998" MMCF (3TEN00009037-3TEN00009058) | 12 | 79-83 | No |
| CX 483 | The Three Tenors Marketing Plan (3TEN00001415-3TEN00001427) | 12 | 71-79 | No |
| CX 484 | Three Tenors III Update (UMG000039-UMG000043) | 12 | | No |
| CX 485 | "A" List of Song Writers for the Three Tenors (UMG004181-UMG004182) | 12 | | No |
| CX 486 | Fax from Lewis to Rudas, Mclaren, and Roberts (UMG004480) | 12 | | No |
| CX 487 | e-Mail from Hoffman to Scott (3TEN00001273) | 12 | | No |
| CX 488 | e-Mail from Scott to Creed and O'Brien re: Tibor Meeting (3TEN00010262) | 12 | | No |
| CX 489 | Memo from Scott to O'Brien (3TEN00000019) | 12 | | No |
| CX 490 | Letter from O'Brien to Rudas (UMG002663-UMG002664) | 12 | 424-426 | No |
| CX 491 | Fax from Rudas to O'Brien re: Various (UMG004426-UMG004227) | 12 | | No |
| CX 492 | Fax Letter from Rudas to Lewis and O'Brien re: '98 Three Tenors Paris CD (3TEN00000354-3TEN00000355) | 12 | | No |
| CX 493 | e-Mail from Hoffman to Roberts et. al. (UMG001422) | 12 | | No |
| CX 494 | Fax from O'Brien to Rudas (3TEN00001718) | 12 | | No |
| CX 495 | Fax Letter from Rudas to Raeburn and Ledoux re: '98 Three Tenors Paris Video (UMG004404-UMG004405) | 12 | | No |
| CX 496 | The Three Tenors in Paris Marketing Information (UMG003769) | 12 | | No |
| CX 497 | RESERVED | | | |
| CX 498 | RESERVED | | | |

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| CX 499 | RESERVED | | | |
| CX 500 | Fax from Tilston to Baruch re: Three Tenors Photo (UMG003196) | 12 | | No |
| CX 501 | Fax from Robert/Baruch to Saintilan re: The Three Tenors CD (UMG003272) | 12 | | No |
| CX 502 | Fax from Saintilan to Baruch re: Three Tenors Cover (UMG003269) | 12 | | No |
| CX 503 | Memo from Saintilan to Smart re: Three Tenors Cover (UMG004008-UMG004009) | 12 | | No |
| CX 504 | RESERVED | | | |
| CX 505 | Letter from Town/Saintilan to Rudas (UMG003960) | 12 | | No |
| CX 506 | Fax from Saintilan to Cocchiara re: 3T3 Video Cover Visuals (UMG003786) | 12 | | No |
| CX 507 | e-Mail from Kosse to Saintilan re: 3T3 Video Cover Visuals (UMG003802) | 12 | | No |
| CX 508 | e-Mail from Cocchiara to Saintilan re: 3T3 Paris (UMG003920) | 12 | | No |
| CX 509 | e-Mail from Herrero to Cloeckaert (UMG003039) | 12 | | No |
| CX 510 | All-In-Fee Agreement- Audio Deal Memorandum 1998 Version (UMG006325-UMG006363) | 12 | | No |
| CX 511 | Letter from Anderson to Rudas (3TEN00000356) | 56 | 55-56 | No |
| CX 512 | Memo from Scott to Conte, Froio, Ganis, and Germaise re: The Meeting with Mr. Ertegun (3TEN00001409) | 60 | 57-60 | No |
| CX 513 | Letter from Roberts to Ertegun (UMG004159) | 62 | 60-62 | No |
| CX 514 | RESERVED | | | |
| CX 515 | Fax from Roberts to Gelb re: Three Tenors in Vienna (UMG004158) | 62 | 60-62 | No |
| CX 516 | Fax from Gelb to Roberts re: Three Tenors Christmas/Charlotte Church (UMG004157) | 62 | 60-62 | No |
| CX 517 | Fax from Clancy to O'Brien (3TEN00010809) | 12 | | No |
| CX 518 | Fax from Roberts to Scott re: Three Tenors Greatest Hits (3TEN00010795-3TEN00010797)(Designated *In Camera*) | 60 | 57-60 | Yes |
| CX 519 | Fax from Roberts to Scott re: Three Tenors Greatest Hits (3TEN00000225)(Designated *In Camera*) | 63 | 62-63 | Yes |
| CX 520 | e-Mail from Cavell to Scott re: The Best of Three Tenors (3TEN00010151)(Designated *In Camera*) | 71 | 68-71 | Yes |
| CX 521 | e-Mail from Cavell to Scott and O'Brien re: Delay of Release of "Three Tenors Greatest Hits" (3TEN00002092-3TEN00002093) | 71 | 68-71 | No |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
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| CX 522 | Fax from Rudas to Roberts re: '98 Three Tenors Paris Sales (UMG004162) | 56 | 55-56 | No |
| CX 523 | Memo from Scott to O'Brien and Wild re: Three Tenors/Video (3TEN00009000-3TEN00009001) | 56 | 55-56 | No |
| CX 524 | Fax from Clancy to Cohen (3TEN00010313) | 12 | | No |
| CX 525 | Fax from Clancy to Vaesken (UMG000611-UMG000613) | 12 | | No |
| CX 526 | RESERVED | | | |
| CX 527 | Fax from Schwam to Clancy re: Three Tenors Accounting (3TEN00009994-3TEN00009998) | 56 | 55-56 | No |
| CX 528 | RESERVED | | | |
| CX 529 | RESERVED | | | |
| CX 530 | Fax from Schwam to Clancy (3TEN00009971-3TEN00009973) | 56 | 55-56 | No |
| CX 531 | Fax Letter from Clancy to Schwam (UMG000594-UMG000597) | 12 | | No |
| CX 532 | Letter from Schwam to Clancy (3TEN00009948-3TEN00009952) | 56 | 55-56 | No |
| CX 533 | Three Tenors Worldwide Profits: Inception - September 2001 Domestic - Dec 2000 International (UMG006206-UMG6207) | 12 | | No |
| CX 534 | Fax from Clancy to Vaesken (UMG000575-UMG000578) | 12 | | No |
| CX 535 | Three Tenors 1998 Universal Accounting Statement (UMG005408-UMG005410) | 12 | | No |
| CX 536 | Universal Music and Video Distribution Artists/Project Report (UMG006208) | 56 | 55-56 | No |
| CX 537 | Memo from Saintilan to Cavell re: 3T3 (UMG000221-UMG000225) | 12 | | No |
| CX 538 | Market Focus- Traditional Music Distribution (UMG006521-UMG006544) | 12 | | No |
| CX 539 | Soundata: National Music Consumer Study Presentation (UMG007056-UMG007098) | 12 | | No |
| CX 540 | Classical Music Research Survey (UMG006111-UMG006123) | 73 | 72-73 | No |
| CX 541 | The Classical Research Project (UMG006124-UMG006167) | 73 | 72-73 | No |
| CX 542 | Classical Price Policy (UMG006227-UMG006234) | 12 | | No |
| CX 543 | Fax from Witts to Distribution re: Pricing Meeting Notes (UMG006209-UMG006218) | 74 | 73-74 | No |
| CX 544 | Commercial Affairs-Pricing Process (UMG004997-UMG005005) | 12 | | No |
| CX 545 | Letter from Cloeckaert to Boyd (UMG005515-UMG005516) | 74 | 73-74 | No |

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| CX 546 | e-Mail from Voskoboinikoff to Distribution re: The Cardigans Mid-Price Campaign (UMG005534-UMG005535) | 74 | 73-74 | No |
| CX 547 | e-Mail from Huysmans/Cloeckaert to Distribution re: Bjork-Catalog Mid For a Day (UMG005527-UMG005529) | 74 | 73-74 | No |
| CX 548 | Letter from Cloeckaert to Koenig re: Price Discount Campaign- Pro89/00-Germany (UMG005554-UMG005558) | 74 | 73-74 | No |
| CX 549 | Philips Classics Top Price March '98 (UMG004066-UMG004067) | 12 | | No |
| CX 550 | e-Mail from Hodgson to Distribution re: Complete List of Temporary Top to High Mid Price Titles (UMG005509-UMG005514) | 12 | | No |
| CX 551 | Three Tenors 1998 File (3TEN00008963-3TEN00008999) | 12 | | No |
| CX 552 | RESERVED | | | |
| CX 553A-F | Vivendi Universal Press Release: "Pressplay to be Official Name for New Subscription Music Service…" | 71 | 68-71 | No |
| CX 554 | Organizational Charts (UMG003001-UMG003007) | 12 | | No |
| CX 555 | Organizational Charts (UMG004185-UMG004188) | 12 | | No |
| CX 556A-K | Letter with attachments from Morrissey to Green | 71 | 71 | No |
| CX 557A-L | Fax with attachments from Wang to Megee, Dagen, and Ostroff | 71 | 71 | No |
| CX 558 | Warner Three Tenors Distribution List (3TEN00003551-3TEN00003554) | 12 | | No |
| CX 559 | Organizational Charts (3TEN00010048-3TEN00010111) | 12 | | No |
| CX 560 | RESERVED | | | |
| CX 561 | RESERVED | | | |
| CX 562 | RESERVED | | | |
| CX 563 | RESERVED | | | |
| CX 564 | RESERVED | | | |
| CX 565 | RESERVED | | | |
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| CX 567 | RESERVED | | | |
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| CX 569 | RESERVED | | | |
| CX 570 | RESERVED | | | |
| CX 571 | RESERVED | | | |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| CX 572 | RESERVED | | | |
| CX 573 | RESERVED | | | |
| CX 574A-C | *Classical Recordings*, The Star-Ledger (Newark, NJ) (Sept. 26, 1998) | 67 | 64-67 | No |
| CX 575 | *Old Pros in Good Voice: But Too Much Mediterranean Sun in Three Tenors' Concert*, The Gazette (Montreal) at D13 (July 11, 1998) | 67 | 64-67 | No |
| CX 576 | THREE TENORS SOUNDING BORED, The San Francisco Chronicle at 45 (Oct. 4, 1998) | 67 | 64-67 | No |
| CX 577A-C | *We'll Always Have Paris on Video*, The Boston Globe at N1 (Oct. 4, 1998) | 67 | 64-67 | No |
| CX 578A-E | *CD Reviews*, The Vancouver Sun at D12 (Sept. 26, 1998) | 67 | 64-67 | No |
| CX 579A-C | DISCS: JOSE CARRERAS, PLACIDO DOMINGO, AND LUCIANO PAVAROTTI: The 3 Tenors: Paris 1998 (Atlantic), The Boston Herald at 83, (Oct. 4, 1998) | 67 | 64-67 | No |
| CX 580A-B | TENORS HIT THE HIGHEST C: COMMERCE, The Seattle Times at M2 (Sept. 13, 1998) | 67 | 64-67 | No |
| CX 581A-C | *Time to Bring Curtain Down on Three Tenors*, The Jerusalem Post at 9 (Sept. 2, 1998) | 67 | 64-67 | No |
| CX 582 | *They're Baaack!*, Time Magazine at 52 (July 18, 1994) | 68 | 67-68 | No |
| CX 583 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 22, 1990 | 12 | | No |
| CX 584 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 21, 1991 | 12 | | No |
| CX 585 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 26, 1992 | 12 | | No |
| CX 586 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 25, 1993 | 12 | | No |
| CX 587 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 24, 1994 | 12 | | No |
| CX 588 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 23, 1995 | 12 | | No |
| CX 589A-B | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 28, 1996 | 12 | | No |
| CX 590 | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 27, 1997 | 12 | | No |
| CX 591A-B | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 26, 1998 | 12 | | No |

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| CX 592A-B | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 25, 1999 | 12 | | No |
| CX 593A-B | The Year in Music, *Billboard Magazine*, Top Classical Albums, December 30, 2000 | 12 | | No |
| CX 594 | ILLUSTRATIVE EXHIBIT, Charlote Church Ad | 62 | 60-64 | No |
| CX 595 | ILLUSTRATIVE EXHIBIT, Andrea Bocelli In-store Display | 56 | 54-58 | No |
| CX 596 | Declaration of Stuart Robinowitz | 12 | | No |
| CX 597 | Document Index Chart | 12 | | No |
| CX 598 | Polygram Officers and Directors -1998 (UMG007099-UMG7117) | 12 | | No |
| CX 599A - G | Letter from Warner to Green re documents submitted in response to the Commission's subpoena dated October 10, 2000 | 12 | | No |
| CX 600 | Compact Disc: "The Three Tenors Christmas" | 63 | 62-63 | No |
| CX 601 | RESERVED | | | |
| CX 602 | RESERVED | | | |
| CX 603A-Z-20 | Time Warner Inc.'s response to the Commission's subpoena, Exhibits "E," "F," "H," I," and "J"(Designated *In Camera*) | 57 | 5<br>56-57 | Yes, CX 603I-CX 603R;CX 603-Z-7 - CX 603-Z-20 only. |
| CX 604A-T | Excerpts from The Seagram Company Ltd. 10-K/A filing for fiscal year ended June 30, 2000 | 12 | | No |
| CX 605A-F | Excerpts from The Seagram Company Ltd. 10-K filing for fiscal year ended June 30, 1999 | 12 | | No |
| CX 606A-C | Curriculum Vitae of Stephen Stockum | 12 | | No |
| CX 607A-B | Curriculum Vitae of Catherine Moore | 12 | | No |
| CX 608 | Designated Portions of the Deposition Transcript of Eric Fuller | 12 | | No |
| CX 609 | Designated Portions of the Deposition Transcript of James Caparro | 12; 102 | 100-102 | No |
| CX 610 | Designated Portions of the Deposition Transcript of Gerald Kopecky | 12; 100 | 99–100 | No |
| CX 611 | Designated Portions of the Deposition Transcript of Jonathan Lieberman | | | No |
| CX 612 | Rebuttal Expert Report of Dr. Stephen Stockum | 682 | 756-777<br>783-786 | No |
| CX 613 | RESERVED | | | |
| CX 614 | RESERVED | | | |
| CX 615 | RESERVED | | | |

| CX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
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| CX 616 | RESERVED | | | |
| CX 617 | RESERVED | | | |
| CX 618 | RESERVED | | | |
| CX 619 | Summary Exhibit: Names and Titles | 278 | 277- | No |
| CX 620A-D | ILLUSTRATIVE EXHIBIT, Album Covers, 3T1, 3T2, 3T3 and X-Mas Album ILLUSTRATIVE EXHIBIT, Album Covers, 3T1, 2 &3 and X-Mas | | 21-23 | No |
| CX 621 | Summary Exhibit: Three Tenors Albums as of 1998 | 7 | 7, 23-24 | No |
| CX 622A-I | ILLUSTRATIVE EXHIBIT, Slide: Relationship Between Labels and Distribution Companies | 27 | 26-36 | No |
| CX 623A-D | ILLUSTRATIVE EXHIBIT, Photographic Slides: In-store Advertising | 49 | 49-54 | No |
| CX 624 | ILLUSTRATIVE EXHIBIT, O-card Example | Order Admitting Additional Trial Exhibits, 3-22-02 | 113-114; 240-242 | No |
| CX 625 | ILLUSTRATIVE EXHIBIT, O-card Example | Order Admitting Additional Trial Exhibits, 3-22-02 | 113-114; 240-242 | No |

**Respondents' Exhibits**

| RX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
|---|---|---|---|---|
| RX 701 | Fax Letter from Sandau to Caradine re: The Three Tenors: 1994 Dodger Stadium Album Pricing (3TEN00009929) | 496 | 527-528 | No |
| RX 702 | Fax from de Bruyn-de Jong to Distribution re: The Three Tenors, Paris 1998 - Pavarotti, Domingo, Carreras / 460-500-2 attaching Classical Price Information- CD Super Top Price (UMG000531-UMG000532) | 496 | | No |
| RX 703 | e-Mail from Cloeckaert to Greene re: Pricing 1st Three Tenors Album (UMG000090) | 496 | | No |
| RX 704 | e-Mail from Stefansen to Greene re: 3 Tenors 1(UMG003049) | 496 | | No |
| RX 705 | Fax from Robinson to Kon (UMGSK0010-UMGSK0015) | 496 | | No |
| RX 706 | Fax from Robinson to Bosch, Kon, O'Brien, Scott, and Wild (UMGSK0018-UMGSK0024) | 496 | | No |
| RX 707 | Fax from Robinson to Kon, Bosch, O'Brien, Scott, and Wild (UMGSK0025-UMGSK0027) | 496 | | No |
| RX 708 | Fax from Robinson to Bosch and Kon (UMGSK0029-UMGSK0030) | 496 | | No |
| RX 709 | 1998 AIF Data (UMG3008-23) | 496 | | No |
| RX 710 | 1990 Album AIF Data (UMG5069-5632) | 496 | | No |
| RX 711 | 1998 Album Sales Data (Exc. France) (UMG4958-94) | 496 | | No |
| RX 712 | 1998 Album Sales Data (France) (UMG4919) | 496 | | No |
| RX 713 | United States Sales Data (UMG4883-4906) | 496 | | No |
| RX 714 | 1998 Album British Marketing Materials | 496 | | No |
| RX 715 | Exhibit regarding prices from Ordover Report | 496 | | No |
| RX 716 | Expert Report of Janusz Ordover | 496 | | No |
| RX 717 | Expert Report of Yoram Wind | 496 | | No |
| RX 718 | **RESERVED** | | | |
| RX 719 | Designated Portions of the Deposition Transcript of Stephen Kon | 496 | | No |

| RX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
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| RX 720 | **RESERVED** | | | |
| RX 721 | **RESERVED** | | | |
| RX 722 | E-mail from Rand Hoffman to Chris Roberts (UMG003310) | 496 | | No |
| RX 723 | Three Tenors History of Sales 1990-September 2001 (UMG006407-UMG006408) | 496 | | No |
| RX 724 | E-mail from Paul Saintilan to Wemcken, Fischer, Oswald, Cloeckaert, Conix Rohde, et al. (UMG001408-UMG001409) | 496 | | No |
| RX 725 | E-mail from Melchor Hidalgo to Saintilan (UMG002986-UMG002987) | 496 | | No |
| RX 726 | All in Fee Index internet pages (UMG006235-UMG006280) | 496 | | No |
| RX 727 | Letter from Mark Cavell to Paul Saintilan (UMG004504-UMG004505) | 496 | | No |
| RX 728 | Chart Artist/project Report cooperative advertising (UMG006411) | 496 | | No |
| RX 729 | Meeting notes (UMG001532-UMG001539) | 496 | | No |
| RX 730 | Meeting notes (UMG000376-UMG000381) | 496 | | No |
| RX 731 | E-mail from Nigel Haywood to Cloeckaert et al. (UMG003052) | 496 | | No |
| RX 732 | NY Times: 3 Soccer Fans, Teams Gone, Sing Anyway, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 733 | CBS News Transcripts: World Cup Soccer Fans Get Serenaded By The Three Tenors in Paris, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 734 | The Guardian (London): The Guardian Profile: Luciano Pavarotti: Lust for Life, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |

| RX Number | Document Description | Admitted | Page Discussed | *In Camera* Treatment |
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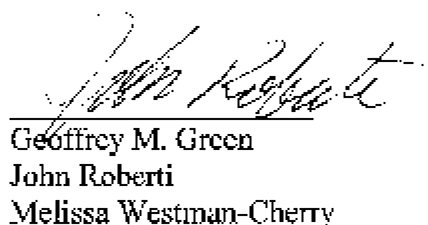
| RX 735 | The Irish Times: Tenors by the Tower serenade Paris, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 736 | NBC News Transcripts: The Three Tenors Perform in Paris, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 737 | The Press Association Limited: Three Tenors Provide Fitting World Cup Finale, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 738 | The San Francisco Examiner: 3 Tenors turn on City of Lights, 7/11/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |
| RX 739 | USA Today: Coming to Terms with 'Tenors,' 9/18/98 | 64; Order Admitting Additional Trial Exhibits, 3-22-02 | | No |

## INDEX OF EXHIBITS OFFERED BUT NOT ADMITTED INTO EVIDENCE

| CX Number | Document Description | Offered | Denied | *In Camera* Treatment |
|---|---|---|---|---|
| CX 560 | Lee Benham, *The Effect of Advertising on the Price of Eyeglasses*, 15 J. LAW & ECON. 337 (1972) | 74 | 76 | No |
| CX 561 | John F. Cady, *An Estimate of the Price Effects of Restrictions on Drug Price Advertising*, 14 ECON. INQUIRY 493 (1976) | 74 | 76 | No |
| CX 562 | Amihai Glazer, *Advertising, Information and Prices- A Case Study*, 92 ECON. INQUIRY 661 (1981) | 74 | 76 | No |
| CX 563A-C | James M. Henderson and Richard E. Quandt, MICROECONOMIC THEORY: A MATHEMATICAL APPROACH 136 (3d ed. 1980) | 74 | 76 | No |
| CX 564A-E | David L. Kaserman and John W. Mayo, GOVERNMENT AND BUSINESS: THE ECONOMICS OF ANTITRUST AND REGULATION 52, 152-154 (1995) | 74 | 76 | No |
| CX 565 | John E. Kwoka, Jr., *Advertising and the Price and Quality of Optometric Services*, 74 AM. ECON. REV. 211 (1984) | 74 | 76 | No |
| CX 566 | James A. Langenfeld and John R. Morris, *Analyzing Agreements Among Competitors: What Does the Future Hold?*, 36 ANTITRUST BULLETIN 651 (1991) | 74 | 76 | No |
| CX 567A-Q | James A. Langenfeld & Louis Silvia, *The Federal Trade Commission Horizontal Restraint Cases: An Economic Perspective*, 61 ANTITRUST L.J. 653, 673 (1993) | 74 | 76 | No |
| CX 568 | Robert H. Lande and Howard P. Marvel, *The Three Types of Collusion: Fixing Prices, Rivals and Rules*, 2000 WIS. L. REV. 941, 991-2 (2000) | 74 | 76 | No |
| CX 569 | James H. Love and Frank H. Stephen, *Advertising, Price and Quality, in Self-regulating Professions: A Survey*, 3 INT'L J. ECON. BUS. 227 (1996) | 74 | 76 | No |

| | | | | |
|---|---|---|---|---|
| CX 570A-C | Edwin Mansfield, MICROECONOMICS, THEORY AND APPLICATIONS 103, 105 (3rd ed. 1979) | 74 | 76 | No |
| CX 571 | Jeffrey Milyo and Joel Waldfogel, *The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart*, 89 AM. ECON. REV. 1081 (1999) | 74 | 76 | No |
| CX 572 | Richard A. Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POLITICAL ECONOMY 807 (1975) | 74 | 76 | No |
| CX 573A-Z-41 | F.M. Scherer & David Ross, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE Chapters 2 and 18 (3d ed. 1990) | 74 | 76 | No |

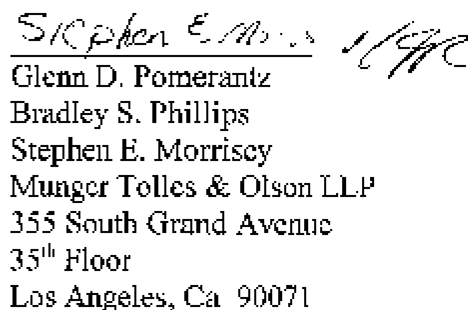
Respectfully submitted,



Geoffrey M. Green
John Roberti
Melissa Westman-Cherry

Federal Trade Commission
601 Pennsylvania Ave, N.W.
Washington, DC 20580

*Complaint Counsel*



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*Counsel for Respondents*

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**

| | |
|---|---|
| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation<br><br>UMG RECORDINGS, INC.,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,<br>a corporation. | Docket No. 9298 |

To: The Honorable James P. Timony
Chief Administrative Law Judge

## THE PARTIES' CONSOLIDATED DEPOSITION DESIGNATIONS

The following is a list of the deposition transcripts (and parts thereof) that have been admitted into evidence in this matter. This list is derived from the designations and counterdesignations of the parties. The documents from which these designations are derived are and are attached hereto as Exhibits A through D.

## COMBINED DEPOSITION DESIGNATIONS OF COMPLAINT COUNSEL AND RESPONDENTS

**ANTHONY O'BRIEN (JX 100)**
(Deposition from FTC v. Polygram Holding, Inc., et al. litigation – December 6, 2001)

4:1 to 122:25

**ANTHONY O'BRIEN (JX101)**
(Investigational Hearing from FTC v. Polygram Holding, Inc., et al. litigation – January 5, 2001)

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**ERIC NORMAN KRONFELD (JX 86)**
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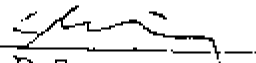
March 21, 2002



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**Public Version**
**FTC Docket No. 9298**

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**

In the Matter of

POLYGRAM HOLDING, INC.,
a corporation,

DECCA MUSIC GROUP LIMITED,
a corporation,

UMG RECORDINGS, INC.,
a corporation,

and

UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,
a corporation.

Docket No. 9298

**PUBLIC VERSION**

To: The Honorable James P. Timony
Administrative Law Judge

**COMPLAINT COUNSEL'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, ORDER AND MEMORANDUM OF LAW IN SUPPORT THEREOF**

**(VOLUME II)**


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Dated: May 6, 2002

This Volume Contains:

Complaint Counsel's Memorandum of Law In Support of
Complaint Counsel's Proposed Findings of Fact, Conclusions of Law and Order

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125 F.3d 1195 (9th Cir. 1997) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 44

*In re: A.E. Clevite, Inc.*,
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*In re: Brand Name Prescription Drugs Antitrust Litigation*,
123 F.3d 599 (7th Cir. 1997) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 74

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*In re: Detroit Auto Dealers*,
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*In re: General Motors Corp.*,
103 F.T.C. 374 (1984), *vacated on other grounds*, 5 Trade Reg. Rep. (CCH) ¶ 23,491 (Oct. 23,
1993) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 47

*In re: MacDermid, Inc.*,
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*In re: Toys "R" Us, Inc.*,
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*In re: YKK (USA) Inc.*,
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*Konik v. Champlain Valley Physicians Hospital Medical Center*,
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*Lee-Moore Oil Co. v. Union Oil Co.*,
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*Main St. Mortgage v. Main St. Bancorp*,
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*Marlene's, Inc. v. FTC,*
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*Microbix Biosystems, Inc. v. Biowhittaker, Inc.,*
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*Millar v. FCC,*
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*Monsanto Co. v. Spray-Rite Serv. Corp.,*
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*Musselman v. Phillips,*
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*Nash v. United States,*
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*National Society of Professional Engineers v. United States*
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*Official Airline Guides, Inc. v. FTC,*
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*Polk Bros. v. Forest City Enters.,*
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*Red Lion Medical Safety, Inc. v. Ohmeda, Inc.,*
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*Rossi v. Standard Roofing, Inc.*,
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*Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*,
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*RSR Corp. v. FTC*,
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*Six West Retail Acquisition, Inc. v. Sony Theatre Management Corp.*,
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*Sullivan v. National Football League*, 34 F.3d 1091,
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*Summit Health, Ltd. v. Pinhas*,
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*Tele[illegible]n Technical Services Inc. v. Siemens Rolm Communications, Inc.*,
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*Toucet v. Maritime Overseas Corp.*,
991 F.2d 5 (1st Cir. 1993) . . . . . . . . . . 49

*United States v. American Airlines*,
743 F.2d 1114 (5th Cir. 1984), *cert. dismissed*, 474 U.S. 1001 (1985) . . . . . . . . . . 73

*United States v. Brown University*,
5 F.3d 658 (3d Cir. 1993) . . . . . . . . . . *passim*

*United States v. E.I. du Pont De Nemours and Co.*,
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*United States v. Finestone*,
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*United States v. Gasoline Retailers Ass'n.*
285 F.2d 688 (7th Cir. 1961) . . . . . . . . . . 30

*United States v. Gravely*,
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*United States v. Microsoft Corp.*,
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*United States v. Miller*,
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*United S[illegible]es v. Mobile Materials, Inc.*,
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*United States v. Oregon State Med'l Society*,
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*United States v. Portsmouth Paving Corp.*,
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*United States v. Socony Vacuum Oil Co.*,
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*United States v. Trenton Potteries Co.*,
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*United States v. United States Gypsum Co.*,
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United States v. Western Electric Co.,
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Weil v. Long Island Savings,
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Wilk v. American Med. Assoc.,
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Yamaha Motor Corp. v. FTC,
657 F.2d 971 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982) . . . . . . . . . . 36

**FEDERAL STATUTES**

15 U.S.C. § 45 . . . . . . . . . . 1, 81

15 U.S.C. § 45(b) (1997) . . . . . . . . . . 82

**OTHER AUTHORITIES**

ABA Antitrust Section, *Antitrust Law Developments* (4th ed. 1997) . . . . . . . . . . 82

Amihai Glazer, *Advertising, Information and Prices - A Case Study*,
19 ECON. INQUIRY 661 (1981) . . . . . . . . . . 32

*Antitrust Guidelines for Collaborations Among Competitors* (April 2000) . . . . . . . . . . *passim*

Carlton & Perloff, *Modern Industrial Organization* (1994) . . . . . . . . . . 57

H. HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE
(2d ed. 1999) . . . . . . . . . . 26, 28, 50, 52, 57

H. HOVENKAMP, XI ANTITRUST LAW (1998) . . . . . . . . . . 46

H. HOVENKAMP, XII ANTITRUST LAW (1999) . . . . . . . . . . 30, 73

H. HOVENKAMP, XIII ANTITRUST LAW (1999) . . . . . . . . . . 45, 58-59

J. Langenfeld & L. Silvia, *The Federal Trade Commission Horizontal Restraint Cases: An Economic Perspective*, 61 ANTITRUST L.J. 653, 673 (1993) . . . . . . . . . . 32

J. Love & F. H. Stephen, *Advertising, Price and Quality, in Self-Regulating Professions: A Survey*, 3 Int'l J. Econ. Bus. 227 (1996) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 32

P. AREEDA & H. HOVENKAMP, ANTITRUST LAW (2000 Supp.) . . . . . . . . . . . . . . . . . 31, 35, 80, 82

P. AREEDA, VI ANTITRUST LAW (1986) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 18-19, 23

P. AREEDA, VII ANTITRUST LAW (1986) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 27, 41

T. Krattenmaker, *Per Se Violations in Antitrust Law: Confusing Offenses With Defenses*, 77 GEO. L.J. 165, 173 (1988) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 80

T. Muris, *California Dental Association v. Federal Trade Commission: The Revenge of Footnote 17*, 8 S. CT. ECON. REV. 265, 269 (2000) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 31-32, 35

T. Muris, *The Federal Trade Commission and the Rule of Reason: In Defense of Massachusetts Board*, 66 ANTITRUST L.J. 773, 778-79 (1998) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 38

W. FLETCHER, CYCLOPEDIA OF THE LAW OF PRIVATE CORPORATIONS (1999) . . . . . . . . . . . 82

W. Kovacic, *The Identification and Proof of Horizontal Agreements under the Antitrust Laws*, 38 ANTITRUST BULLETIN 5 (1993) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 23

**COMPLAINT COUNSEL'S MEMORANDUM OF LAW**
**IN SUPPORT OF COMPLAINT COUNSEL'S PROPOSED**
**FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER**

Complaint Counsel respectfully submit this post-trial memorandum of law. We request that the Court adopt Complaint Counsel's Proposed Findings of Fact and Conclusions of Law. We request that the Court issue an Initial Decision finding that each of the four respondents – PolyGram Holding, Inc., Decca Music Group Limited, UMG Recordings, Inc., and Universal Music and Video Distribution Corp. – engaged in unfair methods of competition, in violation of Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45, by entering into an unreasonably anticompetitive agreement in and affecting the interstate commerce of the United States. We also request that the Court enter Complaint Counsel's Proposed Order.

**INTRODUCTION AND SUMMARY OF ARGUMENT**

This case involves a collaboration between two record companies, PolyGram and Warner Music Group ("Warner"), to distribute audio and video recordings of a 1998 performance by the world renowned "Three Tenors"– Luciano Pavarotti, Placido Domingo, and Jose Carreras.[1] CPF ¶ 7.[2] The focus of the case is not, however, the joint venture itself. Instead, the litigation focuses

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[1] The four respondents in this case are referred to herein collectively as "Respondents" or "PolyGram." For convenience, we will refer to PolyGram and Warner collectively as "the parties," meaning the parties to the joint venture and to the challenged restraints on competition. However, Warner is not a party to this litigation, having previously entered a consent agreement resulting in settlement of the Commission's claims. Warner Communications, C-4025 (Sept. 17, 2001).

[2] "CPF refers to Complaint Counsel's Proposed Findings of Fact. For other citation conventions, see Complaint Counsel's Proposed Findings of Fact, Explanation of Record References.

on conduct by the joint venture participants falling outside the scope of their venture. The case concerns a side agreement between PolyGram and Warner, reached after the parties entered into their joint venture, to ban price discounts and advertising on their separately-owned pre-existing products (products that were not created by the joint venture): PolyGram's recording of the original Three Tenors concert, released in 1990 ("3T1"), and Warner's recording of a follow-up Three Tenors concert, released in 1994 ("3T2"). CPF ¶ 43.

The Supreme Court has narrowly defined the circumstances in which collaborators may agree not to compete with their jointly produced product and with one another. A horizontal restraint on price competition or other core competitive activities of the collaborators violates the antitrust laws unless the restraint is necessary for the formation or efficient operation of a pro-competitive joint venture.[3] Applying this standard, the restraints on competition entered into by Respondents should be found to violate Section 5 of the FTC Act.

Respondents have stipulated that the "moratorium" on discounting and promotion of non-venture Three Tenors products was not necessary to the formation of the venture. CPF ¶ 295. This is a necessary concession. At the time that PolyGram and Warner entered into the collaboration, they deliberately decided not to restrict the marketing of their separate Three Tenors products. CPF ¶¶ 66-68. Even without the later-adopted moratorium agreement, the 1998 Three Tenors concert would still have been funded by PolyGram and Warner, and the 1998

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[3] *Arizona v. Maricopa County Med. Soc'y*, 457 U.S. 332 (1982); *Broadcast Music, Inc. v. CBS*, 441 U.S. 1 (1979) ("*BMI*"); *NCAA v. Board of Regents*, 468 U.S. 85 (1984) ("*NCAA*"). *Accord Chicago Pro. Sports Ltd. Partnership v. NBA*, 961 F.2d 667 (7th Cir. 1992), *cert. denied*, 506 U.S. 954 (1992); *PolyGram Holding, Inc. et al.*, Order Denying Motion For Summary Decision at 10 (Feb. 26, 2002) (hereinafter "Summary Decision Order") ("[T]he restraint must have been 'necessary' or 'essential' to enable the efficiency-enhancing integration that renders the joint venture procompetitive.").

Three Tenors album ("3T3") would still have been produced by concert promoter Tibor Rudas. CPF ¶ 297.

This leaves for Respondents only the claim that the restraints were necessary for the efficient operation of the venture. Given that in 1994, 3T2 was effectively and successfully marketed without restraining competition from 3T1, what basis is there for the contention that the moratorium was necessary for the efficient marketing of the new Three Tenors recordings? Although Respondents knew that they would have to show that the proffered efficiency rationale was both plausible and valid (*see* Summary Decision Order at 7-11 and cases cited therein), they elected not to call a single witness to explain or defend their actions.

Respondents apparently intend to rely upon the written reports of their "experts" (individuals who did not testify at trial, did not submit to cross-examination, and whose expertise has not been credited by the Court). These experts did not actually examine the market for Three Tenors products, and did not actually opine that the moratorium agreement was necessary for the efficient operation of the PolyGram/Warner venture. Dr. Ordover, an economist, states that, as a matter of economic theory, free riding is a plausible concern when competing firms are selling albums that feature the same artists. Dr. Ordover did not evaluate whether the free-riding hypothesis was valid in connection with Three Tenors products because, in his view, a plausible business justification is alone sufficient to require a full rule of reason analysis of the challenged restraints. CPF ¶¶ 331-333. Dr. Wind, a professor of marketing, suggests in his report, also as a matter of theory, that the coordinated or joint marketing of similar products may lessen confusion. Dr. Wind's testimony was purely theoretical: he did not examine any documents related to this case. CPF ¶ 366. As a result, Dr. Wind could not and did not evaluate: (i) whether

consumers were in fact confused by the availability of multiple Three Tenors products; or (ii) whether 3T3 could have been effectively marketed without the moratorium agreement. CPF ¶ 361.

"Expert testimony is useful as a guide to interpreting market facts, but it is not a substitute for them." *Brooke Group v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993). Where then are the market facts that validate the hypothesized efficiency justifications? Respondents point to the good intentions of the company executives. They assert that business managers at PolyGram and Warner "contemporaneously viewed [the moratorium] as a reasonably necessary measure" to avoid free riding and confusion. Respondents' Trial Brief at 2. What the record actually sh[illegible] is that the business managers were afraid that the new Three Tenors album would lose sales to one of the older Three Tenors recordings. CPF ¶¶ 301-308. This is evidence that the products compete, but not evidence that the parties were unable to market 3T3 effectively in the presence of such competition. As one PolyGram executive noted, record company executives are always concerned about losing sales and achieving sales objectives. "There was not any difference on this one." Cloeckaert Dep. (JX97) 42:17-43:3.

It is commonplace to find that one product may benefit from advertising for a competing product. CPF ¶¶ 312-316. Concern about losing sales does is not sufficient to establish the elements of a free-riding defense: (1) Respondents have not shown that, absent the challenged restraints, free riding was likely to have the effect of eliminating or even substantially curtailing the venturers' advertising in support of 3T3. (2) Respondents have not shown that PolyGram (the beneficiary of sales of 3T1) and Warner (the beneficiary of sales of 3T2) were unable jointly to fund advertising in support of 3T3. (3) Respondents have not shown the absence of other, less

restrictive alternatives: most obviously, as the evidence indicates that any free-riding problem was located only in Europe, the moratorium on discounting and advertising could have been limited to Europe as well. *See* Section VII, *infra*.

Warner successfully launched and marketed 3T2 without a restraint on 3T1, and in calendar year 2000 Sony released its Three Tenors album without a restraint on any of the earlier Three Tenor recordings. CPF ¶¶ 317-322. Respondents point to no contemporaneous business documents nor any market experience to suggest that 3T3 could not be marketed effectively without the restraints. The record does not establish a legitimate efficiency justification. Instead, it demonstrates the parties' recognition that the 3T3 project would be more profitable for PolyGram and Warner wit[illegible]nts on competition than if the firms were required to compete.

Respondents' argument that Complaint Counsel is required to define the relevant market, assess market shares, evaluate barriers to entry, and examine price and output effects, must therefore be rejected. The Three Tenors moratorium agreement may be condemned on the basis of a more abbreviated rule of reason analysis, a mode of analysis developed by the Supreme Court in *BMI*, *NCAA*, and *IFD*, and confirmed most recently in *CDA*. Each of these cases stands for the proposition that an antitrust court may condemn inherently anticompetitive restraints without a finding of actual adverse effects, where there is no plausible and valid efficiency justification for the challenged conduct. The framework for such analysis is summarized by the Court of Appeals in *United States v. Brown University*, 5 F.3d 658, 669 (3d Cir. 1993) (citations omitted):

> The abbreviated rule of reason . . . applies in cases where per se condemnation is inappropriate, but where "no elaborate industry analysis is required to demonstrate the anticompetitive character" of an inherently suspect restraint. Because

> competitive harm is presumed, the defendant must promulgate "some competitive justification" for the restraint, "even in the absence of detailed market analysis" indicating . . . increased costs to the consumer resulting from the restraint. If no legitimate justifications are set forth, the presumption of adverse competitive impact prevails and "the court condemns the practice without ado." If the defendant offers sound procompetitive justifications, however, the court must proceed to weigh the overall reasonableness of the restraint using a full-scale rule of reason analysis.

*See also In re: Massachusetts Bd. of Registration in Optometry*, 110 F.T.C. 549, 604 (1988) ("*Mass. Board*").

Under the truncated analysis, in addition to addressing Respondents' efficiency defenses, the Court must resolve two other issues. (1) Did PolyGram and Warner agree not to discount and not to advertise Three Tenors [illegible]? (2) Are these agreements presumptively anticompetitive?

The evidence demonstrating the existence of the challenged agreement (the mutual exchange of assurances) can fairly be described as overwhelming. The only two fact witnesses to testify at trial, Anthony O'Brien of Warner and Rand Hoffman of PolyGram, admitted the existence of the Three Tenors moratorium agreement. Beyond this, numerous internal, contemporaneous documents evidence the Three Tenors moratorium: PolyGram's offer is set forth in three separate letters; Warner's acceptance is memorialized in e-mail messages and a file memorandum; a slew of internal memoranda refer to, acknowledge, and describe the agreement. *See* Section I, *infra*.

The anticompetitive nature of the restraints is equally straightforward. An agreement not to discount is a form of price fixing; price fixing has consistently been viewed as the paradigm of an inherently anticompetitive restraint. Horizontal agreements to forgo all advertising, including

price advertising, are likewise understood by courts and by economists (including Respondents' expert economist) as having significant anticompetitive potential. As detailed herein, antitrust case law, economic theory, empirical research, and the trial record support a finding that the two challenged restraints are inherently likely to result in anticompetitive effects, absent an efficiency justification. *See* Section II, *infra*.

As outlined above (and detailed in this memorandum), Respondents' efficiency defenses are factually and legally deficient. *See* Sections III-IX, *infra*. Respondents fall back then to the erroneous and irrelevant contention that the parties never actually implemented the Three Tenors moratorium. Respondents are simply playing with words. Respondents acknowledge (and O'Brien testified) that PolyGram and Warner conformed their conduct to the terms of the moratorium. That is, during the moratorium period (August 1 through October 15, 1998), PolyGram and Warner did not discount or advertise 3T1 and 3T2 in the United States. CPF ¶¶ 196-210.

What then is the meaning of Respondents' claim that PolyGram and Warner did not implement the moratorium? According to Respondents, PolyGram decided to withdraw from the moratorium, and the record companies would not have discounted or advertised 3T1 and 3T2 even absent the moratorium. From the standpoint of assessing Section 5 liability, this is entirely meaningless. The claim that PolyGram withdrew from the moratorium agreement fails both because withdrawal is not a valid defense, and because the purported withdrawal was never communicated to Warner. The additional contention that, in the United States, PolyGram and Warner had unilateral incentives to avoid discounting and advertising of 3T1/3T2 also does not excuse the companies' concerted action: entering into an agreement to adhere to this strategy.

*See* Section X, *infra*.

Finally, Respondents' claim that the moratorium agreement was adopted "in the context of" a legitimate joint venture falls well short of the showing necessary to trigger a plenary market analysis. Contrary to Respondents' view, restraints ancillary to a joint venture are often analyzed under the abbreviated rule of reason.[4] The relevant issue is not whether a restraint accompanies a legitimate collaboration, but whether the challenged restraint is necessary to achieve a cognizable pro-competitive purpose.[5] The elimination of the pre-existing competition between PolyGram and Warner was not necessary to the formation or efficient operation of the 3T3 collaboration. *See* Section III, *infra*. Accordingly, the moratorium on competition violates the antitrust laws.

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[4] *See NCAA*, 469 U.S. at 85 (suspect restraints adopted by legitimate joint venture condemned on the basis of abbreviated antitrust analysis); *Law v. NCAA*, 134 F.3d 1010, (10th Cir. 1998) (same), *cert. denied*, 525 U.S. 822 (1998); *Chicago Prof. Sports*, 961 F.2d at 667 (same); *General Leaseways v. Nat'l Truck Leasing Ass'n*, 744 F.2d 588, (7th Cir. 1984) (same).

[5] *BMI*, 441 U.S. at 23 (declining to apply *per se* analysis to ancillary price restraint where "the agreement on price [was] necessary to market the product at all") (emphasis added). *See also Antitrust Guidelines for Collaborations Among Competitors Issued by the Fderal Trade Commission and the U.S. Department of Justice*, ¶ 3.2 (April 2000) ("*Collaboration Guidelines*") (an otherwise *per se* restraint "that is reasonably related to the integration and reasonably necessary to achieve its procompetitive benefits" is subject to more thorough rule of reason review).

## STATEMENT OF FACTS

### A. PolyGram and Warner Acquire Distribution Rights to Competing Three Tenors Products

The Three Tenors is a musical joint venture consisting of renowned opera singers Luciano Pavarotti, Placido Domingo, and Jose Carreras. CPF ¶ 7. During the 1990s, The Three Tenors released three paired audio and video recordings, each derived from a live concert at the site of the World Cup final game, and each a mix of operatic arias and popular standards. CPF ¶ 7-8.

The Three Tenors first performed together at the Baths of Caracella in Rome during the summer of 1990. CPF ¶ 32. PolyGram acquired the right to distribute audio and video recordings of the concert. CPF ¶ 33. Sales of the 1990 Three Tenors album ("3T1") substantially exceeded PolyGram's expectations, and in fact 3T1 became the best selling classical record of all time. CPF ¶ 34.

In 1994, the Three Tenors planned a second World Cup performance at Dodger Stadium in Los Angeles. CPF ¶ 35. Concert promoter Tibor Rudas offered PolyGram the opportunity to license the rights to the concert. CPF ¶ 36. When PolyGram and Rudas were unable to agree upon terms, Rudas authorized Warner to distribute audio and video recordings derived from the 1994 Three Tenors concert ("3T2"). CPF ¶ 37.

PolyGram did not sit back and permit the release of Warner's new album to eclipse its own top-selling Three Tenors recording. CPF ¶ 243. In response to the release of 3T2, PolyGram promoted the message that 3T1 was the "original" Three Tenors recording – "unique and unrepeatable." CPF ¶ 244. In several territories, PolyGram marketed 3T1 at a substantially

discounted price, several dollars below the price of Warner's 3T2. CPF ¶¶ 247-254.

Warner anticipated competition from PolyGram (3T1), and supported the release of 3T2 with a "high-power pop marketing effort." CPF ¶¶ 235, 237. Warner operating companies were told to stress that the 1994 album is the genuine article, the real thing: "We alone will have the actual repertoire from the [1994] concert, including the unique medleys." CX249 at 3TEN00011254-00011255; CPF ¶ 236. Warner advertised the new album in newspapers and magazines, on television and billboards, and with elaborate in-store displays. CPF ¶ 238. Warner offered retailers discounts on 3T2, and worked to secure prominent placement for the album within music stores. CPF ¶¶ 239-240. A PolyGram executive described Warner's marketing of 3T2 as "the most impressive campaign I have seen in my days." Hidalgo Dep. (JX88) 46:15-47:10; CPF ¶ 237. Competition from PolyGram notwithstanding, the 3T2 project was considered to be a commercial success within Warner. CPF ¶ 255. Notably, the market functioned well even though Warner did not seek or secure a moratorium on competition. CPF ¶ 233.

During 1996 and 1997, the Three Tenors participated in a worldwide tour, including concerts in Tokyo, London, Munich, New York, Johannesburg, and Melbourne. CPF ¶ 257. Neither Warner nor PolyGram had any financial involvement in the tour, but both firms capitalized on the opportunity to drive sales of their respective Three Tenors products. CPF ¶ 257. PolyGram again offered 3T1 at a significantly discounted price in many markets. CPF ¶ 258. In addition, PolyGram released a World Tour Commemorative Edition of the 1990 concert, digitally re-mastered on a gold CD. CPF ¶ 259. By way of counter-strategy, Warner's marketing campaign emphasized the virtues of 3T2 ("It is critical that local markets ensure that our

advantages of [identical] logo, more recent launch, repertoire links etc. are fully exploited . . ."), and downplayed the benefits of PolyGram's offering ("The digital re-mastering will be detectable by very few . . . The so called 'Gold' disc is almost certainly not real gold."). CPF ¶ 263.

Consumers benefitted from the price discounts, promotions, and product enhancements that flowed from this unrestrained competition. At the time of the world tour, PolyGram assured concert promoter Tibor Rudas that the rivalry between Warner and PolyGram would overall be beneficial for the Three Tenors as well:

> Warner and we [PolyGram] will fight head on for every inch of advantage we could possibly gain over each other in exploiting the 3T tour with our respective product. Fair enough, competition is goo[illegible] business . . . . Nevertheless, be assured the competition will be lively and the whole project will greatly benefit from it.

CPF ¶ 265; CX309. PolyGram and Warner also had little reason to complain about this competition. Each of the Three Tenors albums was among the best-selling classical recordings in the United States in 1994, 1995, 1996, and 1997. CPF ¶ 267.

### B. PolyGram and Warner Agree to Collaborate on the 3T3 Project

During 1996, Tibor Rudas approached PolyGram and Warner separately to discuss the next Three Tenors project, a huge open-air concert in front of the Eiffel Tower scheduled to coincide with the World Cup finals in Paris in July 1998. CPF ¶ 56.

In the spring of 1997, the Chairman of Atlantic Recording Corp. (a Warner subsidiary based in the U.S.) met with his counterpart at PolyGram "to ask that PolyGram allow Luciano

Pavarotti to record the project for [Warner]."[6] CPF ¶ 60. PolyGram responded with an offer of its own: Warner and PolyGram should share financial and operational responsibility, profits, and losses for the 1998 Three Tenors project. CPF ¶ 61.

Warner then sub-licensed to PolyGram the right to exploit the 3T3 Rights in all territories outside the United States. CPF ¶¶ 64-65. Thus, Warner was responsible for distributing the new album and video in the United States, and PolyGram was responsible for distribution elsewhere in the world. The parties also agreed:

- that Warner and PolyGram would eac[illegible]ve 50 percent of the net profits and losses derived from the exploitation of the 3T3 Rights (as well as from the production of a Greatest Hits album and/or a Box Set incorporating the 1990, 1994, and 1998 concerts);
- that PolyGram would reimburse Warner for 50 percent of the $18 million advance paid to Rudas; and
- that other expenses incurred by either party in the exploitation of the 3T3 Rights (*e.g.*, manufacture, distribution, and marketing) would be deducted from revenues for purposes of calculating net profits (in effect, such expenses would be shared by Warner and PolyGram on a 50/50 basis).

CPF ¶ 65.

[6] Throughout the 1990s, Pavarotti was under exclusive contract with PolyGram. CPF ¶ 60. In 1994, PolyGram had waived its exclusive rights, thus permitting Pavarotti to record 3T2 for Warner. CPF ¶ 38. At this meeting, Warner was seeking a similar arrangement for 3T3. CPF ¶ 60.

The final collaboration agreement, dated December 19, 1997, provides that PolyGram and Warner shall each be free separately to exploit its older Three Tenors recordings. CPF ¶ 67-68.

A second critical issue negotiated among PolyGram, Warner, and Rudas was control over the repertoire for the 1998 Three Tenors concert and album. PolyGram and Warner recognized that the success of the new Three Tenors album was tied to the repertoire. CPF ¶ 71. The record companies wanted to be sure that the repertoire would be "distinctive," and that it would not repeat selections from the earlier Three Tenors recordings. CPF ¶ 71. Both PolyGram and Warner proposed to Rudas that the record companies should have the right to designate or approve a significant part of the repertoire to be performed and recorded at the Paris concert. CPF ¶ 72. Rudas insisted that he and the artists should control the choice of songs. CPF ¶ 73. In the end, PolyGram and Warner agreed to forgo the right to approve the selection of repertoire, though they recognized the risk that this could lead to an album "with little commercial appeal." CPF ¶¶ 74-77.

During 1998, PolyGram and Warner continued to be concerned that their new Three Tenors album would be neither as original nor as commercially appealing as the 1990 and 1994 releases. CPF ¶ 78. Various marketing strategies were considered to create a unique identity for 3T3. CPF ¶ 79-83. Rudas assured the music companies that the album recorded in Paris would consist of selections not appearing on the earlier Three Tenors albums. CPF ¶ 84-85. The record companies decided that the all new repertoire would be a key selling point. CPF ¶ 86. PolyGram

and Warner were also in agreement that the packaging for 3T3 "must be as different as possible from the two previous releases." CPF ¶ 83.

### C. The Three Tenors Moratorium Agreement

At a meeting of PolyGram and Warner representatives held in New York in March 1998, the moratorium was born: PolyGram and Warner agreed not to discount or advertise 3T1 or 3T2 audio and video products in the weeks surrounding the release of the new recording. CPF ¶ 99-105. The agreement was motivated by a mutual recognition that competition from the older Three Tenors products could reduce the sales and profitability of the new Three Tenors release. CPF ¶¶301-306. This concern was explained at trial by Warner executive Anthony O'Brien: Absent the restraints, consumers "may start comparing the re[illegible]e along with the price and make a determination that, you know, the '94 concert is just fine for a few dollars less." O'Brien 487:10-13. (Concerns about the effect of 3T1 and 3T2 upon the effective marketing of 3T3 did not emerge until much later, with the initiation of the FTC investigation.)

In April 1998, PolyGram instructed its distribution companies around the world (operating companies or "opcos")[7] that, pursuant to an agreement with Warner, aggressive marketing campaigns in support of 3T1 should terminate by the end of July. CPF ¶ 116. Paul Saintilan (Senior Marketing Director, PolyGram) notified Warner of PolyGram's actions. CPF ¶¶ 117-122. Later, PolyGram became concerned that the moratorium would not be implemented by Warner. CPF ¶¶ 128-131, 136-137. PolyGram instructed its operating companies that if, following the release of 3T3, Warner was discovered discounting 3T2 in a particular market, then

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[7] Both PolyGram and Warner distribute their products through a network of affiliated operating companies responsible for sales within a particular country or region. CPF ¶ 27.

the PolyGram opco was free to retaliate by discounting and promoting 3T1. CPF ¶¶ 138-139.

### D. PolyGram and Warner Learn that the Repertoire for the 1998 Concert May Not Be Original

In mid-June 1998, Rudas informed PolyGram and Warner of the intended repertoire for the upcoming Three Tenors concert. CPF ¶ 143. Both music companies were alarmed to learn that, contrary to earlier promises, the repertoire would include several compositions that were also included on 3T1 and/or 3T2. CPF ¶¶ 143-144. This development threatened to jeopardize the success of the 1998 album. According to Warner executive Anthony O'Brien:

> [T]he problem that we had was that The Three Tenors [are] perhaps three of the laziest performers we have ever seen performing this type of music, and what we were hoping for, when we were making the '98 concert, was to have new and exciting repertoire. And they're not particularly given to [illegible] learning new arias, and so Nessun Dorma would come back again, or maybe Carreras would sing one of the Pavarotti songs or vice versa. And so although the album was different . . . it wasn't, perhaps, quite as new and exciting as we had hoped it to be.

O'Brien I.H. (JX101) 74:2-16. On several occasions from mid-June through to the date of the live performance in July, PolyGram and Warner expressed to Rudas their dissatisfaction with the intended repertoire. CPF ¶ 145.

### E. PolyGram and Warner Reaffirm the Moratorium Agreement

On June 25, 1998, Anthony O'Brien (Warner) and Paul Saintilan (PolyGram) discussed by telephone their mutual desire to re-enforce the moratorium. CPF ¶¶150-151. Once again they affirmed that, in the United States, 3T1 and 3T2 would not be discounted or advertised in the weeks following the release of 3T3 (scheduled for August 10, 1998). CPF ¶ 151. O'Brien assured Saintilan that he would speak with other Warner executives about implementing the moratorium on a worldwide basis as well. CPF ¶ 152.

On July 2 and July 10, 1998, Saintilan (PolyGram) provided O'Brien (Warner) with letters clarifying the terms of the moratorium, and seeking assurance that Warner would comply in all markets. CPF ¶¶ 154-160. O'Brien conferred with executives from Warner's international distribution operation and secured their assent to the scheme. CPF ¶¶ 161-163. Thereafter, O'Brien notified Saintilan that Warner would adhere to the moratorium on a worldwide basis. CPF ¶ 164. In mid-July 1998, PolyGram and Warner issued written directives to their respective operating companies instructing that all discounting, advertising, and promotion of 3T1/3T2 was prohibited from August 1, 1998 through October 15, 1998. CPF ¶¶ 161-163, 166-167.

### F. The Ineffectual Intervention of PolyGram and Warner Attorneys

In late July 1998, after the Paris concert but prior to the release of 3T3, lawyers for PolyGram and Warner became involved with the moratorium issue. Paul Saintilan forwarded to PolyGram's General Counsel his documents relating to the Three Tenors moratorium – and then proceeded to "delete" such documents from his files. CPF ¶¶ 169-170. On July 30, 1998, Saintilan forwarded a memorandum to PolyGram operating companies denying the existence of an agreement between PolyGram and Warner to restrict competition. CPF ¶¶ 171-172. The memorandum is careful, however, to discourage any price discounting on 3T1. CPF ¶173.

Attorneys for the two record companies reviewed a draft letter from O'Brien (Warner) to Saintilan (PolyGram) purporting to reject the moratorium agreement <u>for non-U.S. markets</u>. CPF ¶¶ 177-179. On August 10, 1998, O'Brien signed the letter and forwarded it to Saintilan. CPF ¶178. Shortly thereafter, O'Brien telephoned Saintilan. CPF ¶180-181. O'Brien informed Saintilan that he (O'Brien) had been requested by counsel to send the August 10 letter. CPF ¶¶ 180-181. O'Brien further informed Saintilan that the August 10 letter notwithstanding, Warner

still intended fully to comply with the moratorium agreement on a worldwide basis. CPF ¶¶ 180-181. O'Brien's understanding was that PolyGram likewise intended to comply with the moratorium agreement. CPF ¶¶ 182-186. O'Brien testified that he "received no communication from PolyGram indicating that they – that they would be breaching the agreement." CPF ¶¶ 184.

### G. **PolyGram and Warner Implement the Moratorium Agreement**

No PolyGram representative communicated to Warner an intention to withdraw from the moratorium agreement. CPF ¶¶ 184-186. The August 10 letter from O'Brien (Warner) to Saintilan (PolyGram) purported to reject the moratorium, but the letter was later countermanded by O'Brien. CPF ¶180.

Warner and PolyGram both complied with the moratorium agreement in the United States. CPF ¶¶ 196-204. Between August 1, 1998 and October 15, 1998, neither Warner nor PolyGram discounted its respective catalogue Three Tenors products in the United States. CPF ¶¶ 197, 199-200. Between August 1, 1998 and October 15, 1998, neither Warner nor PolyGram funded advertising for 3T1/3T2 in the United States. CPF ¶¶ 198, 202.

Both Warner and PolyGram substantially complied with the moratorium agreement outside of the United States as well. CPF ¶¶206-211.

By memo dated October 26, 1998, Warner notified its operating companies that the moratorium on discounting older Three Tenors products was no longer in effect. CPF ¶215. With the expiration of the moratorium agreement, Warner anticipated that PolyGram would "now discount [3T1] heavily." CPF ¶ 216.

## ARGUMENT

### I. PolyGram and Warner Agreed to a Moratorium on Competitive Activity

PolyGram and Warner agreed that each would forgo discounting and advertising for its catalogue Three Tenors products. The evidence of such agreement is abundant, clear, and unrebutted.

An antitrust plaintiff may prove the existence of a contract, combination, or conspiracy by providing either direct or circumstantial evidence sufficient to "warrant a . . . finding that the conspirators had a unity of purpose or a common design and understanding, or a meeting of the minds in an unlawful arrangement." *American Tobacco Co. v. United States*, 328 U.S. 781, 810 (1946).[8] Here, there is direct evidence of an agreement between PolyGram and Warner to restrict discounting and advertising for 3T1 and 3T2, including: (i) the testimony of key participants involved in negotiating and planning for the moratorium; and (ii) contemporaneous memoranda and correspondence that acknowledge, refer to, and describe the moratorium agreement.[9]

#### A. The Principal Actors Have Admitted to the Moratorium Agreement

A leading antitrust treatise cautions that "price-fixers and similar miscreants seldom admit their conspiracy . . ."[10] This case then is the exception to the rule: concerted action is

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[8] *See also* P. AREEDA, VI ANTITRUST LAW ¶ 1410c at 67 (1986) ("[W]e know what we are looking for: some level of commitment to a common course of action. The fact-finder may be perplexed by the evidence, but his reasoning will not be confused if he keeps in mind that he is looking for a traditional agreement.")

[9] Direct evidence of a conspiracy, although not essential, is generally considered "the most compelling means by which a plaintiff can make out his or her claim." *Rossi v. Standard Roofing, Inc.*, 156 F.3d 452, 465, 468 (3d Cir. 1998).

[10] P. VI AREEDA, ANTITRUST LAW ¶ 1400 at 4 (1986).

admitted by the principal actors.

Two fact witnesses testified at trial, and both admitted the existence of the Three Tenors moratorium. Anthony O'Brien, Executive Vice President and Chief Financial Officer of Atlantic, acknowledged entering into the moratorium agreement on behalf of Warner. CPF ¶ 45. Rand Hoffman, Senior Vice President of PolyGram Holding, confirmed that he was aware of the moratorium agreement during 1998, and that he complained to Warner when he learned that Warner was discounting 3T2 in violation of this pact. CPF ¶ 46.

Paul Saintilan was PolyGram's principal liaison with Warner with regard to the moratorium. At his deposition, Saintilan -- like O'Brien and Hoffman – confirmed the existence of the moratorium agreement. CPF ¶ 47.

### B. The Moratorium Agreement Is Evidenced by Contemporaneous Documents

An antitrust conspiracy may also be proven through internal corporate documents that evidence a mutual exchange of commitments to a common course of action, or that refer to or acknowledge the existence of such agreement.[11]

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[11] *E.g., Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 766 (1984); *Blue Cross & Blue Shield United v. Marshfield Clinic*, 65 F.3d 1406, 1415-1416 (7th Cir. 1995), *cert. denied*, 516 U.S. 1184 (1996); *Hobart Brothers Co. v. Malcolm T. Gilliland, Inc.*, 471 F.2d 894, 900 (5th Cir. 1973), *cert. denied*, 412 U.S. 923 (1973). *See also* P. AREEDA, VI ANTITRUST LAW ¶ 1418a at 106 (1986) ("The most straightforward indication of a traditional conspiracy is a participant's direct acknowledgment that a conspiracy exists. The files of alleged conspirators may contain a copy of 'the agreement' itself or a reference to it.").

In *Marshfield Clinic*, plaintiff alleged an agreement between two HMO's – Marshfield Clinic and North Central – to divide markets. The principal evidence of concerted action was a document authored by an executive of Marshfield Clinic observing that "some years ago physicians affiliated with the NCHPP 'wished to establish a practice in [the town of] Marshfield and we took the position that [our referral agreement] did not support that activity' – and they backed off." 65 F.3d at 1416. In an opinion authored by Judge Posner, the Court of Appeals for the Seventh Circuit concluded that the above-quoted document was "pretty strong evidence," and

The original agreement to restrict competition is evidenced by two sets of notes from the March 10, 1998 marketing meeting – one prepared by PolyGram and the other by Warner.[12] Later in the year, Paul Saintilan again communicated to Warner PolyGram's commitment to the Three Tenors moratorium orally at first, but also in a series of letters dated July 2, 1998[13] and July 10, 1998.[14] Warner's reciprocal commitment to the scheme was communicated to Saintilan via telephone by Anthony O'Brien. O'Brien's verbal communications were memorialized by O'Brien in a handwritten note,[15] and by Paul Saintilan in a pair of e-mail messages to senior executives at PolyGram.[16]

PolyGram and Warner documents refer again and again to the moratorium – not as a

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was sufficient to sustain a jury verdict finding a market division agreement.

[12] JX5 at UMG001527; CX388 at 3TEN00008009; CPF ¶¶ 101-103.

[13] JX9-A; JX9-E ("[T]o protect our massive joint investment, we believe in the principle of a worldwide moratorium on discounting and promoting the previous albums to create a window for the new release . . . . This is all clearly dependent upon Warners fully reciprocating and provide the undertakings in such a way that we have complete confidence that they will be enforced.").

[14] JX1-A-B ("As discussed, we fully support a moratorium on the above albums which we strongly believe will be to our mutual benefit . . . . The basis of this agreement is one of reciprocation, and if we receive co-operation and transparency from Warners we will fully reciprocate.").

[15] JX2 (July 13, 1998) ("Discussed proposed moratorium on pricing and promoting 90 & 94 with [WMI President] Ramon Lopez and [Atlantic Co-Chairman] Val [Azzoli], and Ramon agreed to comply . . . I advised PolyGram of this . . .").

[16] JX74 (July 10, 1998) ("Tony phoned me this morning to say that Atlantic have finally received agreement from Ramon Lopez at Warners that he is prepared to enforce a moratorium throughout Warners. They want to finalize the precise nature of the agreement . . ."); JX3 (July 13, 1998) ("Tony O'Brien advised today that Ramon Lopez has issued the directive through Warners that they will observe the moratorium from August 1 through to October 15.").

proposed strategy under review, but as a mutually ratified course of action.[17] These documents establish beyond serious dispute an agreement between PolyGram and Warner to restrict discounting and advertising of Three Tenors products.

### C. Alleged Ambiguity Does Not Negate the Existence of Concerted Action

Witness testimony and documentary evidence confirm that PolyGram and Warner exchanged assurances that each would observe a moratorium on competitive activity. The precise terms of the Three Tenors moratorium developed over time. Whereas some documents identify the last day of the moratorium period as October 15, 1998, others specify November 15, 1998. Respondents suggest that this inconsistency requires a finding that the moratorium was never tru[illegible] [illegible]nalized." This argument is wrong on the facts and wrong on the law.

The "finality" of the moratorium agreement is evidenced first by the fact that in mid-July 1998 both PolyGram and Warner distributed memoranda to their respective operating companies directing the opcos to cease promoting older Three Tenors products and to comply with the

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[17] *E.g.*, PolyGram documents: JX5 at UMG001527 ("Agreement that a big push on catalogue shouldn't take place before November 15."); JX40 ("To keep in line with an agreement laid down with Atlantic and [PolyGram Classics President] Chris Roberts, we should not encourage any promotion of the original album from the day of release of the new album (probably in-store August 10) for a period of around 6 weeks."); JX43 at UMG000479 ("Following further discussions with Warners regarding the joint marketing of the 1998 "3 Tenors" album, it is now felt that we should avoid any aggressive <u>price campaigns</u> on the 1st '3 Tenors' album."); JX34 ("[PolyGram Classics President Chris Roberts] has asked me to ensure Atlantic complies with the moratorium we're imposing on the previous two albums.").

Warner documents: JX73 ("The previously advised period of the Three Tenors mid price campaign has changed . . . . This decision is in line with an agreement with PolyGram."); CX204 ("We are now approaching the end of the mid price moratorium on the last Three Tenors album; if you remember, PolyGram and we agreed to hold back on the mid price campaign until October 15."); CX462 ("[T]he banning of discounts is now over . . . . Probably means that PolyGram will now discount heavily.").

moratorium. CPF ¶¶ 163, 167. The two memoranda from ostensibly rival companies include virtually identical instructions (identifying the moratorium period as August 1 to October 15):

> PolyGram (JX4)
>
> We now seek to re-enforce the moratorium on PolyGram's side, from August 1 to October 15, on a worldwide, not simply European basis. The moratorium prohibits price discounting, advertising and promotion of the 1990 album and video during this period. The only permitted exceptions are the legal obligations to retailers mentioned above.
>
> Should you find any evidence of Warners failing to comply with this agreement after August 1, please contact me providing as much evidence as possible.
>
> Warner (CX201)
>
> The previously advised period of the Three Tenors mid price campaign has chang... This campaign must now finish July 31st. No further discounting or new marketing activities which are not already in place may occur between August 1st and October 15th . . . . Some territories have legal obligations to notify retail of the finite nature of this lower price campaign. Naturally, until July 31st we are free to pursue our existing marketing efforts on both audio and video.

Warner was concerned that entering into a formal, written agreement may lead to antitrust liability.[18] In lieu of a formal contract, Saintilan (PolyGram) reviewed Warner's directive to the Warner operating companies and was satisfied that it "complied perfectly" with the terms of the moratorium agreement that he had negotiated.[19]

The "finality" of the moratorium is further evidenced by internal Warner documents establishing that, between August 1 and October 15, 1998, Warner managers believed that they were constrained from discounting 3T2 on account of the company's agreement with PolyGram.

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[18] JX3 ("[WMI President Ramon] Lopez does not want to make any sort of detailed agreement with us [PolyGram] as this may constitute anti-competitive behaviour, and instead believes that they should police us, and we should police them.").

[19] JX4 at UMG000207.

CPF ¶¶212-216. Any ambiguity in the terms of the moratorium was thus resolved by the parties before 3T3 was released.[20]

In any event, Complaint Counsel is not obligated to prove that the terms and conditions of the moratorium agreement were defined by the parties with perfect clarity. For purposes of antitrust enforcement, even a vague or imprecise understanding between competitors is a sufficient basis for finding concerted action. As Professor Areeda explains:

> [T]here will be an agreement for antitrust purposes even though the challenged agreement falls short of forming a contract because, for example . . . offer and acceptance are not fully in accord, or the understanding is too vague to allow a court to enforce it (even if it were not illegal). This conclusion needs no elaborate citations here because it is implicit in virtually all the cases inferring agreement from conduct . . .[21]

The mutual understanding reached by PolyGram and Warner in March 1998 (that each would forgo discounting and promotion of 3T1 and 3T2) is more than sufficient to constitute an agreement under Section 5, even though additional minor details of the agreement were prescribed later in the year. *Cf. United States v. Socony Vacuum Oil Co.*, 310 U.S. 150, 254 (1940) (finding criminal violation of Section 1 where major oil companies formed an informal "gentlemen's agreement" to purchase an unspecified quantity of "distress" oil from smaller

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[20] At trial, a Warner witness (Anthony O'Brien) and a PolyGram witness (Rand Hoffman) each described his understanding of the terms of the moratorium. Even as related four years after the fact, the two descriptions of the moratorium were entirely consistent. Both witnesses understood the moratorium as permitting small discounts on 3T1 and 3T2, but prohibiting discounts sufficiently large as to induce retailers to cut their own prices. CPF ¶¶ 50, 52-53.

[21] P. AREEDA, VI ANTITRUST LAW ¶ 1404 at 19 (1986). *See also* W. Kovacic, *The Identification and Proof of Horizontal Agreements under the Antitrust Laws*, 38 ANTITRUST BULLETIN 5, 16-17 (1993) ("Objective manifestations of commitment to a scheme (evenly a vaguely defined course of action), provided through oral assurances, physical behavior, or performance of a requested act will suffice to establish a contract, combination, or conspiracy for section 1 purposes.").

suppliers).

## II. The Challenged Restraints Are Presumptively Anticompetitive

Certain categories of restraints almost always tend to raise price or reduce output; the presumptively anticompetitive effect of such agreements are "intuitively obvious." *California Dental Ass'n v. FTC*, 526 U.S. 756, 781 (1999) ("*CDA*"); *NCAA v. Board of Regents*, 468 U.S. 85, 110 (1984); Summary Decision Order at 8. Where such an agreement is proven, likely anticompetitive effects are presumed and the burden shifts to the defendant to demonstrate a countervailing efficiency sufficient to overcome the presumption. *CDA*, 526 U.S. at 771 (1999); *NCAA*, 468 U.S. at 113; Summary Decision Order at 7.[22]

Parroting [illegible] successful motion for summary decision, Respondents continue to assert that whenever a restraint is not *per se* unlawful, liability must be based upon a finding of actual anticompetitive effects. Respondents' Trial Brief at 12 ("There is no presumption of anticompetitive effects in any rule of reason case . . ."). This argument ignores a generation of antitrust cases that have crafted and applied "what has come to be called abbreviated or 'quick-look' analysis under the rule of reason." *CDA*, 526 U.S. at 770.[23] Although Respondents cite *CDA* as a rejection of abbreviated antitrust review, in fact the Supreme Court's opinion took care

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[22] On the other hand: "If the restraint has no clear anticompetitive potential, then a more extended consideration of its market implications is required, including perhaps a 'plenary market examination' of market definition and market power." Summary Decision Order at 6 (citations omitted).

[23] *See, e.g.*, *BMI*, 441 U.S. 1 (1979); *NCAA*, 468 U.S. 85 (1984); *F.T.C. v. Indiana Federation of Dentists*, 476 U.S. 447 (1986); *Continental Airlines v. United Airlines*, 277 F.3d 499, 508-510 (4th Cir. 2002); *Law*, 134 F.3d at 1019-1020; *Brown University*, 5 F.3d at 669; *Chicago Prof'l Sports*, 961 F.2d at 674; *General Leaseways v. Nat'l Truck Leasing Ass'n*, 744 F.2d 588, 595 (7th Cir. 1984); *In re: Detroit Auto Dealers*, 111 F.T.C. 417, 493 (1987); *Mass. Board*, 110 F.T.C. at 603-604; *Collaboration Guidelines*.

to endorse abbreviated analysis for those cases where "an observer with even a rudimentary understanding of economics could conclude that the arrangements in question would have an anticompetitive effect on customers and markets." *Id.* It is now settled law that in evaluating horizontal restraints, courts are not limited to the two traditional, and polar opposite, modes of analysis: *per se* condemnation and full-blown rule of reason review. Rather, in cases (like this one) involving restraints that raise "obvious" concerns of potential anticompetitive effects, courts should consider the merits of the proffered efficiency justifications in advance of conducting a market analysis.

Upon determining that the proffered justifications are either implausible on their face or invalid in view of the [illegible] facts, the presumptively anticompetitive restraint should be condemned by the court, without assessing market power or examining actual anticompetitive effects. *Id.* at 779; *Brown University*, 5 F.3d at 673 ("[I]f an abbreviated rule of reason analysis always required a clear evidentiary showing of a detrimental effect on price, output, or quality, it would no longer be abbreviated . . . . This is because proof of actual adverse effects generally will require the elaborate, threshold industry analysis that an abbreviated inquiry is designed to obviate.").

The proposition that certain categories of restraints are properly presumed to be anticompetitive was most clearly established by the Supreme Court in *NCAA*. In that case, the Court evaluated price and output restrictions affecting the telecast of college football games. In the context of an otherwise legitimate joint venture, the Court endorsed the principle that underpins all abbreviated antitrust analysis: "As a matter of law, the absence of proof of market power does not justify a naked restriction on price or output . . . . This naked restraint on price

and output requires some competitive justification even in the absence of a detailed market analysis." *NCAA*, 468 U.S. at 109-110 (emphasis added). The Court went on to evaluate and reject the NCAA's efficiency justifications, finding that they were plausible but unsupported by the evidence (*i.e.*, invalid).[24]

The first task then is to determine whether the agreements between PolyGram and Warner to forgo discounting and advertising fall within a category of restraints that is likely, absent an efficiency justification, to lead to higher prices or reduced output.[25] The Court's assessment of whether a category of restraints is inherently likely to be anticompetitive should be guided by common sense, legal precedent, and economic theory and research.[26] The Court should also consider record evidence o[illegible]her the practices being restrained would otherwise constitute an

[24] A restraint is "naked" if its purpose or likely effect is to increase price or reduce output in the short run. Where a plausible efficiency justification is shown to be invalid, the suspect restraint is properly classified as "naked" and hence unlawful. *See* H. Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice* §5.1c at 197 (2d ed. 1999) ("Indeed, many restrictions are 'naked' even though contained in elaborate joint ventures that were not being challenged and were almost certainly socially beneficial. For example, while the NCAA is a socially beneficial athletic venture involving colleges and universities, both its rule limiting televised football games and the rule fixing maximum coaches salaries were properly characterized by the courts as 'naked' restraints on price or output."); *Brown University*, at 5 F.3d at 669 (under abbreviated rule of reason analysis, "[i]f no legitimate justifications are set forth, the presumption of adverse competitive impact prevails and 'the court condemns the practice without ado.'") (citations omitted).

[25] *BMI*, 441 U.S. at 19-20; *IFD*, 476 U.S. at 459; *NCAA*, 468 U.S. at 109-110; *Brown University*, 5 F.3d at 669 (abbreviated antitrust analysis appropriate where "'no elaborate industry analysis is required to demonstrate the anticompetitive character' of an inherently suspect restraint"); *Detroit Auto Dealers Assoc.*, 111 F.T.C. at 498; *Mass. Board*, 110 F.T.C. at 604 ("First, we ask whether the restraint is 'inherently suspect.' In other words, is the practice the kind that appears likely, absent an efficiency justification, to 'restrict competition and decrease output.'").

[26] *See CDA*, 526 U.S. at 781; *NCAA*, 468 U.S. at 103; *Detroit Auto Dealers' Assoc.*, 111 F.T.C. 417, 496 (1989).

important basis of competition in the marketing of the relevant products.[27]

### A. <u>Respondents' Agreement Not to Discount Is Presumptively Anticompetitive</u>

The agreement between PolyGram and Warner not to discount 3T1 and 3T2 (or as phrased by O'Brien, not to discount "aggressively") is a form of price fixing,[28] and hence subject to abbreviated review as a matter of law.[29] No principle of antitrust law is more firmly established than the proposition that an agreement between competitors to fix minimum prices threatens serious harm to the efficient functioning of a market economy. *E.g.*, *FTC v. Ticor Title Insurance Co.*, 504 U.S. 621, 639 (1992) ("No antitrust offense is more pernicious than price fixing."); *FTC v. Superior Court Trial Lawyers Ass'n*, 493 U.S. 411, 435 n.16 (1990) ("*SCTLA*") ("In sum, price-fixing cartels [illegible]ondemned per se because the conduct is tempting to businessmen but very dangerous to society. The conceivable social benefits are few in principle, small in magnitude, speculative in occurrence, and always premised on the existence of price-fixing power which is likely to be exercised adversely to the public.") (*quoting* P. AREEDA, VII ANTITRUST LAW ¶ 1509 at 412 (1986)); *NCAA*, 468 U.S. at 100 (1984) ("Horizontal price fixing [is] perhaps the paradigm of an unreasonable restraint of trade."); *United States v. Line Material*

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[27] *Detroit Auto Dealers' Assoc.*, 111 F.T.C. 417, 496 (1989).

[28] CPF ¶ 268. *See Catalano, Inc. v. Target Sales, Inc.*, 446 U.S. 643, 648 (1980) (per curiam) ("an agreement to eliminate discounts . . . falls squarely within the traditional *per se* rule against price fixing").

[29] *BMI*, 441 U.S. at 1; *NCAA*, 468 U.S. at 100 (1984); *National Society of Professional Engineers v. United States*, 435 U.S. 679, 692 (1978) ("*NSPE*") (anticompetitive character of ban on competitive bidding may be presumed as it "impedes the ordinary give and take of the market place"); *Socony-Vacuum Oil Co.*, 310 U.S. at 218; *United States v. Trenton Potteries Co.*, 273 U.S. 392, 398 (1927); *Brown University*, 5 F.3d at 674 (agreement eliminating price competition is anticompetitive on its face and subject to abbreviated rule of reason review).

*Co.*, 333 U.S. 287, 320 (1948) (Price fixing is "one of the most effective devices to regiment whole industries and extract a monopoly price from the public.").

Antitrust law's hostility to price-fixing agreements is rooted in fundamental and uncontroversial economic theory. As explained by Complaint Counsel's economic expert Dr. Stephen Stockum, the potential consequences of an agreement between competitors not to discount include: a loss of consumer welfare for those purchasing the products at higher prices; a deadweight loss to society because some potential purchasers choose not to buy the products at the higher prices; a loss of allocative efficiency due to resources being redirected toward less socially productive uses; and wasteful rent-seeking activity, as resources are devoted toward seeking out monopoly profits. C[illegible] 269. Dr. Stockum therefore concluded that, absent an efficiency justification, the PolyGram/Warner agreement not to discount catalogue Three Tenors products is very likely to be anticompetitive. CPF ¶ 270. Respondents' economic expert, Dr. Janusz Ordover, agreed that a naked agreement between horizontal competitors to restrict price competition has "clearly pernicious effects on competition and consumers."[30]

Respondents have not offered the Court any basis to conclude that price competition is less beneficial or less important in the sale of recorded music than in other industries. CPF ¶¶271. Executives from PolyGram and Warner testified that their companies often find it necessary to offer discounts to retailers in order to increase sales levels; this is true of both new releases and older (or catalogue) recordings. CPF ¶ 272. During 1994, PolyGram responded to the release of 3T2 by aggressively reducing the price of 3T1 in many markets – to the benefit of

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[30] RX715 (Ordover Expert Report) ¶ 61. *See also* H. Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* § 4.3 at 164 (2d ed. 1999) (social cost of collusion is likely to be as large or larger than the social cost of monopoly).

consumers. CPF ¶¶ 247-254. And again in 1998, many PolyGram and Warner operating companies determined that the best way to capitalize upon the public's revived interest in the Three Tenors was by dramatically reducing the price of these products (coupled with aggressive advertising campaigns). CPF ¶¶112-114, 124-128. The fact that in 1998 neither PolyGram nor Warner was willing, unilaterally, to forgo discounting of its catalogue Three Tenors product[31] confirms the obvious: discounting of Three Tenors products is an important basis of competition.[32]

Respondents do not deny that an agreement to forgo discounting has an obvious anticompetitive potential. Instead, they plead that the potential competitive injury here was small. Respondents' Trial Brief at [illegible] ("the proposed moratorium would have affected two among thousands of compact discs for a brief ten-week period"). This defense was rejected in *Chicago Prof'l Sports* and should be rejected here as well. The Court of Appeals evaluated, under a truncated rule of reason, restrictions on output adopted by the members of a professional basketball league. The NBA's claim that the restrictions were small in scope provided no escape from liability:

> That the NBA's cutback [in the number of games telecast] is only five games per year is irrelevant; long ago the Court rejected the invitation to inquire "into the reasonableness" of price and output decisions. Competition in markets, not judges, sets price and output. A court applying the Rule of Reason asks whether a practice produces net benefits to consumers; it is no answer to say that a loss is "reasonably small." (What is more, if five superstation games is tiny in relation to

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[31] CPF ¶¶ 92. 116-122, 131, 136, 138, 141, 149-156, 160-161; CX443 at 3TEN00003641; JX4 at UMG000208; Saintilan Dep. (JX94) 138:17-21.

[32] *Cf. Detroit Auto Dealers Assoc.*, 111 F.T.C. at 497 ("competitive pressures prevented individual dealers from reducing hours unilaterally"); *In re: Toys "R" Us, Inc.*, 126 F.T.C. 415, 600-07 (1998), *aff'd*, 221 F.3d 928 (7th Cir. 2000) ("*TRU*").

the volume of telecasting, the benefits from the limitation are correspondingly small.").

960 F.2d at 674 (citations omitted).[33]

In sum, a strong presumption against price fixing agreements – large or small – is supported by the case law, economic theory, and the record in this case.

### B. Respondents' Agreement Not to Advertise Is Presumptively Anticompetitive

The agreement between PolyGram and Warner to forgo all advertising – including truthful and non-deceptive, and price-related advertising – is also presumptively anticompetitive. Agreements not to advertise have repeatedly been treated as *per se* violations by the courts.[34] In *CDA*, the Supreme Court expressed a somewhat more permissive view toward limited advertising restraints in a professional services market. However, the Court indicated that a complete ban on truthful, non-deceptive advertising – especially in an ordinary commercial

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[33] *See also SCTLA*, 493 U.S. at 434-435 (Every horizontal price fixing agreement "poses some threat to the free market. A small participant in the market is, obviously, less likely to cause persistent damage than a large participant. Other participants in the market may act quickly and effectively to take the small participant's place. For reasons including market inertia and information failures, however, a small conspirator may be able to impede competition over some period of time.").

[34] *Blackburn v. Sweeney*, 53 F.3d 825, 827 (7th Cir. 1995) (agreement between lawyers not to advertise in one another's territories judged illegal *per se*); *United States v. Gasoline Retailers Ass'n*, 285 F.2d 688, 691 (7th Cir. 1961) (agreement among gasoline retailers not to advertise prices except by posting them directly on the pump judged illegal *per se*); *Federal Prescription Serv., Inc. v. American Pharm. Ass'n*, 484 F.Supp. 1195, 1207 (D.D.C. 1980) (association ban on advertising by members judged *per se* illegal), *aff'd in part and rev'd in part*, 663 F.2d 253 (D.C. Cir. 1981), *cert. denied*, 455 U.S. 928 (1982); *United States v. House of Seagram, Inc.*, 1965 Trade Cas. (CCH) ¶ 71,517 at 81,275 (S.D. Fla. 1965); *Massachusetts Board of Registration in Optometry*, 110 F.T.C. at 606-608 (restrictions on advertising by optometrists condemned on basis of abbreviated analysis). *Accord* H. HOVENKAMP, XII ANTITRUST LAW 2023b at 144 (1999).

market[35] – should continue to be viewed harshly. *CDA*, 526 U.S. at 773 ("the restrictions at issue here are very far from a total ban on price or discount advertising"); P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶ 2023.1 at 512-513 (2001 Supp.) ("[*CDA*] distinguished a class of differentiated markets having unusually large information costs from the more general run of markets . . . . [I]t would be a serious error to apply the rule of this decision in simpler or more ordinary markets where such [market failure] claims are not so readily justified.").

Antitrust law's hostility to advertising bans is supported by economic theory and empirical research. Standard economic models explaining how competition serves to promote consumer welfare and economic efficiency are premised upon the assumption that consumers are well-informed. Information disseminated through advertising serves to educate consumers about the availability of alternatives, quality differences among competing products, sales locations, means of purchase, and pricing. This information assists consumers to find their preferred products at low prices, and thus serves to promote competition. CPF ¶ 278. *See CDA*, 526 U.S. at 773 (crediting lower court's observation that "'price advertising is fundamental to price competition' and that 'restrictions on the ability to advertise prices normally make it more difficult for consumers to find a lower price and for dentists to compete on the basis of price'"); *Bates v. State Board of Arizona*, 433 U.S. 350, 364 (1977) ("[Advertising] performs an

[35] *See CDA* 526 U.S. at 773 n. 10 ("'It would be unrealistic to view the practice of professions as interchangeable with other business activities, and automatically to apply to the professions antitrust concepts which originated in other areas.'") (*quoting Goldfarb v. Virginia State Bar*, 421 U.S. 773, 788-89 n. 17 (1975)). *See also* T. Muris, *California Dental Association v. Federal Trade Commission: The Revenge of Footnote 17*, 8 S. CT. ECON. REV. 265, 269 (2000) ("[C]oncerns over the differences between professional advertising and that by 'merely' commercial enterprises are crucial to understanding the Court's *CDA* decision.").

indispensable role in the allocation of resources in a free market system.").[36] It follows that an agreement to restrict advertising, and particularly a complete ban on advertising, has the clear potential to harm consumers and competition.

Economists have studied the effect of advertising restrictions in numerous industries. These studies consistently conclude that advertising restrictions result in consumers paying higher prices. CPF ¶ 279.[37] (The economic literature regarding advertising restraints is summarized in Appendix A.) Even a short-lived restraint on advertising can have a significant effect on consumers, as is evidenced by a study of the New York newspaper strike described by Dr. Stockum at trial.[38] In New York, as elsewhere, newspapers are an important vehicle for grocery store advertising. After only a single w[illegible]ithout newspapers, the authors identified a

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[36] *See also Mass. Board,* 110 F.T.C. at 605 ("Restraints on truthful advertising for professional services are inherently likely to produce anticompetitive effects."); *In re: American Medical Association*, 94 F.T.C. 701, 1030 (1979), *enforced as modified*, 638 F.2d 443 (2d Cir. 1980), *aff'd per curiam by an equally divided Court*, 455 U.S. 676 (1982) ("Across the board bans on entire categories of representations or general restrictions applicable to any representation made through a specific medium are highly suspect."); T. Muris, *California Dental Association v. Federal Trade Commission: The Revenge of Footnote 17*, 8 S. CT. ECON. REV. 265, 307 (2000) ("[B]oth economic theory and economic evidence reveal the anti-consumer, price-increasing effect of restraints on advertising . . . . Given this evidence, restraints on advertising among competitors are akin to price restraints.").

[37] J. Love & F. H. Stephen, *Advertising, Price and Quality, in Self-Regulating Professions: A Survey*, 3 INT'L J. ECON. BUS. 227, 236 (1996) (analyzing 17 empirical studies of professional advertising, and concluding that "the overwhelming impression from the results [of these studies] is of advertising having a downward effect on professional fees."); J. Langenfeld & L. Silvia, *The Federal Trade Commission Horizontal Restraint Cases: An Economic Perspective*, 61 ANTITRUST L.J. 653, 673 (1993) ("Restrictions on advertising clearly increase the cost of consumers' obtaining information on the lowest price.").

[38] CPF ¶¶ 279-280; Stockum 599:6-600:10; Amihai Glazer, *Advertising, Information and Prices – A Case Study*, 19 ECON. INQUIRY 661 (1981) (copy of article is included in Appendix A to Complaint Counsel's Findings of Facts, Conclusions of Law, and Proposed Order: Empirical Literature Concerning Advertising Restrictions at Tab 9).

significant increase in supermarket prices attributable to the restriction on advertising. On the basis of economic theory and empirical findings, Dr. Stockum concluded that, absent an efficiency justification, Respondents' agreement not to advertise or promote catalogue Three Tenors albums is very likely to be anticompetitive. CPF ¶ 281. Respondents' economic expert, Dr. Ordover, offered a similar conclusion: naked agreements between competitors not to advertise their respective products "are likely to be adverse to consumers."[39]

Respondents have not offered the Court any basis to conclude that advertising is less beneficial or less important in the sale of recorded music than in those industries that have been more systematically studied by economists.[40] In fact, it is quite clear that advertising is an important basis of rivalry in the recorded music m[illegible]y, and that (absent a concerted restraint) competitive forces lead record companies to advertise extensively. CPF ¶ 283. PolyGram expends about five percent of total revenues on advertising, and Warner's expenditures for advertising and promotion are even higher. CPF ¶ 284. This advertising, according to the record company executives, is intended to lead to higher sales levels – and is commonly successful. CPF ¶¶ 283.

Advertising has proven to be an important competitive tool in the marketing of Three Tenors products. In 1994 and thereafter, PolyGram used advertising in an effort to teach consumers that 3T1, the "original" Three Tenors recording, was still the best performance, still widely available, and indeed often available at a discounted price. CPF ¶¶ 243-246, 286.

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[39] Ordover Dep. (JX90) 47:5-6.

[40] *Cf. Detroit Auto Dealers' Assoc.*, 111 F.T.C. at 494 ("we see no reason to believe that" hours of operation is a less important form of competition among car dealers as compared to other retail businesses).

Warner used advertising in its effort to create a distinct identity for 3T2, and to suggest to consumers that the newer release was the superior product. CPF ¶¶ 234-242, 287. Thus, in 1996, when a PolyGram executive writes that PolyGram (3T1) and Warner (3T2) are fighting "head on for every conceivable advantage," it is apparent that advertising is an important strategic weapon in that battle. CX309; CPF ¶¶262-265.

During 1998, both PolyGram and Warner operating companies wished to offer their older Three Tenors recordings at a significant discount. In each case, discounting was coupled with an aggressive advertising campaign. CPF ¶¶ 112-114, 124-128, 288-291. Warner forecast that by cutting the wholesale price of 3T2 and advertising on television and in other media, the company could increase sales by 170 percent and increase ove[illegible]its as well. CPF ¶ 289. This strategy was directed at the European territories, but illustrates a proposition fully applicable to the U.S. market: Advertising of recorded music can create additional demand, and hence an environment in which discounting by record companies is more likely to occur. CPF ¶ 292. *See* JX104 (Stockum Expert Report) ¶ 8; Ordover Dep. (JX90) 49:20-24 ("there are clearly economic models in which a restriction on advertising may affect the incentive to lower prices to the extent that you may not be able to attract a large number of people to your store with a lower price").[41]

The parties' marketing strategy upon the release of 3T3 in 1998 is further evidence of the competitive importance of advertising. The product that PolyGram and Warner wanted consumers to purchase (3T3) was aggressively advertised in every available media: newspapers,

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[41] More generally, the extensive use of discounting and advertising by PolyGram and Warner in Europe supports a finding that these activities are an important basis of competition in the sale of recorded music in the United States as well. *Cf. Indiana Federation of Dentists*, 476 U.S. at 456; *Detroit Auto Dealers' Assoc.*, 111 F.T.C. at 497.

television, radio, magazines, brochures, store windows, mailers, the internet. CPF ¶¶ 190-195. Conversely, for those products that the parties wished consumers to avoid (3T1 and 3T2), PolyGram and Warner agreed to withhold all advertising and promotion. The record companies intended that their advertising ban would conceal the availability of better value Three Tenors recordings (better value for some consumers), and that under-informed consumers would instead purchase the higher margin 3T3 release. O'Brien 485:21-487:13. The potential anticompetitive effect of this strategy is obvious.[42]

Courts have long recognized that advertising plays a critical role in the efficient functioning of commercial markets. An agreement between competitors to eliminate all advertising should be presumed to threaten significant c[illegible] harm.

## III. Analysis of Efficiency Defenses – Summary of Applicable Law

### A. The Efficiency Justification Must Be Both Plausible and Valid

Should the Court conclude that the Three Tenors moratorium involved presumptively anticompetitive restraints, Respondents have the burden of demonstrating a plausible and valid efficiency justification. *CDA,* 526 U.S. at 771; *NCAA*, 468 U.S. at 113; Summary Decision Order at 7, 10. That is, Respondents must show that the moratorium was necessary in order to promote competition and benefit consumers. *BMI*, 441 U.S. at 23; *NCAA*, 468 U.S. at 114; Summary Decision Order at 13.

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[42] *Cf.* P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶ 2023.1c4 at 515 (2001 Supp.) ("[T]he less information a consumer has about *relative* price and quality, the easier it is for market participants to charge supracompetitive prices or provide inferior quality."); T. Muris, *California Dental Association v. Federal Trade Commission: The Revenge of Footnote 17*, 8 S. CT. ECON. REV. 265, 291-292 (2000) ([P]roducers can raise price with less fear of losing customers to competitors if the customers are less aware of alternatives.").

An efficiency argument is implausible (insufficient on its face) where, for example, it is pretextual,[43] inapposite to the factual circumstances presented,[44] or where the argument is premised upon the claim that competition is unworkable or undesirable.[45] An efficiency justification should be rejected as invalid where, *inter alia*, it is speculative or unproven,[46] where the argument sweeps too broadly,[47] where there is a less restrictive alternative,[48] or where the restraint is not an effective remedy for the competitive problem that it purports to address.[49]

The fact that PolyGram and Warner were collaborating on the distribution of 3T3 does not insulate the moratorium agreement from antitrust scrutiny.[50] Where, as here, the challenged

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[43] *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 461 (1992).

[44] *Law v. NCAA*, 134 F.3d at 1022.

[45] *FTC v. Indiana Federation of Dentists*, 476 U.S. 447, 463 (1986); *NCAA*, 468 U.S. at 116-7); *NSPE*, 435 U.S. at 696.

[46] *IFD*, 476 U.S. at 463 (1986); *Chicago Prof'l Sports*, 961 F.2d at 674-76.

[47] *IFD*, 476 U.S. at 463; *Catalano*, 446 U.S. at 649-50; *NSPE*, 435 U.S. at 696; *Mass. Board*, 110 F.T.C. at 607-08.

[48] *NCAA*, 468 U.S. at 114; *Maricopa County Med. Soc'y*, 457 U.S. at 351-52; *NSPE*, 435 U.S. at 696; *Chicago Prof'l Sports*, 961 F.2d at 674-76; *Mass. Board*, 110 F.T.C. at 607-08.

[49] *NCAA*, 468 at 116, 119; *Law v. NCAA*, 134 F.3d at 1022-24.

[50] Numerous antitrust cases have condemned anticompetitive agreements between co-venturers – even where the restraint is adopted "in the context" of the venture. *E.g.*, *NCAA*, 468 U.S. 85; *Law v. NCAA*, 134 F.3d 1010; *Chicago Prof'l Sports*, 961 F.2d 667; *General Leaseways*, 744 F.2d 588; *Yamaha Motor Co. v. FTC*, 657 F.2d 971 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982); *United States v. Visa U.S.A., Inc.*, 163 F. Supp. 2d 322 (S.D.N.Y. 2001). The rationale was explained by Judge Posner: "It does not follow that because two firms have a cooperative relationship there are no competitive gains from forbidding them to cooperate in ways that yield no economies but simply limit competition." *General Leaseways*, 744 F.2d at 594. *Accord* Summary Decision Order at 10 ("Horizontal restraints will not escape condemnation solely because they arise in the general context of a joint venture. Rather, the restraint must have been 'necessary' or 'essential' to enable the efficiency-enhancing integration

restraint is said to be ancillary to a collaboration, Respondents must show that the restraint is necessary in order to achieve the pro-competitive benefits of that collaboration.[51] Absent such a showing, there is no pro-competitive benefit to weigh against the obvious anticompetitive potential of the Three Tenors moratorium agreement; the restraints should then be judged unlawful.

### B. Respondents Must Offer Evidentiary Support for any Efficiency Justification

Respondents assert that if the party defending a suspect restraint "identifies" an economically plausible pro-competitive justification, then the challenged agreement must be reviewed under the fullest rule of reason. Respondents' Trial Bri[illegible], 10. This is simply a misstatement of the applicable law. Respondents do not satisfy their burden simply by advancing a plausible hypothesis as to why the Three Tenors moratorium could have been efficiency-enhancing. To avoid liability, Respondents must demonstrate that the moratorium did in fact promote the efficiency of the PolyGram/Warner collaboration:

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that renders the joint venture procompetitive.").

[51] *Maricopa*, 457 U.S. at 352-53 (maximum fee schedule established by physicians found unlawful where it was not necessary; schedule set by insurers was a workable alternative); *Brown University*, 5 F.3d at 678-79 (restraint must be "reasonably necessary to achieve the legitimate objectives proffered by the defendant"); *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 227 (D.C. Cir. 1986), *cert. denied*, 479 U.S. 1033, (1987) (restraints adopted by joint venture were upheld based on finding that they were "reasonably necessary to the business it is authorized to conduct"), *cert. denied*, 479 U.S. 1033 (1987); *General Leaseways*, 744 F.2d at 594-95 (market division agreement among truck leasing companies judged illegal as it was not necessary to the venture). *See also Antitrust Guidelines for Collaborations Among Competitors* ¶ 3.2 (April 2000) (an otherwise *per se* restraint "that is reasonably related to the integration and reasonably necessary to achieve its procompetitive benefits" is subject to more thorough rule of reason review). *Accord* Summary Decision Order at 7, 10.

> We note at the outset that the burden of proving sufficient justification for restraints which have been shown substantially to harm competition rests with respondents. Such justifications cannot be speculation only but must be established by record evidence in order to be considered an adequate justification for otherwise anticompetitive behavior.

*Indiana Federation of Dentists*, 101 F.T.C. 57, 175 (1983), *vacated*, 745 F.2d 1124 (7th Cir. 1984), *rev'd*, 476 U.S. 447 (1986). *See also CDA*, 526 U.S. at 775 n. 12 (under abbreviated rule of reason analysis, defendant has "the burden to show empirical evidence of procompetitive effects").[52]

A court's validity inquiry may require careful consideration of the evidence, but only those facts that bear directly upon the merits of the justification. For example, in *BMI*, the Supreme Court evaluated at length the evidence establishing that the [illegible]ing of copyrighted music pursuant to the blanket license resulted in substantially lower transaction costs (441 U.S. at 21), and that the blanket license could not be marketed without an agreement among competitors on the price of this jointly-produced product (*id.* at 23). On this basis, the Court remanded the case for "a more discriminating analysis under the rule of reason." *Id.* at 24.

In contrast, where a respondent has not produced evidence to validate the proffered efficiency defense, summary condemnation of suspect restraints is appropriate. In *Indiana Federation of Dentists*, the dental association asserted that its members were justified in withholding x-rays from insurance companies in order to prevent the insurers from making

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[52] *See also* T. Muris, *The Federal Trade Commission and the Rule of Reason: In Defense of Massachusetts Board*, 66 ANTITRUST L.J. 773, 778-79 (1998) ("Compared to the plausibility stage inquiry, the court must delve more deeply into the factual assertions of the parties to determine whether (1) the claimed efficiency benefits are real, and (2) the restraint is reasonably necessary to achieve them. If a proffered explanation fails on either count, then the court should declare the challenged restraint unlawful under the abbreviated rule of reason.").

"unwise and even dangerous choices" regarding the appropriate course of treatment for patients. *IFD*, 476 U.S. at 463. And yet, the association produced no evidence of erroneous decisions attributable to the misuse of x-rays, and no evidence that any consumer had in fact been harmed. 101 F.T.C. at 177. For this reason, the Commission rejected the asserted efficiency defense, and judged the inherently suspect agreement to be unlawful. *Id.* The Supreme Court affirmed, expressly noting that there was insufficient evidence to validate the patient-care argument asserted by the association. *IFD*, 476 U.S. at 464. *See also NCAA*, 468 U.S. at 113 ("Under the Rule of Reason, these hallmarks of anticompetitive behavior place upon [the NCAA] a heavy burden of establishing an affirmative defense which competitively justifies this apparent deviation from the operations of a free market."); *Maricopa*, 457 U.S. at [illegible] ("nothing in the record even arguably supports the conclusion that this type of insurance program could not function if the fee schedules were set in a different way"); *Brown University*, 5 F.3d at 674 (defendant university "bears the burden of establishing an affirmative justification" for suspect restraint); *General Leaseways*, 744 F.2d at 592 (finding insufficient evidence to support free-riding defense).

The *CDA* case does not support the contention that Respondents are required only to advance a plausible efficiency rationale. In *CDA*, the Supreme Court analyzed restrictions on certain non-verifiable advertising claims adopted by an association of dentists. The association claimed that the restrictions were designed to avoid false and deceptive claims in a market characterized by "striking disparities between the information available to the professional and the patient." *CDA*, 526 U.S. at 771. The Court explicitly endorsed the use of the abbreviated rule of reason where the plaintiff has established that the restraint is anticompetitive on its face

(*id.* at 769-70), but concluded that the Court of Appeals had not adequately evaluated whether in this case the challenged restraint did more than prohibit deceptive advertising. The *CDA* majority did not remand for a plenary rule of reason review. Instead, the Court of Appeals was instructed to conduct a more detailed consideration of whether the advertising restraints were properly judged to be presumptively anticompetitive. If the restraints were, upon further consideration, deemed to be presumptively anticompetitive, the Supreme Court instructed that the defendant would then have the burden of showing "empirical evidence of procompetitive effects" in the context of a "quick look" analysis. *Id.* at 775 n.12.[53] In other words, the case could be resolved based on an abbreviated analysis of the proffered efficiency justifications without an examination of market definition, market power, or actual anticompetitive effects.[54]

*CDA* thus reaffirms the analytical structure outlined above. Since both the price restraint and the advertising ban agreed to by PolyGram and Warner are *prima facie* anticompetitive, the burden shifts to the Respondents to advance a plausible and valid efficiency justification. Only if

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[53] *CDA*, 526 U.S. at 779-81 ("Saying here that the Court of Appeals's conclusion at least required a more extended examination of the factual underpinnings than it received is not, of course, necessarily to call for the fullest market analysis . . . . What is required, rather, is an enquiry meet for the case, looking to the circumstances, details, and logic of a restraint.").

[54] *Continental Airlines* employed the abbreviated antitrust analysis described in *CDA* and advocated here by Complaint Counsel. The "unique architectural configuration" of Dulles airport required airlines collectively to determine whether templates adjacent to x-ray machines at luggage checkpoints would permit or instead bar oversize baggage. Plaintiff challenged an agreement among competing airlines to install small templates. The Court of Appeals first considered whether this agreement had an obvious anticompetitive effect. Upon concluding that the summary judgment record was inadequate to make this determination, the case was remanded for further proceedings. The opinion does not impose upon plaintiff the burden of showing actual anticompetitive effects. Instead, the Court of Appeals expressly left "to the district court the 'question whether on remand it can effectively assess' the alleged restraint by a modified quick-look analysis, or whether it must undertake 'a more extensive rule-of-reason analysis.'" *Continental Airlines*, 277 F.3d at 517.

the proffered efficiency justification is both plausible and valid must the Court determine whether there is proof of an actual anticompetitive effect (or employ its surrogate, market definition and market power).

**C. Respondents' Purported Good Faith Is Not Sufficient to Establish the Validity of any Efficiency Defense**

Respondents assert that the validity of their efficiency defenses is established by the (alleged) fact that during 1998 PolyGram and Warner managers "viewed" the Three Tenors moratorium "as a reasonably necessary measure." Respondents' Trial Brief at 2. The parties' true motivation for the moratorium was simply to shield 3T3 from competition. CPF ¶¶ 301-308. But even if the parties harbored a good faith belief that the moratorium was necessary and pro-competitive, this would not establish the validity of any efficiency justification. "When the evidence permits us to conclude that a joint venture is, on balance, substantially anticompetitive, we will enjoin it even though the collaborators themselves sincerely and even reasonably believe otherwise." P. AREEDA, VII ANTITRUST LAW ¶ 1506 at 390 (1986).

Abbreviated antitrust analysis would have little relevance if – as Respondents suggest – it were limited to cases where the defendant's efficiency defense is a pretext. This Court (and not a company manager) is the arbiter of whether the challenged restraints are necessary to promote efficiency. Thus, in *NCAA*, suspect restraints were not saved by the asserted good faith of those responsible for the universities' television plan:

> NCAA produced a parade of witnesses to testify that the television controls are an absolutely essential element of the overall regulatory program. Among these witnesses were [the President of the NCAA] . . . and an impressive array of university officials and athletic program administrators from several of America's finest colleges and universities. But none of them – not one single witness – was able to articulate any credible reason as to *why* it is necessary for NCAA to act an

> exclusive agent with the authority to bind all NCAA members to an exclusive contract. That these gentlemen believed that to be the case is beyond doubt. But the accuracy in fact of the proposition they put forward is specious.

546 F. Supp. at 1309. The district court's conclusion that the good faith belief of the NCAA witnesses was insufficient to demonstrate pro-competitive benefits was endorsed by the Supreme Court. *NCAA*, 468 U.S. at 101 n. 23 (it is "well settled that good motives will not validate an otherwise anticompetitive practice").

*IFD* also teaches that a respondent's good faith is insufficient to validate an efficiency argument. The dentists' agreement to withhold x-rays was motivated in part by a desire to promote quality health care for their patients. *IFD*, 101 F.T.C. at 168, 176-77. Still, the agreement was judged to be anticompetitive on the basis of an abbreviated rule of [illegible] analysis. The Court did not conclude that such dentists were insincere, only that the evidence did not adequately support the dentists' contention. There was "no particular reason to believe" that the provision of information to insurance companies would be harmful to consumers. *IFD*, 476 U.S. at 463.[55]

### D. Profit Maximization Is Not an Efficiency Defense

Respondents' assertion that the moratorium would assist PolyGram and Warner to recoup their $18 million investment is not a procompetitive (*i.e.*, pro-consumer) justification for the Three Tenors moratorium. "'We do it because it's more profitable' is not a defense under the Sherman Act." *Chicago Prof'l Sports v. NBA*, 754 F. Supp. 1336, 1359 (N.D. Ill. 1991), *aff'd*,

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[55] *See also Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 25-26 nn. 41 & 42 (1984); *Appalachian Coals, Inc. v. United States*, 288 U.S. 344, 372 (1933) ("[g]ood intentions will not save a plan otherwise objectionable").

961 F.2d 667 (7th Cir.), *cert. denied*, 506 U.S. 954 (1992).[56] It is likewise not a defense under the FTC Act. *SCTLA*, 493 U.S. at 422; *accord* Summary Decision Order at 13.

### E. Any Alleged Efficiencies Achieved Outside of the United States Are Irrelevant

One curious aspect of this litigation is Respondents' contention that the Three Tenors moratorium was adopted in response to a marketing problem existing outside of the United States. According to Respondents: "The proposed moratorium was designed to address an acute risk that certain European operating companies would free ride on the promotional opportunity created by the Paris concert . . ." Respondents' Trial Brief at 13 (emphasis added).

The purpose of competitive effects analysis is to determine whether – in a particular marketplace – the potential pro-competitive benefit of the restraint outweighs its anticompetitive harm. The welfare of consumers in one territory may not be sacrificed for efficiency gains outside of that market. Respondents therefore cannot justify the agreement to restrain competition in the marketing of Three Tenors products in the United States with the claim that the moratorium was necessary for the efficient marketing of 3T3 in some other territory. *Law v. NCAA*, 902 F. Supp. 1394, 1406 (D. Kan. 1995), *aff'd*, 134 F.3d 1010 (10th Cir. 1998) ("Pro-competitive justifications for price-fixing must apply to the same market in which the restraint is found, not to some other market."). *See also Sullivan v. National Football League*, 34 F.3d 1091, 1112 (1st Cir. 1994) ("it seems improper to validate a practice that is decidedly in restraint of trade simply because the practice produces some unrelated benefits to competition in another market."); *RSR Corp. v. FTC*, 602 F.2d 1317, 1325 (9th Cir. 1979), *cert. denied*, 445 U.S. 927

[56] *See also Law v. NCAA*, 134 F.3d at 1023; *Delaware & Hudson Rwy Co. v. Consolidated Rail Corp.*, 902 F.2d 174, 178 (2d Cir. 1990), *cert. denied*, 500 U.S. 928 (1991).

(1980) ("anticompetitive effects in one market cannot be offset by procompetitive effects in another").

As the Three Tenors moratorium applied to the marketing of 3T1 and 3T2 in the United States, Respondents must demonstrate that the restraints benefitted consumers in the United States.

### F. Pretextual Justifications Should Be Disregarded

A variety of possible efficiency arguments were alluded to for the first time at trial, issues that were not considered at the time that PolyGram and Warner decided to enter into the moratorium agreement. All such post hoc explanations must be summarily rejected. As a matter of law, a pretextual business justifications is not a legitimate antitrust defense. *Eastman Kod*. 504 U.S. at 461 (1992).[57]

## IV. The Moratorium Was Not Necessary to the Formation of the PolyGram/Warner Venture

Later, in March 1998, the parties first agreed to the moratorium.

[57] *See also Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1213-14 (9th Cir. 1997), *cert. denied*, 523 U.S. 1094 (1998) (jury's rejection of business justification was proper where record supported finding that proffered justification was pretextual); *Microbix Biosystems, Inc. v. Biowhittaker, Inc.*, 172 F. Supp.2d 680, 695 (D. Md. 2000), *aff'd* 2001 U.S. App. LEXIS 11576 (2001) (summary dismissal of exclusive dealing claim denied where there was evidence that proffered business justification was pretextual); *Red Lion Medical Safety, Inc. v. Ohmeda, Inc.*, 63 F. Supp. 2d 1218, 1234-1235 (E.D. Ca. 1999) (summary dismissal of antitrust claim denied where there was evidence that proffered business justification was pretextual); *Telecomm Technical Services Inc. v. Siemens Rolm Communications, Inc.*, 66 F. Supp. 2d 1306, 1319 (N.D. Ga. 1998) ("Whether a defendant's conduct was motivated by its proffered reasons is a question of fact, and the plaintiff can rebut the profferred reasons by demonstrating that they are pretextual.").

CPF ¶ 101. The later event (the moratorium agreement) cannot be deemed necessary for the occurrence of the earlier event (the agreement to collaborate). CPF ¶ 296.

In pre-trial proceedings, Respondents abandoned the argument that the Three Tenors moratorium was necessary to the formation of the joint venture between PolyGram and Warner:

> MR. PHILLIPS: First of all, Your Honor, we have never contended that the moratorium agreement was necessary to the formation of the joint venture. The moratorium agreement, the evidence suggests, was not discussed before the formation of the joint venture. That's simply a non-issue in this case, Your Honor.

PHC Tr. 83:4-9. Counsel for Respondents stipulated that the moratorium was not necessary to the formation of the venture. PHC Tr. 83:10-85:4.

This stipulation merely affirms the obvious: the moratorium was not necessary to the formation of the PolyGram/Warner collaboration; was not necessary for the production of the Paris concert; was not necessary for the creation of 3T3; and was not necessary to assure the distribution of 3T3 in the United States. PolyGram and Warner were committed to these activities well before discussions of the moratorium even commenced. CPF ¶¶ 296-297. As a matter of logic and as a matter of law, the challenged restraints were not necessary to procure any of these activities.[58]

## V. Restraints that Are Outside – and Not Ancillary to – the Collaboration Between PolyGram and Warner Are *Per Se* Unlawful

The doctrine of ancillary restraints affords parties to a joint venture an opportunity to

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[58] *Blackburn v. Sweeney*, 53 F.3d 825, 828 (7th Cir. 1995) (allocation of territories was not ancillary to agreement to dissolve law partnership where restraint was adopted after the termination of the partnership); *Polk Bros. v. Forest City Enters.*, 776 F.2d 185, 189 (7th Cir. 1985) ("A court must ask whether an agreement promoted enterprise and productivity at the time it was adopted."); *see also* H. HOVENKAMP, XIII ANTITRUST LAW ¶ 2131c2 at 138 (1999).

demonstrate that an inherently suspect restraint is efficient by virtue of being necessary to facilitate procompetitive integration. Conversely, "[t]he mere coordination of decisions on price, output, customers, territories, and the like is not integration, and cost savings without integration are not a basis for avoiding *per se* condemnation." *Collaboration Guidelines* at § 3.2 (April 2000).

An obvious corollary to the foregoing is that the scope of the integration of assets defines the scope of potentially permissible restraints; restraints that are outside of the integration are not permitted.

*Palmer v. BRG of Georgia, Inc.*, 498 U.S. 46, 49-50 (1990), illustrates this principle most clearly. HBJ, a nationwide provider of bar review classes, licensed a competitor to use HBJ's trade name and teaching materials in the State of Georgia only, and agreed not to compete with the licensee in Georgia. In return, the licensor (HBJ) received a license fee and a commitment that the licensee would not compete with the licensor anywhere in the United States (outside of Georgia). In other words, the parties combined their assets in Georgia only, yet they simultaneously agreed not to compete anywhere in the country. Even though the latter

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H. HOVENKAMP, XI ANTITRUST LAW ¶ 1906b at 212 (1998) ("The principle reason for rejecting defenses that a restraint is competitive in the long run is that proof is nearly always highly speculative and the defense could be asserted so often that it would effectively undermine a large proportion of instances properly subject to per se disposition.").

restraint was agreed to in connection with the formation of the venture, because it restricted competition outside the scope of the venture, it was judged *per se* illegal.[60]

The holding of *BRG* controls this case. Warner licensed its competitor PolyGram to distribute 3T3 outside of the United States, and (later) exacted a promise that PolyGram would not compete with Warner inside of the United States. PolyGram's rights to 3T1 pre-date the arrangement and were not part of the integration; PolyGram's U.S. marketing operation was not used efficiently for the betterment of the collaboration; and PolyGram's U.S. distribution assets were completely uninvolved in the collaboration. CPF ¶¶ 298-300. The challenged restraints on the marketing of 3T1 and 3T2 far exceed the scope of the parties' integration and should be condemned as a matter of law.[61]

## VI. Respondents' Expert Reports Are Entitled To Little Weight

Respondents' experts Dr. Yoram Wind and Dr. Janusz Ordover have authored reports

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[60] *See also Visa U.S.A.*, 163 F. Supp. 2d 322 at 405-06 (agreement prohibiting members of Visa and MasterCard networks from offering a third competing product – American Express or Discover card – judged illegal); *In re: General Motors Corp.*, 103 F.T.C. 374 (1984) (consent agreement) (manufacturing joint venture between General Motors and Toyota approved by the Commission, subject to the conditions aimed at reducing the likelihood of collusion between the manufacturers with regard to non-venture products), *vacated on other grounds*, 5 Trade Reg. Rep. (CCH) ¶ 23,491 (Oct. 23, 1993); *In re: Brunswick Corp.*, 94 F.T.C. 1174, 1275-77 (1979) (agreement restricting venturer's sale of pre-existing, non-venture product judged *per se* illegal), *aff'd as modified sub nom. Yamaha Motor Co. v. FTC*, 657 F.2d 971, 984 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982).

[61] The cases relied on by Respondents in which suspect restraints were upheld involved restraints on products created by, not outside of, the joint venture. *See BMI*, 441 U.S. 1, 24 (price restraint affected blanket license that was the product of the joint venture; participants were free to separately license and price their individual works); *Rothery Storage*, 792 F.2d at 214 (restrictions concerned venturers' use of joint venture assets); *Polk Bros.*, 776 F.2d at 189-190 (restraint applicable to sales from jointly constructed facility only; venturers remained free to increase output from separately operated facilities).

that contain elaborate hypotheses explaining how the Three Tenors moratorium may have promoted efficiency. These individuals did not testify at trial, and their reports should be given little if any weight in the disposition of this matter.

Expert reports can assist a trier of fact in understanding or following expert testimony.[62] But where, as here, an expert does not testify at trial, the expert report is generally deemed unreliable (and hence inadmissible).[63] The rationale is straightforward: the report is not submitted under oath, and the court has no basis to evaluate the expert's qualifications or credibility.[64] Most important of all, the non-testifying expert has not been subject to cross-examination, thus bypassing a critical aspect of the adjudicative process:

> As the Supreme Court has observed, expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it . . . . [citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 598 (1993)]
> [T]he trial judge thus "depends upon the efficacy of cross-examination by the party opposing the expert's testimony to point out any weaknesses which might affect its admissibility, as does the jury in determining how much weight to give to the expert's testimony."[65]

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[62] *See In re: Citric Acid Litigation 7-Up Bottling Co. v. Archer Daniels Midland Co., Inc.*, 191 F.3d 1090, 1102 (9th Cir. 1999), *cert. denied*, 529 U.S. 1037 (2000). Complaint Counsel reasonably expected that Drs. Ordover and Wind would be testifying at trial, and on this basis did not object when Respondents offered the expert reports in evidence. *See* Expert Witness List of Respondents at 2 (October 24, 2001) (identifying Drs. Ordover and Wind as testifying witnesses); Respondents' Trial Brief at 13 (February 20, 2002) (representing that both experts would be called as witnesses).

[63] *Tokio Marine and Fire Ins. Co. v. Norfolk & Western Rwy. Co.*, 1999 U.S. App. LEXIS 476, *10 (4th Cir. 1999); *David Engerbretsen v. Fairchild Aircraft Corp.*, 21 F.3d 721, 729 (6th Cir. 1994); *Forward Communications Corp. v. United States*, 608 F.2d 485, 511 (Ct. Cl. 1979); *EPIS Inc. v. Fidelity and Guar. Life Ins.*, 156 F.Supp.2d 1116, 1124 (N.D. Cal. 2001).

[64] *See EPIS*, 156 F.Supp at 1124.

[65] *Weil v. Long Island Savings*, 2001 U.S. Dist. LEXIS 22915, *10-11 (E.D.N.Y 2001) (*quoting Musselman v. Phillips*, 176 F.R.D. 194 (D. Md. 1997)). *See also Tokio Marine & Fire,*

As Respondents' absentee experts did not testify at trial, Complaint Counsel was denied the opportunity to cross-examine the witnesses with regard to the limitations, clarifications, or qualifications that are critical to understanding their conclusions. (Although the experts were deposed, deposition is a discovery device and is not a substitute for cross-examination.)

The report of Respondent's marketing expert, Dr. Wind, cannot aid the Court's assessment of the Three Tenors moratorium. In preparing his report, Dr. Wind reviewed no documents from the files of Warner; reviewed no deposition testimony of any individual responsible for marketing 3T3 in the United States; and reviewed no deposition testimony of any Warner employee. CPF ¶ 366. Dr. Wind discusses whether the moratorium is plausibly pro-competitive, but he does not evaluate whether the restraints were actually necessary to achieve some efficiency in the United States. Wind Dep. (JX91) 10:12-11:20 ("So I did not analyze what actually happened.").

Dr. Ordover's report is potentially misleading in that he rejects the basic premises of modern antitrust analysis of horizontal restraints, and uses antitrust terminology in an idiosyncratic fashion. According to Dr. Ordover, if a restraint is adopted in the context of a non-sham joint venture, then the restraint should be considered to be "reasonably necessary,"[66] and

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1999 U.S. App. LEXIS 476, *10; *Toucet v. Maritime Overseas Corp.*, 991 F.2d 5, 10 (1st Cir. 1993); *Forward Communications Corp. v. U.S.*, 608 F.2d at 511; *Main St. Mortgage v. Main St. Bancorp*, 158 F. Supp. 2d 510, 519 (E.D. Pa. 2001).

[66] Ordover Dep. (JX90) 50:10-20:

> Q: In your opinion, was the moratorium necessary to achieve procompetitive benefits in the United States?
>
> A: I think that in – the answer would be that I believe that there were – the

analyzed under the full rule of reason.[67] According to Dr. Ordover, there is no threshold requirement to consider the validity of the efficiency argument,[68] and no need to consider the availability of less restrictive alternatives.[69] This entire construct is inconsistent with the antitrust case law governing abbreviated rule of reason analysis. *E.g., NCAA*, 469 U.S. 85 (suspect restraints adopted by legitimate joint venture condemned on the basis of abbreviated antitrust analysis); *Law*, 134 F.3d 1010 (same); *Chicago Prof'l Sports*, 961 F.2d 667 (same); *General Leaseways*, 744 F.2d 588 (same).

Because they are unsupported by live testimony, untested by cross-examination, detached from the evidence adduced in this case, and inconsistent with the case law, the reports of Drs. Wind and Ordover have little evidentiary value.

## VII. Respondents' Free-Riding Defense Should Be Rejected

"A free rider is a firm [that] takes free advantage of a service or product that is valued by customers but provided by a different firm."[70] According to Respondents, without the

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> moratorium was reasonably necessary by which I mean that it could not have been dismissed as a pretext for accomplishing objectives that were not related to the joint venture. I never testify, I never stated it was necessary in the sense that but for the moratorium there would be no joint venture or the joint venture would have fallen apart or something of that sort.

[67] Ordover Dep. (JX90) 44:2-22 ("I would say that a – a quick look of restraints would be best left for those joint ventures that are a sham.").

[68] Ordover Dep. (JX90) 213:11-15.

[69] Ordover Dep. (JX90) 77:8-11.

[70] H. HOVENKAMP, *Federal Antitrust Policy: The Law of Competition and its Practice* § 5.2b1 at 202 (2d ed. 1999).

moratorium agreement, promotional investments by PolyGram and Warner intended to benefit sales of 3T3 in Europe may instead have led some consumers in Europe to purchase at a lower price 3T1 (distributed by PolyGram) or 3T2 (distributed by Warner).[71] Even if this contention were accurate, it would not be sufficient to justify an agreement to fix prices and forgo all advertising in the United States.

The Commission's opinion in *Toys "R" Us* surveys the relevant case law and identifies three requirements for the successful invocation of the free-riding defense. Respondents must show that: (i) absent the challenged restraints, free riding is likely to have the effect of eliminating some valued service from the marketplace; (ii) there was no reasonable means by which the competitor that benefits from the valued service (the alleged free rider) could have compensated the firm that was providing such service; and (iii) there were no less restrictive alternatives. *Toys "R" Us, Inc.*, 126 F.T.C. at 600-07 (1998). As none of these requirements is satisfied, Respondents' free-riding defense must be rejected.[72]

### A. <u>Advertising in Support of 3T3 Was Not Threatened by Free Riding</u>

If one firm's products are indistinguishable from those of its rivals and if free riding is sufficiently widespread, then no single firm may have an incentive to advertise the relevant products. Professor Herbert Hovenkamp offers the example of a single potato farmer:

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[71] Respondents' Trial Brief at 13.

[72] Respondents suggest that Complaint Counsel's economic expert has conceded the plausibility of the proffered efficiency justification. To the contrary, Dr. Stockum's testimony merely acknowledged that it is "plausible" in the abstract that advertising for 3T3 may lead some consumers to purchase 3T1 or 3T2. Stockum Dep. (JX85) 153:14-156:21. As detailed in his expert report and explained herein, this alone does not establish a meritorious free-riding defense.

> [I]f products are fungible, advertising will benefit all local producers of the product, whether or not they paid for the advertising. For example, if Farmer Brown advertises the merits of Framer Brown's Potatoes, she might be horrified to discover that many customers think that potatoes are potatoes. Farmer Brown's advertisement may increase potato sales, but they will be distributed over all potato producers in the advertising market.
>
> In a competitive market Farmer Brown cannot afford to pay for advertising that benefits all local producers of potatoes. She will not advertise at all . . .

H. Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice* §5.2b3 at 203 (2d ed. 1999).

It is important to distinguish the very dramatic free-riding problem faced by the hypothetical Farmer Brown from the marketing challenge routinely faced by producers of differentiated products. As Dr. Stockum explained: "It is common for advertising and other promotional activity to benefit a competitor different from (and in addition to) the firm that funded the advertising." CX612 (Stockum Rebuttal Report) at ¶ 17. This observation was echoed by Respondent's marketing expert, Dr. Wind:

> I know as a fact that whenever one company advertises, it affects other companies. For example, if Heinz advertises ketchup, other sales of other ketchup also tend to go up. So many times what you have is, in a sense, by stimulating the demand for a given brand, you are stimulating the demand for other products, other substitute products or similar products . . . . So that's a fact of life.

Wind Dep. (JX91) 126:6-127:1. Dr. Wind testified that there are "tons of examples" of one firm capitalizing upon the marketing activities of a competitor. Wind Dep. (JX91) 133:15-134:8. The prospect of free-riding does not however lead sellers of consumer products to

abandon all advertising.[73] Instead, Dr. Wind explained, sellers generally respond to this challenge by sharpening their marketing campaigns ("emphasiz[ing] the uniqueness of their offering"), and by using advertising and other marketing tools to create a distinct identity for the target product.[74]

Even within the recorded music industry, the free-riding issue identified by Respondents is commonplace: Advertising intended to benefit one album often leads to sales of competing albums (perhaps an older album by the same artist on a different label, perhaps an album by an entirely different artist). CPF ¶ 315.[75] In this regard, Warner's experience marketing 3T2 during 1994 is instructive but not unique. Warner anticipated competition from PolyGram

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[73] Dr. Wind could not identify a single instance where spillover led a firm to cease advertising its product. Wind Dep. (JX91) 128:6-129:6.

[74] Dr. Ordover also acknowledged that the spillover effect from advertising often has an inconsequential effect on the firm's incentives to advertise. Ordover Dep. (JX90) 199:11-15 ("[T]here are plenty of activities that firm[s] undertake fully aware of these kind of spillover effects and saying to themselves, well, the effect is there but it's either insignificant or I can live with it and do what I intend to do."). *See also* CX612 (Stockum Rebuttal Expert Report) ¶ 17 ("With regard to what Dr. Ordover calls 'marketing buzz,' some degree of spillover is inevitable, and probably an inconsequential by-product of a competitive market – most often ignored by firms and policy-makers alike.").

[75] PolyGram executive Bert Cloeckaert testified at deposition that PolyGram is often the beneficiary of the spillover effect of advertising. Cloeckaert Dep. (JX97) 46:3-17 (PolyGram benefits when a competitor offers an attractive product because more "people are tempted to go to a record store . . . and when you go there, there is a chance that you pick up something else. Since we are a major player, the chance they pick anything from us is significant."). *See also* CPF ¶ 316.

Respondents' economic expert Dr. Ordover agreed that free riding on advertising is commonplace. *See* RX716 (Ordover Expert Report) ¶ 36 ("incremental consumer foot traffic at music retailers" generated by promotion of 3T3 may have benefitted not just 3T1 and 3T2, but recorded classical music taken as a whole); Ordover Dep. (JX90) 130:1-21 (free riding concern could arise whenever a recording artist moves from one record company to another, although "their magnitude may depend on the circumstances").

(3T1). CPF ¶¶ 233, 235. But Warner did not forgo all advertising (and Warner did not seek a moratorium with its rival). CPF ¶¶ 233-242. Instead, Warner devised an aggressive marketing campaign aimed at distinguishing 3T2 and convincing consumers that 3T2 was preferable to 3T1. CPF ¶ 236. One PolyGram executive described Warner's effort in support of 3T2 as "the most impressive campaign I have seen in my days."[76] Warner's marketing campaign for 3T2 was a success; the project was profitable; and four years later Warner was anxious to acquire distribution rights to 3T3 – initially without the participation of PolyGram. CPF ¶¶ 57, 255-256.

Given that advertising for one product often will (to some degree) benefit rival products, more than just lost sales is required in order to justify a resort to price fixing – or else price-fixing agreements would be the rule rather than the exception. *See* H. HOVENKAMP, XII ANTITRUST LAW ¶ 2032b at 184 (1999) ("free riding is ubiquitous in our society"). The case law therefore requires Respondents to show a danger that, because of free riding and absent a restraint, advertising for 3T3 would have disappeared or have been substantially curtailed.

The evidence on this issue does not support Respondents' free-riding defense. Witnesses representing both Warner and PolyGram testified that 3T3 would have been aggressively and appropriately promoted without the moratorium, and indeed that the moratorium had no significant effect on the resources devoted to advertising and promoting 3T3. O'Brien 448:12-21; 490:19-22 ("I think that 3T3 would have been appropriately marketed and promoted in the United States without regard to the moratorium with PolyGram."); Saintilan Dep. (JX94) 88:18-89:17; 194:2-195:9 (moratorium did not affect advertising

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[76] Hidalgo Dep. (JX88 ) 46:15-47:10.

expenditures for 3T3). This proposition was, in effect, tested and confirmed in June 1998, when it appeared to PolyGram that the Three Tenors moratorium would fall apart. At that time, PolyGram did not alter its marketing strategy or cut back on its advertising budget. PolyGram's only response was to notify its operating companies that if Warner were found selling 3T2 at discounted prices in any territory, then the local PolyGram operating company could respond by discounting 3T1. CPF ¶¶ 139-141.[77]

Respondents' economic expert, Dr. Ordover, opined that if there were a serious free-riding problem in connection with the marketing of 3T3, the problem existed in Europe but not the United States. Ordover Dep. (JX90) 36:25-37:4 ("for whatever reason, the United States market seemed to have somewhat different dynamics than the feared dynamics in other countries").[78] Dr. Ordover calculated that the magnitude of sales diverted from 3T3 to 3T1 in the United States due to free-riding during the moratorium period (August - October 1998) would have been quite small (sales of less than $86,000 per month). CPF ¶ 329. Dr. Ordover was thus unable to conclude that free-riding in the United States would have had a significant impact on the venturers' incentives to advertise 3T3. Ordover Dep. (JX90) 158:25-159:21 ("I

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[77] In 1998, PolyGram and Warner did not quantify the extent to which consumers drawn to record stores by promotion for 3T3 would (absent the moratorium) have purchased 3T1 or 3T2. O'Brien 491:13-18 ("We would not have – we would not have attempted to quantify the impact of that. It would be extraordinarily difficult to do."); Saintilan Dep. (JX94) 82:4-11 ("No, I didn't quantify. I simply felt that it was an issue . . .").

[78] *See also* RX716 (Ordover Expert Report) ¶ 49 ("the challenged restraints were crafted to address the parties' concerns over pricing and advertising campaigns that might be implemented in Europe and other regions outside of the United States"); Ordover Dep. (JX90) 22:8-10 ("this alleged moratorium, which I don't think actually pertained to the United States in any meaningful way"); 25:24-25 (moratorium "would have been a non-event from the standpoint of U.S. distribution"); 27:15-16 (moratorium was "a non-issue in the U.S. Although, it might have been viewed as a major issue in Europe.").

can't opine. As I said before, it seems to be that at least in the United States the whole thing was likely to be – turned out to be a non-event for a variety of reasons.").[79]

In sum, the Three Tenors moratorium agreement was not necessary to preserve incentives to advertise and promote 3T3 in the United States. Respondents' free-riding defense therefore fails. *TRU* 126 F.T.C. at 605 (free-riding defense rejected where there was no evidence that the clubs' failure to provide particular services "had, or was likely to have, the effect of driving those services from the market").[80]

### B. PolyGram and Warner Shared the Cost of Advertising 3T3

Even assuming that there was a legitimate concern with free-riding here (such as may exist for potato farmers), there is also a well-established solution: joint advertising arrangements. Professor Hovenkamp explains:

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[79] *See also* Ordover Dep. (JX90) 55:2-8 (Dr. Ordover "cannot answer the question" whether the moratorium was reasonably necessary for the efficient marketing of 3T3 in the United States); Ordover Dep. (JX90) 23:11-25:

> Again, just to repeat myself, it is my view that moratorium did not affect the United States for the reasons that we just went through; *i.e.*, it was not implemented, B, it was never designed to effect the United States, as far as I could tell, and, three, from the deposition record, which I have read, which is all I have to go on at this point, is that Warner, which I gather was – you know, which was responsible for marketing, they say they were marketing as well as they could in the United States and they were devoting all the resources they thought were required to market the new release.

[80] Insofar as discounting and promotion of 3T1 by PolyGram presented a competitive challenge to Warner's efforts to sell 3T3 in the United States, the effect may have been to increase (rather than decrease) Warner's incentive to advertise 3T3. Ordover Dep. (JX90) 115:16-116:13. In other words, the moratorium agreement may have led to less advertising of 3T3.

> In a competitive market Farmer Brown cannot afford to pay for advertising that benefits all local producers of potatoes. She will not advertise at all, even though the effect of the advertising would be to give consumers better information. However, the farmers collectively could increase their joint welfare, as well as that of consumers, if they organized a potato growing association, and each paid a proportionate share of the costs of the advertising. In that case both the benefit and the cost would be shared by all growers.[81]

Where firms that share the benefits from advertising also share of the costs of such advertising, any free-riding problem is remedied. *TRU*, 126 F.T.C. at 602 ("compensation to the high service retailer eliminates free-rider problems") [82]

Like the cooperating potato farmers, PolyGram and Warner decided to share the cost of promoting 3T3 in the United States, on a 50:50 basis. O'Brien 419:18-420:9 (if Warner purchased a television advertisement for 3T3, then half the cost would be borne by Warner and half the cost would be borne by PolyGram).[83] As a matter of law, the ability of PolyGram and Warner to compensate one another for the value of the 3T3 advertising defeats the free-riding defense. *E.g., Chicago Prof'l Sports*, 961 F.2d at 675, and *General Leaseways, Inc. v. National*

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[81] H. Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* § 5.2b3 at 203 (2d ed. 1999).

[82] *See also* H. Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* § 5.2b3 at 203 (2d ed. 1999); Carlton & Perloff, *Modern Industrial Organization* at 531 (1994) ("advertising subsidy from the manufacturer to the dealer prevents the free-riding problem from eroding the dealer's incentive to advertise").

[83] The license agreement between Warner and PolyGram provides that the two music companies shall each be entitled to 50 percent of the net profits and net losses derived from sales of 3T3 worldwide. Any advertising or marketing expenses incurred by either party are to be deducted from revenues for purposes of calculating net profits (losses). Given the financial structure of the venture, every dollar spent in the United States by Warner to promote 3T3 is partially reimbursed by PolyGram; fifty cents comes from each of the venturers. CPF ¶ 336.

*Truck Leasing Ass'n*, 744 F.2d 588, 592 (7th Cir. 1984).[84]

*Chicago Prof'l Sports* involved a challenge to a National Basketball Association rule restricting the number of basketball games that could be telecast by individual teams. The Court of Appeals concluded that this inherently suspect output restraint could not be justified by the asserted need to prevent one team (the Chicago Bulls) from free riding on advertising funded by other teams in the league. Judge Easterbrook explained that the Chicago team could instead be required to compensate other teams (and the league as a whole) for the benefits provided. "Free-riding is the diversion of value from a business rival's efforts without payment . . . . When payment is possible, free-riding is not a problem because the 'ride' is not free." *Chicago Prof'l Sports*, 961 F.2d at 675.[85]

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[84] *See also High Technology Careers v. San Jose Mercury News*, 996 F.2d 987, 992 (9th Cir. 1993); *United States v. Microsoft Corp.*, 1998-2 Trade Cas. (CCH) ¶ 72, 261 at 82,682 (D.D.C. 1998) (summary judgment decision) ("Microsoft also argues that limitations on OLSs [online service providers] are justified to prevent 'free-riding' by other browser manufacturers on Microsoft's investment in support for the development of improved versions of OLSs' software the agreements commit it to undertake . . . . [However,] in order to recoup its investment, Microsoft could simply charge OLSs a fee rather than extract exclusionary rights."); *Toys R Us, Inc.*, 126 F.T.C. at 601 ("[Free-riding] concerns evaporate because TRU is compensated for the services, and there is no threat that the services will be driven from the market."), *aff'd*, 221 F.3d 928, 938 (7th Cir. 2000) ("[The toy] manufacturers were paying for the services TRU furnished, such as advertising, full-line product stocking, and extensive inventories . . . . [T]hus these services were not susceptible to free riding."); H. HOVENKAMP, XIII ANTITRUST LAW ¶ 2223b at 334 (1999).

[85] Respondents' attempt to distinguish *Chicago Prof'l Sports* from the instant case is unpersuasive. Respondents assert that PolyGram and Warner may both benefit from advertising for 3T3. But it is equally true that every team in the National Basketball Association may benefit from the league's promotional expenditures. Respondents charge that Warner and PolyGram would continue to have an incentive to discount catalogue Three Tenors products regardless of how financial responsibility for advertising is allocated. The benefit of sharing advertising expenses is not that PolyGram then loses the incentive to discount 3T1, but that such discounting (which benefits consumers directly) then does not harm consumers indirectly by eliminating incentives to promote 3T3.

*General Leaseways* is also directly on point. The case involved an association of local companies that leased and maintained trucks. The antitrust challenge addressed an agreement among the trucking companies that no member could expand its business into the territory of another member. To the charge that this was an illegal market division agreement, defendants asserted the following free-riding defense. Each company was obligated to perform emergency repairs on trucks owned by other members of the association that broke down in the repairer's territory. Absent the restraint, one member of the association may grow so large relative to others "that it was consistently demanding more repairs . . . than it was performing." 744 F.2d at 592. This efficiency justification was summarily rejected. Judge Posner concluded that, as members of the association charge one another for the emergency repair service, free riding was not a threat.

Respondents contend that whereas PolyGram and Warner allocate the costs of advertising on a 50:50 basis, the division of benefits from 3T3 advertising may not be precisely equal. The *TRU* decision addresses this precise issue. It is not important that compensation from one competitor to the another be "exactly the right amount," the Commission explained. It is sufficient that the cost-sharing mechanism "ensure[s] the continuation of the beneficial activity." *TRU*, 126 F.T.C. at 602.

Warner and PolyGram agreed to share the cost of advertising and promoting 3T3 upon terms satisfactory to them. This limited form of cooperation eliminates the free-riding problem and obviates the need for the parties to engage in price-fixing or to adopt an advertising ban. CPF ¶¶ 335-340. *See* H. HOVENKAMP, XIII ANTITRUST LAW ¶ 2223b3 at 334 (1999) ("[F]ree rider defenses should be rejected when the firm that controls the input is able to sell, rather than

give away, the good or service that is subject to the free ride.").[86]

### C. Other Less Restrictive Alternatives

Other substantially less restrictive alternatives for addressing the free-riding concern were available to PolyGram and Warner. First, as Respondents (and their expert Dr. Ordover) assert that any free-riding problem was located in Europe and not the United States, the scope of the moratorium could also have been limited to Europe. CPF ¶ 341.[87]

In addition, the theoretical danger that advertising for 3T3 may have benefitted the older Three Tenors albums arose principally because 3T3 was not sufficiently different from 3T1 and 3T2. RX617 (Ordover Expert Report) ¶¶ 16, 31. But there is no reason why Three Tenors albums must be as fungible as potatoes. CPF ¶ 344. In 1994, Warner used the ordinary tools of

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[86] In *NCAA*, the Supreme Court rejected without comment the NCAA's argument that its telecast restrictions had the potential to reduce free riding on advertising. One may speculate that, as with other issues, the Court was guided by the Solicitor General's *amicus curiae* brief, which explains why there was "no merit" to the free-riding argument. Among the deficiencies identified was the absence of evidence that advertising was truly at risk:

> [T]here is no reason to believe that a network would not adequately promote its own NCAA football broadcasts . . . because other games might also be televised on other networks . . . Networks vigorously promote particular situation comedies, soap operas, adventure series, movies, college basketball games, and major sports events, even though other networks have similar programming. There appears to be no lack of promotion and resultant decrease in output because networks fear free-riding by their competitors.

United States *Amicus Curiae* Brief in Support of Affirmance at n.17, *NCAA v. Board of Regents*, 468 U.S. 85 (1984) (No. 83-271).

[87] There is no evidence that, during the moratorium period, discounted copies of 3T1 and 3T2 would have been transshipped from the United States to Europe. Nor is there evidence that such transshipment would disrupt the marketing of 3T3 in the United States or anywhere else. CPF ¶¶ 342-343.

marketing (*e.g.*, packaging, advertising) to create a unique identity for 3T2, distinct from 3T1. CPF ¶¶ 236-241. A similar strategy could have been pursued for 3T3 in 1998.[88]

To recap: The benefits of advertising commonly spill over to products that compete with the product that the advertiser intends to promote. The existence of some spillover benefit is not sufficient to justify an agreement to restrain price competition or other suspect restraints. The arguments advanced by Respondents would apply to a price fixing agreement between PolyGram and Warner in 1994, to facilitate the launch of 3T2. Or a price fixing agreement among PolyGram, Warner, and Sony in 2000 to facilitate the launch of the Three Tenors Christmas album. Plainly, Respondents arguments prove too much. This is not to deny that free riding is a bona fide concern in a small number of antitrust cases (usually cases challenging vertical restraints). But if free riding on advertising were a substantial problem for Respondents in 1998 (and this has not been demonstrated), then cost sharing and other mechanisms were the appropriate remedy.

## VIII. The Moratorium Was Not Necessary to Avoid Consumer Confusion

Respondents argue that the moratorium helped eliminate the risk that some consumers would confuse the various Three Tenors albums and not purchase the new album that they

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[88] *See* JX106 (Moore Rebuttal Expert Report) ¶¶ 5-11; Moore 123:10-135:9; Ordover Dep. (JX90) 144:15-23 ("Surely, the further away you put the product in a product space, the less of a competitive challenge it faces from the catalog of the same performer.").

To the extent that 3T3 is undifferentiated from 3T1 and 3T2 – and vulnerable to price competition – this is attributable to decisions made by PolyGram and its collaborators. Firms marketing undifferentiated or homogeneous products generally are forced to compete on the basis of price. *Cf. Petruzzi's IGA Supermarkets v. Darling-Delaware Co.*, 998 F.2d 1224, 1236-1237 (3d Cir. 1993). Price competition is precisely what PolyGram and Warner sought to avoid with the moratorium.

intended to buy. The claim apparently is that competition is enhanced if 3T1 and 3T2 are high priced and hidden away from vulnerable and undiscerning consumers. Analogous challenges to consumer sovereignty were dismissed by the Supreme Court in both *IFD* and *NSPE*, with the observation that the argument amounts to "nothing less than a frontal assault on the basic policy of the Sherman Act."[89]

There is no evidence that consumers were actually confused in selecting among the various Three Tenors albums – only that PolyGram marketing manager Paul Saintilan was "concerned" that confusion may arise. CPF ¶ 347-350. This gut-feeling was not based upon research, data, or observation. According to Saintilan, "It was simply a concern." CPF ¶ 347.

The consumer confusion theory is not only unproven, it is implausible. After all, why would it be confusing for consumers to choose among 3T1, 3T2, and 3T3? Would it be more difficult for consumers to select a Three Tenors album than, say, a Frank Sinatra album,[90] or a long distance carrier, or a detergent, or a computer, or an automobile? Respondents offer no answer to these questions. This is plainly an insufficient basis upon which to justify suspect restraints on competitive activity.[91]

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[89] *IFD*, 476 U.S. at 463 (rejecting claim that providing x-rays to insurance companies will necessarily lead them to make unwise and dangerous choices); *NSPE*, 435 U.S. at 694 (rejecting claim that competitive bidding will necessarily lead to inferior engineering work).

[90] The on-line music seller Amazon.com lists over 300 Frank Sinatra albums, offered by several different music companies. Printout from www.amazon.com, included in Appendix B to Complaint Counsel's Proposed Findings of Fact, Conclusions of Law, Order and Memorandum in Support Thereof and Order, Tab 3 ("Appendix B").

[91] Assuming *arguendo* some potential for confusion, uniform prices and less advertising likely aggravate the problem. Absent the moratorium, significant discounting of 3T1 and 3T2 could have helped to differentiate these products from the new Three Tenors release. CPF ¶¶

Moreover, the sources of confusion identified by Respondents could readily have been remedied though measures far less restrictive than the moratorium. If the cover art for 3T3 resembles the cover art for 3T1 and 3T2, then a less restrictive remedy was to make the packaging for 3T3 more distinct. CPF ¶ 351. Respondents assert that if older Three Tenors albums had been aggressively discounted, then music retailers may have positioned these products alongside 3T3 in their stores, resulting in a "cluttered selling proposition." But Saintilan acknowledged that music retailers have the incentive and ability to display their products in a manner that would not confuse their customers. CPF ¶¶ 356-357. In the United States, Warner could have worked with music retailers to ensure that 3T3 was displayed appropriately [illegible] manner that consumers would not find confusing. CPF ¶¶ 358-359.[92]

Even if there were a consumer confusion problem, a seller is not permitted to make its

355. Advertising campaigns on behalf of 3T1 and 3T2 could have emphasized the distinctive features of these albums (as was done in 1994). CPF ¶¶ 354. In other words, the competitive activity squelched by the moratorium should dispel rather than foster consumer confusion. *Cf. Law v. NCAA*, 134 F.3d at 1024 (defendant must show that restraint would be an effective method of achieving the asserted efficiency).

[92] Kevin Gore, the head of PolyGram Classics in the United States, agreed that a record company should make its best case to consumers, and then permit each consumer to select the album of his choice.

> Q: If there were a situation where the catalog would cannibalize sales of the new release, is there anything you could do to limit that? . . .
>
> A: You know, its all about the message that you send in your marketing, and if the marketing is strong enough to point consumers to the new record, then you could only – you could only do so much to lead the consumer to the purchase. At that point it's the consumer's responsibility to figure out what they want, and its your duty to make sure that the message is as clear as possible as the owner of that content.

Gore Dep. (JX87) 72:12-73:1; CPF ¶¶ 360.

product appear unique by inducing a competitor to withdraw its competing products.[93] As a matter of law, confusing competition is preferred to the clarity offered by monopolization and collusion.[94]

## IX. The Moratorium Was Not a Necessary Component of a Sound Marketing Strategy

Respondents' "marketing strategy" argument starts with this counter-factual: Suppose 3T1, 3T2, and 3T3 were owned by a single firm and viewed as a single product line. The hypothetical Three Tenors monopolist, Respondents assert, "might well" forgo discounting and promotion of 3T1 and 3T2 upon the release of 3T3. Respondents' Trial Brief at 13. From this counter-factual, Respondents hurdle to the conclusion that the moratorium was necessary to a commercially sound marketing strategy. As detailed below, this argument is logically flawed and deficient as a matter of law.

Respondents have not demonstrated that a Three Tenors monopolist would elect not to promote 3T1 and 3T2 upon the release of 3T3, only that it "might well" do so.[95] But even if the

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[93] *NCAA*, 468 U.S. at 116-17; *accord* Summary Decision Order at 14.

[94] *See, e.g., United States v. Western Electric Co.*, 583 F. Supp. 1257, 1260 (D.D.C. 1984) ("There is no doubt that some find confusion in the mushrooming of [telephone] service and equipment options that have become available in the wake of [the AT&T] divestiture; others may regard such proliferation as healthy in that they give the consumer greater choice at potentially lower prices. In any event, that policy dispute, too, is resolved by the antitrust laws and the decree.").

[95] PolyGram Vice President Bert Cloeckaert testified that, in considering how best to co-market a new release and catalogue albums by the same artist, there are as many different theories as there are marketing executives. Some marketers prefer to promote catalogue albums at the same time as the new release. CPF ¶ 362. As there is no single correct or efficient co-marketing strategy for the various Three Tenors albums, the moratorium cannot be judged to be

suppression of 3T1 and 3T2 were the monopolist's preferred strategy, this would not demonstrate that the strategy is pro-competitive. Respondents' marketing expert Dr. Yoram Wind suggests that if a single firm owned 3T1, 3T2, and 3T3 then it should consider a market segmentation strategy – promoting different products to different groups of consumers at different times, and restricting intra-firm competition. This is permissible in the hypothetical world where one firm owns all three products. But for competitors to agree to seek out separate customer groups (that is, to allocate markets), is a patently anticompetitive and therefore unlawful strategy. *See Palmer*, 498 U.S. at 49.

Respondents' speculations concerning the marketing strategy of a hypothetical Three Tenors monopolist can therefore tell us little about the legitimacy of the moratorium agreement. Antitrust law recognizes a fundamental distinction between unilateral conduct and concerted conduct; it is axiomatic that a single firm may act in ways that are impermissible to the members of a joint venture.[96] *Chicago Prof'l Sports* is again instructive. The Court of Appeals considered an agreement among professional basketball teams limiting the number of games that an individual team may license for broadcast in competition with the league's national television contracts. The league argued, and the court acknowledged, that single-firm licensors of entertainment products often enter into exclusive license arrangements with a single network. The league sought to do no more. But this analogy to single firm conduct did not persuade the Court of Appeals. Modest cost savings may be achieved by any joint selling arrangement; such

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necessary. *Cf. NCAA*, 468 U.S. at 114 (rejecting NCAA's efficiency defense because "NCAA football could be marketed just as effectively without the television plan").

[96] *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 768 (1984).

efficiency benefits are ordinarily not considered to be a sufficient justification for the adoption of presumptively anticompetitive restraints. The NBA's marketing strategy argument, apparently identical to the claim advanced here by Respondents, was thus rejected.

Lacking any case support for the their marketing strategy defense, Respondents refer the Court to the *Collaborations Guidelines*, Example 10. A careful reading of Example 10 does not support Respondents' argument. The hypothetical is as follows. Two manufacturers of word-processing software form a joint venture to develop and market a new word-processing program that neither party could develop separately. The venturers agree that "neither [party] will sell its previously designed word-processing program once their jointly developed product is ready to be introduced." This res[illegible], it is claimed, is necessary to ensure that each party contributes appropriately to the marketing effort, and will not misappropriate the co-venturer's marketing contributions. As evidence of the underlying opportunism/free-rider problem, the venturers point to: (i) documents in both firms' files dating from the time of the negotiations showing that the opportunism concern is not pretextual; and (ii) the experience of a similar software joint venture, launched without the suspect restraint, that was unsuccessful.

The *Collaboration Guidelines* offer no conclusion as to whether the hypothesized agreement not to compete would or would not be subject to summary condemnation. Still it is noteworthy that the *Collaboration Guidelines* express skepticism regarding whether one firm is capable of "misappropriating the other's marketing contributions." We are told that, in order to determine whether full rule of reason analysis is necessary, the fact-finder would have to consider, *inter alia*, whether the "the specification and monitoring of each participant's marketing contributions could be a 'practical, significantly less restrictive' alternative to

prohibiting outside sales of pre-existing products."

Respondents cite Example 10 for the proposition that joint venture partners may be prohibited from competing with the venture in order to foster "the cooperation and trust" necessary for the success of the 3T3 joint venture. This misreads the *Collaboration Guidelines*. Example 10 indicates that such generalities do not justify suspect restraints: the competitive problem must be identified with specificity and proven to be valid.[97]

As suggested by Example 10, Respondents are obligated to answer the following question: Why is the suppression of 3T1 and 3T2 necessary to the effective marketing of 3T3? In 1994, Warner marketed 3T2 effectively and successfully without suppressing 3T1. In 2000, Sony released the fourth Three Tenors album, consisting principally of Christmas songs. Sony marketed its Three Tenors album without seeking a moratorium on the marketing of previous Three Tenors albums. CPF ¶¶ 230-232. Respondents have not explained what was different in 1998.

The real issue is not that consumers are confused by multiple Three Tenors products. (See Point VIII, *supra*.). The problem, according to O'Brien of Warner, is that consumers are discerning. Given a choice between 3T3 and one of the older Three Tenors albums, some consumers may view a discounted 3T1 or 3T2 as the better value. CPF ¶¶ 301-302. The safest way for PolyGram and Warner to maximize their profits on 3T3 was therefore to agree to

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[97] Example 10 also illustrates the following unexceptional propositions: (i) free riding is a plausible concern in the context of joint ventures; (ii) the plausibility of an efficiency defense is enhanced where the issue is identified as a problem by the venturers in advance of the formation of the venture, and reflected in contemporaneous documents; (iii) the Commission may look to similar ventures to assess the validity of the claimed business justification; and (iv) less restrictive alternatives, if available, defeat the claimed efficiency defense.

maintain high prices on the older Three Tenors recordings.

The regrettable fact that 3T3 was (in the eyes of the record companies and perhaps consumers) a disappointing product cannot justify an effort by the venturers to insulate this product from competition. CPF ¶ 363. A similar argument was rejected in *NCAA*. The NCAA joint venture argued that a restriction on the telecast of college football games was necessary in order to protect live attendance at games. Such a strategy, the Supreme Court explained, would diminish rather than enhance consumer welfare:

> The NCAA's argument that its television plan [restricting the number of college football games televised] is necessary to protect live attendance is . . . [based] on a fear that the product will not prove sufficiently attractive to draw live attendance when faced . . . competition from televised games. At bottom the NCAA's position is that ticket sales for most college games are unable to compete in a free market. The television plan protects ticket sales by limiting output – just as any monopolist increases revenues by reducing output. By seeking to insulate live ticket sales from the full spectrum of competition because of its assumption that the product itself is insufficiently attractive to consumers, petitioner forwards a justification that is inconsistent with the basic policy of the Sherman Act.

*NCAA*, 468 U.S. at 116-117.

The *NCAA* case thus requires the rejection of Respondents' claim that the moratorium was necessary for the marketing of 3T3. An efficient restraint is one that promotes consumer welfare (*e.g.*, reduces costs, improves quality, enhances innovation); it does not merely facilitate the sale of a potentially undesired product. The Three Tenors moratorium agreement fails this fundamental test.

## X. The Moratorium Agreement Is Not a Legitimate Strategy for Product Promotion

Rand Hoffman, both a PolyGram attorney and a trial witness, advanced the claim that if

the moratorium agreement succeeded in generating substantial early sales of 3T3, such sales would garner publicity for this new product. Hoffman 360:4-8 ("If a record is number one in the [Billboard] charts, you might read something in Entertainment Weekly about how it's number one in the charts and then more people will buy it and the effect sort of snowballs."). This development benefits Respondents in two ways. First, the added publicity increases the venturers' profits from the sale of 3T3. Second, the commercial success of 3T3 may increase the value of later Three Tenors releases (Greatest Hits album, Box Set). Once again, then, Respondents are asking the Court to place the interests of the record companies ahead of the interests of consumers.

Getting to the "top of the cha... ..s in part a certification of quality. A consumer may think: if all of those people enjoyed 3T3 then so will I. Recognize, however, that 3T3's victory in this contest is a fraud. The impressive sales of 3T3 do not reflect the desirability of this album. Rather, PolyGram and Warner have manipulated the marketplace to hide from consumers the availability of 3T3's closest substitutes. The new Three Tenors album is protected from the risk of diverted sales that affects every other recording – but this fact is not disclosed to record buyers. As the Supreme Court has observed, an increase in output that is the result of misleading information is properly viewed as an anticompetitive effect. *CDA*, 526 U.S. at 774-75.

Consumer deception is not the only reason to reject the claimed efficiency rationale. Any time that a firm withdraws from the market at the behest of a rival, this will enable the surviving competitor to generate additional consumer attention, sales, and profits. But courts have consistently ruled that such by-products of cartelization are not a cognizable antitrust

defense. For example, the *Brown University* case rejected that claim that a price restraint may benefit consumers by channeling resources into other modes of competition (*e.g.*, efforts to improve quality). According to the Court of Appeals: "This is not the kind of pro-competitive virtue contemplated under the [Sherman] Act, but rather one mere consequence of limiting price competition." 5 F.3d at 675. In the same way, suppressing promotion of 3T1 and 3T2 may by default lead consumers to pay greater attention to 3T3, but this is not a pro-competitive benefit.[98]

Respondents also cannot seriously contend that the moratorium agreement was a necessary strategy for publicizing 3T3. For a media powerhouse like Warner, the unilateral and less restrictive alternative methods of generating attention for 3T3 were limitless. The company's marketing plan for 3T3 in the United States indicates that the following promotional activities were planned:

- PBS broadcast of the Three Tenors concert in Paris
- release of a single ("You'll Never Walk Alone")
- release of a music video
- advertisement in the company's monthly sales catalog
- four color sales brochures

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[98] *See also NCAA*, 468 U.S. at 116-117 (increased ticket sales is not a legitimate justification for limitations on telecasts of college football); *Catalano*, 446 U.S. at 649:

> [I]n any case in which competitors are able to increase the price level or to curtail production by agreement, it could be argued that the agreement has the effect of making the market more attractive to potential new entrants. If that potential justifies horizontal agreements among competitors imposing one kind of voluntary restraint or another on their competitive freedom, it would seem to follow that the more successful an agreement is in raising the price level, the safer it is from antitrust attack. Nothing could be more inconsistent with our cases.

- three minute sales presentation piece for the Warner convention

- six foot tall stand up floor merchandisers in the shape of the Eiffel Tower

- newspaper and magazine ads

- store circulars

- prominent positioning in retail stores (*e.g.*, endcaps, front counter displays, listening stations)

- radio spots

- televison ads

- posters

- mailers

- New York City transit bus tail ads

- Access Hollywood feature to coincide with album release

- E! Entertainment TV piece

- special web-site (featuring video inte[illegible]ws with the Tenors, conductor James Levine and Tibor Rudas, a tour of Pavarotti's [illegible]ing room and a fan bulletin board and chat room)

CPF ¶ 191. Beyond all this, Warner could have attempted to enhance initial sales of 3T3 (and reach the top of the sales charts) by offering consumers a discounted price. That is, in lieu of raising the price of 3T1 and 3T2, Respondents could have reduced the price of 3T3.

In sum, the claim that the Three Tenors moratorium helped promote early sales of 3T3 fails on four counts: the strategy was deceptive, the strategy did not benefit consumers, the strategy was unnecessary, and the strategy was illegitimate as a matter of law.

## XI. Respondents' Arguments Regarding Implementation of the Moratorium Are Without Merit

The following two propositions are clear from the evidence and not disputed by Respondents: (i) in the United States during the moratorium period (August 1 to October 15, 1998), there was no significant discounting or advertising of 3T1 by PolyGram;

(ii) in the United States during the moratorium period, there was no significant discounting or advertising of 3T2 by Warner. CPF ¶¶ 196-205. In other words, the conspirators conformed their conduct to the terms of their agreement. Respondents assert, however, that PolyGram withdrew from the moratorium agreement, that PolyGram did not implement the agreement, and that neither PolyGram nor Warner would have discounted or advertised 3T1/3T2 regardless of any agreement. These contentions are unsupported by the evidence, and insufficient to establish a valid antitrust defense.

### A. PolyGram's Claimed Withdrawal from the Conspiracy Is Not a Legally Valid Defense

Section 5 of the FTC Act (like Section 1 of the Sherman Act) proscribes anticompetitive agreements. Although the subsequent withdrawal from an unlawful agreement may mitigate a defendant's damages in a civil suit or toll the statute of limitations, it does not erase the underlying violation. "It is the 'contract, combination or conspiracy, in restraint of trade or commerce' which §1 of the Act strikes down, whether the concerted activity be wholly nascent or abortive on the one hand, or successful on the other." *Socony-Vacuum Oil Co.*, 310 U.S. at 224 n.59. *See also United States v. Hayter Oil Co.*, 51 F.3d 1265, 1270-71 (6th Cir. 1995) ("Because the price-fixing agreement constitutes the crime, the government is only required to prove that the agreement existed during the statute of limitations period and that the defendant knowingly entered into that agreement"); *United States v. Mobile Materials, Inc.*, 871 F.2d 902, 908 (10th Cir. 1989) (per curiam), *modified per curiam*, 881 F.2d 866 (1989) ("The essence of a § 1 Sherman Act violation is a combination and conspiracy in restraint of trade . . . The combination and conspiracy is prohibited without regard to the success or failure of the

concerted activity.") (citations omitted); *Konik v. Champlain Valley Physicians Hospital Medical Center*, 733 F.2d 1007, 1019 (2d Cir. 1984), *cert. denied*, 469 U.S. 884 (1984) ("The focus of § 1 is the agreement or the combination. Such an agreement in restraint of trade need not be carried out in order for § 1 to be violated."); H. HOVENKAMP, XII ANTITRUST LAW ¶ 2004a at 61 (1999) ("The action the Sherman Act condemns is not only the sale of a good at fixed price, but the mere agreement to fix the price. As a result, a violation can be found even when the defendant made no sales whatsoever, or made no sales at the fixed price.").

Even if Respondents could show that the Three Tenors moratorium was not fully implemented, this would not be a valid defense. The government is not required to prove any overt acts in furtherance of the alleged conspiracy. *[illegible]at Health, Ltd. v. Pinhas*, 500 U.S. 322, 330 (1991) ("the essence of any violation of § 1 is the illegal agreement itself – rather than the overt acts performed in furtherance of it"); *Nash v. United States*, 229 U.S. 373, 378 (1913) (Holmes, J.) (Sherman Act "does not make the doing of any act other than the act of conspiring a condition of liability"); *United States v. Mobile Materials, Inc.*, 871 F.2d at 908 ("overt acts need not be alleged"); *United States v. Miller*, 771 F.2d 1219, 1226 (9th Cir. 1985) ("Because the Sherman Act punishes the mere act of conspiring, overt acts in furtherance of the conspiracy need not be alleged."); *United States v. Portsmouth Paving Corp.*, 694 F.2d 312, 324 (4th Cir. 1982) (Section 1 "proscribes agreement alone, and no overt act to further the agreement need be shown."). Nor is the government required to show that the conspiracy was successful. *United States v. Gravely*, 840 F.2d 1156, 1161 (4th Cir. 1988).

Given that an unaccepted invitation to collude can give rise to antitrust liability,[99] it would be odd indeed if an accepted invitation were somehow immune from liability under Section 5.

## B. PolyGram Did Not Withdraw from the Moratorium Agreement

Where withdrawal from a conspiracy is legally relevant (*e.g.*, for purposes of calculating damages), the burden of affirmatively establishing the elements of an effective withdrawal falls upon the defendant. *United States v. Hayter Oil Co.*, 51 F.3d at 1270-71. "A mere change of policy, a mere cessation of involvement, is not effective withdrawal from a conspiracy." *In re Brand Name Prescription Drugs Antitrust Litigation*, [illegible] 599, 616 (7th Cir. 1997). To establish withdrawal, Respondents must show (i) affirmative acts inconsistent with the object of the conspiracy, that (ii) were communicated in a manner reasonably calculated to reach co-conspirators. *United States v. United States Gypsum Co.*, 438 U.S. 422, 464-65 (1978); *United States v. Finestone*, 816 F.2d 583, 589 (11th Cir 1987). PolyGram has not met its burden with respect to either of these elements.

Respondents withdrawal argument rests on two very shaky legs. First, Paul Saintilan testified at deposition that in July 1998 he informed Warner executive Anthony O'Brien that

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[99] *United States v. American Airlines*, 743 F.2d 1114, 1121 (5th Cir. 1984), *cert. denied*, 474 U.S. 1001 (1985) (unaccepted invitation to fix prices condemned under Section 2 as attempted monopolization), *cert. dismissed*, 474 U.S. 1001 (1985). In a series of consent decrees, the Commission has endorsed the proposition that an invitation to collude may violate Section 5 of the FTC Act. *In re: MacDermid, Inc.*, 2000 FTC LEXIS 35 (2000); *In re: Stone Container Corp.*, 1998 FTC LEXIS 15 (1998); *In re: Precision Moulding Co.*, 122 F.T.C. 104 (1996); *In re: YKK (USA) Inc.*, 116 F.T.C. 628 (1993); *In re: A.E. Clevite, Inc.*, 116 F.T.C. 389 (1993); *In re: Quality Trailer Products Corp.*, 115 F.T.C. 944 (1992).

PolyGram would not implement the moratorium. But O'Brien testified at trial and denied that such conversation ever occurred. CPF ¶¶ 181-182. In fact, no PolyGram representative ever told O'Brien that PolyGram intended to withdraw from its agreement not to compete. CPF ¶¶ 183-186.

The documentary record supports O'Brien's recitation of the facts. With regard to the moratorium, Saintilan was a prolific creator of documents. We have three e-mail messages from Saintilan to his supervisors reporting on his efforts to secure assurances that Warner would comply with the moratorium on a worldwide basis;[100] and yet, no document memorializes a conversation about "withdrawal." In July 1998, in an effort to conceal his actions, Saintilan destroyed documents regarding the moratorium, but he had no incentive to destroy exculpatory materials. CPF ¶ 169. Saintilan was scheduled to testify at trial, but Respondents chose not to call him and expose him to cross-examination. It is most likely then that the conversation described by Saintilan never took place.

The second leg of the withdrawal argument relates to communications among company attorneys in July 1998. Yet, no witness testified that, during July 1998 or at any other time, a PolyGram attorney communicated to Warner PolyGram's intention to withdraw from the moratorium agreement. CPF ¶ 176. No document evidences such a communication.

All that the documents show is that Warner and PolyGram attorneys exchanged draft versions of what later became the August 10 letter from O'Brien to Saintilan (purporting to reject the moratorium proposed by PolyGram). CPF ¶¶ 177-179. These communications cannot

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[100] JX3; JX4; JX66.

constitute PolyGram's effective withdrawal from the conspiracy for three reasons. (1) The August 10 letter (and all drafts thereof) describe Warner's intended conduct, not PolyGram's intended actions. (2) The August 10 letter refers to Warner's intended conduct in Europe only, and does not refer to the United States. (3) Most importantly, the August 10 letter was later countermanded by O'Brien. CPF ¶¶ 176-182. That is, O'Brien telephoned Saintilan shortly after August 10, 1998, and communicated that – notwithstanding the letter prepared by company attorneys – Warner intended to implement the moratorium in the United States and worldwide. CPF ¶ 181. During this conversation, Saintilan obviously had an opportunity to inform O'Brien that PolyGram would not implement the moratorium – if such was its plan. Saintilan did not do so. CPF ¶¶ 182.

Warner perceived and understood that PolyGram was in fact complying with the moratorium on a worldwide basis between August 1 and October 15, 1998. O'Brien testified to this. CPF ¶¶ 196, 199-200, 206-210. And the contemporaneous documents confirm that PolyGram's supposed "withdrawal" was not communicated to Warner: only after October 15 did Warner executives felt free to promote 3T2; only after October 15 did Warner executives anticipate that PolyGram would discount 3T1. CPF ¶¶ 212-216. Little weight can be accorded to deposition testimony that conflicts with the contemporaneous written record.[101]

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[101] *United States v. United States Gypsum Co.*, 333 U.S. at 396. *Accord Millar v. FCC*, 707 F.2d 1530, 1541 (D.C. Cir. 1983); *Gainesville Utilities Dep't v. Florida Power & Light Co.*, 573 F.2d 292, 301 n. 14 (5th Cir. 1978), *cert. denied*, 439 U.S. 966 (1978); *Pension Benefit Guaranty Corp. v. Envirodyne Industries, Inc.*, 1988 U.S. Dist. LEXIS 16044 *2-3 (N.D. Ill. 1988) ("[T]estimony of events long ago can be colored by time, trauma, and self-interest, even with the best of good faith. The paper trail is, therefore, the more reliable evidence . . . when the contemporaneous documents and later testimony differ.").

Whatever PolyGram managers thought or intended, withdrawal was never communicated to co-conspirators at Warner. An uncommunicated withdrawal from a conspiracy has no legal import.

### C. Insubstantial Discounting of 3T1 in Europe <u>Is Not Evidence of Withdrawal from the Conspiracy</u>

On July 30, 1998, Paul Saintilan sent a memorandum to PolyGram operating companies in Europe stating that there was no agreement, and had been no agreement, between PolyGram and Warner to forgo discounting and advertising of Three Tenors products. CPF ¶¶ 170-175. During the August through October time frame, there was an insignificant volume of discounting of 3T1 by PolyGram in Europe – so insignificant that it was not even noticed by Warner. CPF ¶ 211. These actions do not evidence PolyGram's withdrawal from the Three Tenors moratorium agreement. A more accurate characterization would be that Saintilan attempted to cover up the conspiracy, and that some PolyGram operating companies were cheating on the agreement perhaps without the consent of PolyGram's senior decision-makers. *Cf. United States v. Gravely*, 840 F.2d 1156, 1161 (4th Cir. 1988) (affirming price fixing conviction notwithstanding evidence that prices charged by conspirators did not always conform to the agreement).[102]

Managers of the PolyGram operating companies likely recognized the July 30 notification from Saintilan as an effort to create a paper record, and not as a bona fide change in

[102] Saintilan's July 30 memorandum denying the existence of the moratorium is patently inaccurate. The only PolyGram employee to testify at trial, Rand Hoffman, admitted the existence of the moratorium agreement. CPF ¶ 172.

policy. First, prior to July 30, PolyGram operating companies had received at least three memoranda from the company's central management stating that there was a moratorium agreement with Warner. Given this background, Saintilan's denial of such agreement was hardly credible. CPF ¶ 174. Second, after stating that the operating companies are free to market 3T1 as they see fit, Saintilan's memorandum goes on to warn that promoting 3T1 may jeopardize a higher priority – sales of 3T3. In substance then, the moratorium was re-enforced rather than negated. CPF ¶ 173. Third, for most operating companies, there was not enough lead time following the July 30 memorandum to develop and implement a marketing plan to promote 3T1 with the release of 3T3 on August 10. Saintilan acknowledged this fact at his deposition. CPF ¶ 175. Fourth, Saintilan's July 30 memorandum did [illegible] fact authorize operating companies to discount 3T1; the operating companies were still required to seek and secure consent from Decca (the PolyGram affiliate that "owned" 3T1), and from PolyGram Vice President Bert Cloeckaert. CPF ¶ 174. One and only one PolyGram operating company (Spain) sought and received permission to discount 3T1 during the moratorium period. CPF ¶ 211.

Respondents claim that, apart from Spain, there were discounted sales of 3T1 in Europe between August 1 and October 15, 1998. The basis for this contention is one document created for purposes of this litigation. Even assuming the reliability of this document, some discounting of 3T1 is not evidence that PolyGram failed to comply with its agreement with Warner. In negotiating the moratorium agreement, Warner and PolyGram discussed the fact that, outside of the United States, some discounting of older Three Tenors products upon the release of 3T3 would be unavoidable. In some markets, operating companies would need to honor commitments made to retailers. CPF ¶ 211. Further, PolyGram's central management did not

have complete control over the wholesale prices of some operating companies. CPF ¶ 136.

Whatever its root cause, the discounting of 3T1 by PolyGram during the moratorium period was so insignificant that it was not noticed by Warner. CPF ¶ 208. As described above, Warner executives continued to believe that the moratorium was in place and acted accordingly. And insofar as the asserted discounting took place in Europe, it did nothing to ameliorate the injury to U.S. consumers.

### D. Respondents' Claim that PolyGram Would Not Have Discounted in the United States Absent the Moratorium Is Not a Valid Defense

The claim that PolyGram and Warner would not have discounted or promoted catalogue Three Tenors products in the United States even absent their agreement is no defense. There is insufficient evidence to determine precisely what the parties' prices would have been if they had acted unilaterally. The decisive fact, however, is that Respondents chose not to act unilaterally, but instead to enter into an unlawful agreement. *Palmer v. BRG* illustrates this precept. One law review company, BRG, had never done business outside of Georgia, and did not intend to do so.[103] Nevertheless, the market allocation scheme, in which BRG agreed with a competitor to operate in Georgia only, was judged to be a *per se* violation. *See also United States v. W.F. Brinkley & Son Constr. Co.*, 783 F.2d 1157, 1160 (4th Cir. 1986) (claim that agreement with competitor did not influence contractor's bid is not a defense to bid rigging; "accepting the appellants' position would lead to self-serving testimony in virtually every bid rigging trial"); *Lee-Moore Oil Co. v. Union Oil Co.*, 599 F.2d 1299, 1301-1302 (4th Cir. 1979) (claim that a

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[103] *Palmer v. BRG of Georgia, Inc.*, 847 F.2d 1417, 1424 (11th Cir. 1989), *amended*, 893 F.2d 293 (11th Cir. 1990), *rev'd*, 498 U.S. 46 (1990).

supplier could have unilaterally terminated a jobber is no defense where the supplier in fact terminated the jobber in furtherance of a conspiracy to eliminate discounters); *TRU*, 126 F.T.C. at 585 (plausible argument that toy manufacturers would unilaterally forgo sales to warehouse clubs does not immunize agreement to boycott the warehouse clubs); P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶ 1509' at 368 (2001 Supp.) ("market divisions do not become reasonable merely because one of the parties did not intend to compete in the surrendered market anyway").

Respondents' argument is equivalent to claiming that the minimum selling price fixed by PolyGram and Warner was reasonable, or at the competitive level. This defense was rejected by the Supreme Court decades ago in *Trenton Potteries Co.*, 273 U.S. at 397-8 (Price fixing agreements are unlawful "without the necessity of minute inquiry [into] whether a particular price is reasonable or unreasonable as fixed and without placing on the government in enforcing the Sherman Law the burden of ascertaining from day to day whether it has become unreasonable through the mere variation of economic conditions."). *See also Catalano*, 446 U.S. at 647 ("It is no excuse that the prices fixed are themselves reasonable."); T. Krattenmaker, *Per Se Violations in Antitrust Law: Confusing Offenses With Defenses*, 77 GEO. L.J. 165, 173 (1988) ("[A]ntitrust law has rejected as per se impermissible the defense to a price-fixing claim that the fixed prices were reasonable. Experience teaches that judges are not capable of assuming the responsibility for measuring – as might a public utilities commission – the reasonableness of every price in the U.S. economy. Principles embedded in the antitrust laws further teach that the reasonable price is the one generated by the invisible hand of the marketplace, not a price chosen by firms on one side of the market.") (citations omitted).

## XII. The Challenged Restraints Affect Interstate Commerce

The Commission's jurisdiction extends to all matters in or affecting interstate commerce. 15 U.S.C. § 45. "[P]roper analysis focuses, not upon actual consequences, but rather upon the potential harm that would ensue if the conspiracy were successful." *Summit Health Ltd.*, 500 U.S. at 330.

Both 3T1 and 3T2 are sold in interstate commerce. It follows that the agreement to forgo discounting and advertising of these products affected or had the potential to affect interstate commerce. CPF ¶¶ 27-31.

## XIII. Each Of The Respondents Is Individually Liable

A corporation may be held liable under the antitrust laws for the conduct of its agent if the agent acted within the scope of his actual or apparent authority. *E.g., American Society of Mechanical Engineers v. Hydrolevel Corp.*, 456 U.S. 556, 570 (1982). Here, Saintilan, Hoffman and others acted with the actual and/or apparent authority to commit all of the PolyGram Respondents to the implementation of the Three Tenors moratorium. CPF ¶¶ 217-228. Accordingly, each of the four Respondents is liable for violating Section 5.[104]

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[104] In the alternative, the various PolyGram corporations that collaborated in the marketing of Three Tenors products should be viewed as a common enterprise under the FTC Act. Kronfeld Dep. (JX86) 15:2-16 ("PolyGram was a labyrinth of companies set up for specific legal and tax reasons."). *See First National City Bank v. Banco Para El-Comercio Exterior*, 462 U.S. 611, 629-630 (1983); *Six West Retail Acquisition, Inc. v. Sony Theatre Management Corp.*, 2000-1 Trade Cas. (CCH) ¶ 72,823 at 87,070-71 (S.D.N.Y. 2000); *FTC v. U.S. Oil and Gas Corp.*, Civil No. 83-1702-CIV-WMH, 1987 U.S. Dist. Lexis 16137 at *62 (S.D. Fla. July 10, 1987).

The parties' stipulations provide that, because of various mergers: (i) Respondent Decca is successor to, and was formerly named, The Decca Record Company Limited; (ii) Respondent

## XIV. Issuance of a Cease and Desist Order Against Respondents Is Appropriate

"[O]nce the Government has successfully borne the considerable burden of establishing a violation of law, all doubts as to the remedy are to be resolved in its favor." *United States. v. E.I. du Pont De Nemours and Co.*, 366 U.S. 316, 334 (1961). And yet, Respondents ask the Court not to issue a cease and desist order in this matter, even following a finding of liability. According to Respondents, "it is unclear when, if ever, a similar set of facts might converge and lead to a situation where another measure like the moratorium might be considered." Respondents' Trial Brief at 15. This is hardly credible, given that the efficiency justifications proffered by Respondents apply equally well (or badly) to nearly any non-compete agreement between firms selling close substitutes.

Section 5(b) of the FTC Act empowers the Commission to issue an order requiring a respondent found to have engaged in unfair methods of competition to "cease and desist" from such conduct. 15 U.S.C. § 45(b) (1997). *See* ABA Antitrust Section, *Antitrust Law Developments* at 591 (4th ed. 1997); *see also* P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶ 302e at 16-17 (2000). "The Commission has wide discretion in its choice of a remedy deemed adequate to cope with the unlawful practices" so long as the remedy has a "reasonable relation to the unlawful practices found to exist. *Jacob Siegel v FTC*, 327 U.S. 608, 611-13 (1946). Further, "the Commission is not limited to prohibiting the illegal practice in the precise form in

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UMG is successor to, and was formerly named, PolyGram Records, Inc.; and (iii) Respondent UMVD is successor to PolyGram Group Distribution, Inc. CPF ¶¶ 9-13, 21-22. When two corporations merge, the surviving corporation assumes the liabilities of the dissolved corporation. *E.g., General Elec. Capital Corp. v. Lease Resolution Corp.*, 128 F.3d 1074, 1083 (7th Cir. 1997); *Leo v. Kerr-McGee Chemical Corp.*, 37 F.3d 96, 99 n.3 (3d Cir. 1994);15 W. FLETCHER, CYCLOPEDIA OF THE LAW OF PRIVATE CORPORATIONS, § 7121 at 213 (1999).

which it is found to have existed in the past. . . . it must be allowed effectively to close all roads to the prohibited goal, so that its order may not be by-passed with impunity." *FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952).

The Commission may issue an order even where the respondent has discontinued the illegal practice, where the possibility of a recurrence of the illegal activity exists. *See United States v. Oregon State Med'l Society*, 343 U.S. 326, 333 (1952) ("All it takes to make the cause of action for relief by injunction is a real threat of future violation or a contemporary violation of a nature likely to continue or recur."); *Wilk v. American Med. Assoc.*, 895 F.2d 352, 366-68 (7th Cir. 1990), *cert. denied*, 496 U.S. 927 (1990) *and* 498 U.S. 982 (1990); *Official Airline Guides, Inc. v. FTC*, 630 F2d. 920, 928 (2d Cir. 1980), *cert denied*, 450 U.S. 917 (1981); *see also*, *Marlene's, Inc. v. FTC*, 216 F.2d 556, 560 (7th Cir. 1954). Where, as here, the respondents have refused to acknowledge their past lawlessness, this may be viewed as evidence that the illegal activity may recur. *Wilk*, 895 F.2d at 366.

An order is clearly appropriate in the present case. First, the marketing challenge that gave rise to the Three Tenors moratorium is certain to recur: the fear that a new release by a given artist may lose sales to the artist's older albums. Respondents have recording contracts with several artists that formerly released albums with one of Respondents' competitors. CPF ¶¶ 371-372.[105]

Universal is engaged in other joint ventures where a similar incentive and opportunity to

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[105] A music label may release an artist from his exclusive recording contract in return for a royalty on the artist's first album on his new label. When this occurs, the two competing labels may have a shared financial interest in the success of a particular album. Hoffman 357:12-25.

restrain competition is presented. Specifically, Universal and Sony have formed a joint venture known as "Pressplay" to distribute music over the Internet. Universal, Sony, and other music companies will provide their music to the venture on a non-exclusive basis. This means that music products marketed by the venture may also be marketed (*e.g.*, by Sony) through traditional retail outlets. Absent an order, Universal and Sony may find it profitable to fix prices on products sold to retail stores in order to enhance the venture's internet sales and profits. CPF ¶ 374.

The proposed Order submitted by Complaint Counsel would enjoin Respondents from entering into future agreements similar to the Three Tenors moratorium. Specifically, the core substantive provisions of the Order would require Respondents to cease and desist from soliciting, entering into, or continuing any agreement with a competitor: (i) to fix, raise, or stabilize prices, or (ii) to prohibit, restrict, or limit truthful, nondeceptive advertising or promotion. These prohibitions would apply to the sale in or into the United States of any audio or video product.

The proposed Order contains limited exemptions to the above-described provisions intended to permit Respondents to engage in certain lawful and pro-competitive conduct. First, when Respondents and a competing seller jointly produce a new audio or video product, the Order does not bar the firms from jointly setting the price and jointly directing the advertising and promotion *for that product*.[106] Second, when Respondents and a competing seller enter into

[106] In order to fall within this proviso, the collaborating parties must each contribute significant assets toward production of the joint venture product so as to achieve pro-competitive benefits. Sham collaborations will not shield an otherwise prohibited restraint.

a legitimate joint venture, the order does not bar the firms from entering into ancillary restraints (affecting price, advertising, and/or promotion) reasonably related to the venture and reasonably necessary to achieve the pro-competitive benefits of the venture.[107]

Finally, the proposed Order includes provisions designed to help the Commission monitor Respondents' compliance with their substantive obligations.

## CONCLUSION

In 1998, PolyGram and Warner agreed to fix prices and ban advertising for certain audio and video products featuring the Three Tenors. Because the moratorium agreement restricted basic forms of competition, it is presumptively anticompetitive. Respondents have not met their burden of demonstrating a valid efficiency justification for this conduct.

Respondents were apparently concerned that their new joint venture product, 3T3, could lose sales to 3T1 and 3T2. The evidence does not demonstrate a substantial risk that such lost sales would significantly reduce incentives to promote 3T3. Further, PolyGram and Warner were sharing the costs of advertising 3T3 in the United States. It follows that, with regard to such advertising, neither PolyGram's sales of 3T1 nor Warner's sales of 3T2 are appropriately regarded as free riding. In the words of Judge Easterbrook: "Free-riding is the diversion of value from a business rival's efforts without payment . . . . When payment is possible, free-

[107] The proposed Order includes a third proviso that is designed to ensure that the Order does not impede Respondents' ability to participate in industry efforts to discourage the promotion of violent or otherwise inappropriate audio and video products to children. Although Respondents are generally prohibited from agreeing with a competitor to restrict truthful and non-deceptive advertising, Respondents are expressly permitted to join with other sellers to prevent the advertising, marketing or sale to children of audio products or video products labeled or rated with a parental advisory or cautionary statement as to content.

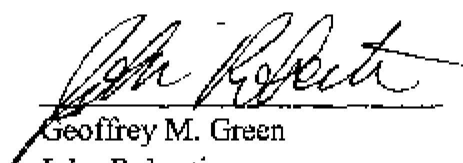
riding is not a problem because the 'ride' is not free." *Chicago Prof'l Sports*, 961 F.2d at 674-675.

Other efficiency justifications advanced by Respondents suffer from one or more of the following deficiencies: the argument is pretextual, the issue does not apply to the U.S. market, the justification is without evidentiary support, the argument is inconsistent with basic antitrust principles.

The marketing challenge that lies at the heart of this case – that an artist's older recordings may capture sales at the expense of a new release issued by a competing record company – occurs frequently. The Court should issue an order that bars Respondents from, in the future, responding to this challenge by entering into agreements that unreasonably restrain competition.

For all of these reasons, Complaint Counsel respectfully requests that Respondents be adjudged to have violated Section 5 of the FTC Act, and that the attached Order be entered against the Respondents, together with any other relief that the Court deems just.

Respectfully submitted,



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*Counsel Supporting the Complaint*

Bureau of Competition
Federal Trade Commission
Washington, D.C.

Dated: May 6, 2002

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**

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| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation,<br><br>UMG RECORDINGS, INC.,<br>a corporation,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO DISTRIBUTION CORP.,<br>a corporation. | Docket No. 9298 |

**COMPLAINT COUNSEL'S FINDINGS OF FACT, CONCLUSIONS OF LAW, MEMORANDUM OF LAW IN SUPPORT THEREOF AND ORDER**

**APPENDIX A: EMPIRICAL LITERATURE CONCERNING ADVERTISING RESTRICTIONS**

Complaint counsel respectfully submits the following appendix to Complaint Counsel's Findings of Fact, Conclusions of Law, Memorandum of Law in Support Thereof and Order. This appendix contains a summary of each of 18 empirical studies on the effects of restrictions on advertising upon prices and consumer welfare. Each summary is followed by a copy of the article being summarized.

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Lee Benham, *The Effect of Advertising on the Price of Eyeglasses*, 15 J.L. & ECON. 337 (1972).

**Scope of Study:** At the time of this study, the sale of eyeglasses was subject to advertising regulation in some, but not all states. Benham analyzed data from a national survey of individuals concerning expenditures on medical services. In this survey, 634 individuals reported purchasing eyeglasses. The survey included demographic data about these individuals, and information about the amount spent by individuals for eye examinations. This allowed Benham to associate the prices paid for the eyeglasses with the state in which they were purchased.

**Conclusions:** Using a multiple regression analysis, Benham concluded that, controlling for many demographic characteristics of the consumers, consumers paid substantially more for eyeglasses in states with restrictions on advertising. Benham concluded that advertising restrictions raised the average retail price by $7.48; the difference in price between the most restrictive state (North Carolina) and the least restrictive state (District of Columbia) was $19.50. Benham attempted to control for non-advertising restrictions on eyeglasses and professionals, as well as the quality of eyeglasses provided. He concluded that neither non-advertising restrictions nor variations in the quality of eyeglasses could explain the price differences between states with advertising restrictions and states without advertising restictions.

# THE EFFECT OF ADVERTISING ON THE PRICE OF EYEGLASSES*

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## I. Introduction

THE impact of advertising on prices has long been a matter of dispute. It has been argued that the persuasive aspects and the product differentiation effects of advertising tend to raise the prices of products to consumers. On the other hand, by providing consumers with information about products and alternatives in the market, allowing them to economize on search and to locate low-priced sellers more readily, advertising may tend to lower prices to consumers. It may also lower prices by allowing sellers or producers to economize on other merchandising costs and to take advantage of economies of scale. On purely theoretical grounds, therefore, no reliable prediction can be made as to the overall effect of advertising on prices.[1]

While there has been much discussion of this question, relatively little has been done to estimate empirically the relationship between advertising and prices. Some studies have compared prices for different brands of "homogeneous" items, some of which were advertised and some of which were not. In general, the advertised brands were found to sell at higher prices.[2] While such comparisons have frequently neglected such characteristics as quality control, service provided with the sale, location of sales outlets, waiting time to purchase, and inventory and range of stock available, it is not my purpose here to further refine measures of homogeneous commodities. It is rather to propose an alternative approach to this question.

One way to understand better the full impact of advertising on prices is

* I would like to thank Ronald Andersen for generously making available the data used in this study, Sara Paretsky for assistance in editing the data, and Harold Pashner for computer programming. Helpful comments by Gary Becker, Alexandra Benham, Harold Demsetz, Reuben Kessel, Willard Mueller, and Melvin Reder are gratefully acknowledged. This investigation was supported by PHS Grant Number HS00080 from the National Center for Health Services Research and Development.

[1] See The Economist Advisory Group, The Economics of Advertising: A Study (1967).

[2] For example, Borden compared the prices of private and manufacturers brands of several items. An extreme case was that of Bayer aspirin; in 1938 the wholesale price for the generic equivalent was only 17% of the wholesale price for Bayer. See Neil H. Borden, The Economic Effects of Advertising 576 (1944).

to examine markets for a product in which advertising is prohibited and mar-
kets for the same product in which advertising is allowed, comparing th
price structures of the two types of markets. Market organization and pric
structure may be significantly affected by the presence in a market of eve
one seller who advertises or who potentially can do so. The full impact o
prices of the existence of advertising may be much greater than the pric
differences we observe when some producers of an item choose to adverti
it and others do not.

For a variety of goods and services, especially in the service sector, adver-
tising is frequently prohibited by cities or states. Examples are most servic
of physicians and dentists, prescription drugs, and eyeglasses. Unfortunately
for most such items there is little if any variation in the restrictions impose
across states. A major exception is eyeglasses: some states prohibit advertis-
ing related to eyeglasses and eye examinations while others do not. By ex-
amining the prices paid for these items by a sample of individuals in each
category of states, we may gain more insight into the impact of advertisin
on prices.

## II. Advertising and Information

The full cost of purchase ($C_f$) of a good to a consumer includes not onl
the cost of the item itself ($C_g$) but the cost of knowledge ($C_k$) concernin
the location of sales outlets and prices and the cost of time and transporta-
tion ($C_t$) required to purchase the item:

$$C_f = C_g + C_k + C_t$$

These components of full cost are in part jointly determined. For a given fre-
quency distribution of retail prices offered in the market, the distribution o
prices paid ($C_g$) will depend upon the extent of consumers' knowledge of th
alternative prices available and the cost of time and transportation. Pas
studies have shown that both the mean and the dispersion of prices paid gen-
erally decrease as the extent of search (knowledge) increases.[3]

Insofar as advertising increases consumers' knowledge of alternative price
in the market, it will tend to decrease the mean and dispersion of prices paid
If there are economies of scale in retailing the good, then the effect of adver-
tising in lowering mean prices should be intensified.[4] In general, large-volum

[3] See the work of Stigler and others on the economics of information: George J. Stig
The Economics of Information, 69 J. Pol. Econ. 213 (1961); Roger E. Alcaly, Informa-
tion and the Distribution of Prices, Sept. 1970 (Dep't of Econ., Columbia Univ., unpub-
lished paper presented at 2nd World Congress of Econometric Society, Cambridge, Eng

[4] However, the consequences for price dispersion are less clear-cut. When economies o
scale exist, the size distribution of firms will be changed by advertising. Consequently, the

low-price sellers are dependent upon drawing consumers from a wide area and consequently need to inform their potential customers of the advantages of coming to them. If advertising is prohibited, they may not be able to generate the necessary sales to maintain the low prices. In such a situation, the cost of disseminating information to consumers will more than offset the other economies of scale. At the same time, the likelihood that small-volume high-priced retailers survive in the market will increase. Consequently, the distribution of retail prices offered will shift upward. The question under consideration here is the extent to which economies resulting from the information provided through advertising are offset by the costs of advertising and by product differentiation.

## III. Advertising Restrictions in the Market for Eyeglasses

The advertising of eyeglasses and eye examinations is controlled in many states by various state agencies. From a predominantly laissez-faire situation in the first decades of this century, the trend has been toward increased regulation and restriction of advertising. In 1963, the year for which data on prices were available for this study, approximately three-quarters of the states had some regulations against advertising. Some states prohibited only price advertising while others allowed virtually no information concerning eye examinations or eyeglasses to be published, broadcast, or in any way distributed.[5] Since 1963, several additional states have introduced restrictions. The following excerpts are taken from 1963 laws.

Arkansas: The following Acts are hereby declared to be unlawful Acts: . . . For any optometrist, physician, surgeon, individual, firm, partnership, corporation, wholesaler, jobber or retailer to solicit the sale of spectacles, eyeglasses, lenses, contact lenses, frames, mountings, prisms, or any other optical appliances or devices, eye examinations or visual services including vision training or orthoptics by radio, window display, television, telephone directory display advertisement, newspaper advertisement, hand bills, circulars, prospectus, posters, motion pictures, stereopticon slides or any other printed publication or medium or by any other means of

average cost of time and transportation to purchase the given item may increase, even as costs of information fall. In this situation, the dispersion of prices paid will depend upon several factors including the cost of time and transportation to consumers and the functional relationship between prices and volume of sales.

[5] Because sellers are prevented from advertising through normal channels, they are not necessarily prevented from providing information through other methods. The selling effort within a store is in part a substitute for general advertising. Joint sales arrangements may be developed (where permitted) to take advantage of consumer knowledge concerning low prices for other items which can be advertised. Insofar as these other ways of offering information are close substitutes for regular advertising, then the prohibition will not have much effect.

advertisement; or to use any method or means of baiting, persuading, or enticing the public into buying spectacles, eyeglasses, lenses, contact lenses, frames, mountings, prisms, or other optical appliances or devices for visual correction or relief of the visual system or to train the visual system . . .

Nothing in this Act except as expressly provided otherwise herein shall apply to physicians and surgeons, nor to persons who sell eyeglasses, spectacles, lenses, frames, mountings, or prisms at wholesale on individual prescriptions to optometrists, physicians, and surgeons. . . .[6]

Florida: Any certificate of registration granted by the Florida state board of optometry . . . may be revoked by said board, if the person . . . is found guilty of unprofessional conduct. . . . 'Unprofessional conduct' . . . is defined to mean any conduct of a character likely to deceive or defraud the public, including among other things free examination advertising, price advertising, billboard advertising, use of any advertising either directly or indirectly, whether printed, radio, display, or of any nature which seeks to solicit practice on any installment payment or price plan. . . .

It is unlawful for any person, firm or corporation to . . . advertise either directly or indirectly by any means whatsoever any definite or indefinite price or credit terms on prescriptive or corrective lenses, frames, complete prescriptive or corrective glasses or any optometric sevice; to advertise in any manner that will tend to mislead or deceive the public; to solicit optometric patronage by advertising that he or some other person or group of persons possess better qualifications or are best trained to perform the service or to render any optometric service pursuant to such advertising. This section is passed in the interest of public health, safety and welfare, and its provisions shall be liberally construed to carry out its objects and purposes.[7]

A survey was made of several state boards of optometry concerning the sanctions used to enforce these regulations. Injunctions and suspensions of license for periods up to a year were the most common sanctions mentioned by the respondents. In some cases they said that fines were levied and licenses revoked. There appears to be careful policing and enforcement of these regulations in most states.

## IV. Price Differentials Associated with Advertising Restrictions

The data on eyeglass and eye examination prices used in this study were obtained from a 1963 survey of a national sample of individuals. The survey examined use of and expenditures on medical services.[8] The present study

[6] The Blue Book of Optometrists 87-88 (1964).

[7] *Id.* at 146-47.

[8] See Ronald Andersen & Odin W. Andersen, A Decade of Health Services: Social Survey Trends in Use and Expenditure (1967).

uses a subsample of 634 individuals who each underwent an eye examination and/or obtained a pair of eyeglasses in 1963. In addition to the amount spent by individuals for eye examinations and eyeglasses, detailed demographic information on each individual was included in the survey. With this information, the prices paid for eye examinations and eyeglasses could be associated with the state of purchase.

The analysis below deals principally with eyeglasses and not with eye examinations; very few states permitted advertising of eye examinations in 1963. However, 291 individuals in the survey quoted only the combined price of the examination and glasses. Since relatively little variation in the cost of eye examinations was found across states and since prices of examinations and eyeglasses were not highly correlated across states,[9] the systematic variation in total cost examined here is assumed to reflect variation in the cost of eyeglasses.

To estimate the differential in prices associated with prohibition of advertising, two comparisons were made. First, the mean price paid for eyeglasses and the mean price paid for eyeglasses and eye examination together were calculated for individuals living in states with and without restrictions on advertising. Next, since the demographic characteristics of individuals in the sample were not uniform across the states, the following simple model was used to estimate price differentials.

$$P_i = \alpha + \beta_1 X_{1i} + \sum_{j=2}^{5} \beta_j X_{ji} + \mu_i$$

where $P_i$ is the price paid by individual $i$ for his eyeglasses;

$X_{1i}$ is a dummy variable which equals 1 if individual i purchased his eyeglasses in a state with complete prohibition of advertising, and equals 0 otherwise;

$X_{2i}, \ldots, X_{5i}$ are total family income, age, sex, and family size.[10]

Thus $\beta_1$ estimates the average difference in dollars paid for eyeglasses between states with complete prohibition of advertising and states without such prohibition.

[9] States with low prices for eyeglasses had a higher proportion of combined price quotes. This might disguise lower mean prices for examination in these states.

[10] These variables might account for the differences in prices paid across states. In addition, various other combinations of variables not shown here were examined, including education of individual, race of individual, size of city of residence, and mean level of education and income in county of residence. The coefficient of the advertising variable was basically unchanged when these latter variables were included in the estimating equation.

TABLE 1

MEAN COST OF EYEGLASSES AND MEAN COMBINED COST OF EYE EXAMINATION PLUS EYEGLASSES IN 1963 AS A FUNCTION OF RESTRICTIONS ON ADVERTISING IN STATES (in Dollars)

| | States with Complete Advertising Restrictions | | States with No Advertising Restrictions | | |
|---|---|---|---|---|---|
| Population Group | $\overline{X}_1$ | N | $\overline{X}_2$ | N | $\overline{X}_1-\overline{X}_2$ |
| | Eyeglasses Alone | | | | |
| 1) All individuals | 33.04 | 50 | 26.34 | 127 | 6.70 |
| 2) All individuals in Texas, North Carolina, and the District of Columbia | 37.48 | 21 | 17.98 | 27 | 19.50 |
| | Eyeglasses and Eye Examinations Combined | | | | |
| 3) All individuals | 40.96 | 121 | 37.10 | 261 | 3.86 |
| 4) All individuals in Texas, North Carolina, and the District of Columbia | 50.73 | 37 | 29.97 | 72 | 20.76 |

There appears to be no single most satisfactory way to categorize states by the extent to which they restrict advertising, so two sets of estimates are presented to indicate the likely range of impact. The first set of estimates (Table 1, line 1 and Table 2, equation 1) is based on all individuals purchasing eyeglasses in 1963 in states either with no restrictions on advertising or in states with complete prohibition of it.[11]

To estimate the probable upper bound of the effects of advertising restrictions, the second set of estimates (Table 1, line 2 and Table 2, equation 2) is based only on individuals living in states at the extremes: Texas and the District of Columbia, extreme laissez-faire states, versus North Carolina, a state with extensive restrictions in force for a number of years prior to 1963 (hence

[11] Several sources of information were used to determine states' restrictions on advertising. State laws were canvassed, a survey of state optometry board members was made, 1963 newspapers from several states were sampled to search for eyeglass advertisements, and optometrists in several states were contacted. The problem was to ascertain not only the restraints against advertising by optometrists but also the restraints against advertising by other sellers. In some states optometrists were prohibited from advertising but opticians or commercial firms were permitted to advertise. States were classified as allowing advertising if any sellers were permitted to advertise. Despite the aforementioned search, it was not possible to classify several states satisfactorily. Furthermore, Ohio was excluded because cities apparently had regulatory authority over advertising; New Jersey was excluded because the individuals sampled lived predominantly near New York City, creating substantial classification problems. In addition, the original survey did not include respondents from some states. In the estimates here, states classified as having no restrictions on advertising in 1963 are: Alabama, the District of Columbia, Georgia, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Missouri, Texas and Utah. States classified as having total prohibition of advertising are Arkansas, Massachusetts, North Carolina, North Dakota, Oklahoma, and South Carolina.

TABLE 2

REGRESSION ESTIMATES FOR COST OF EYEGLASSES AND COMBINED COST OF EYE EXAMINATION PLUS EYEGLASSES FOR VARIOUS POPULATION GROUPS IN 1963 AS A FUNCTION OF RESTRICTIONS ON ADVERTISING IN STATES AND OTHER VARIABLES

(t statistic in parentheses)

| Population Group | Complete Advertising Restrictions 0 = No, 1 = Yes | Total Family Income | Age | Sex Female = 0 Male = 1 | Family Size | Constant | $R^2$ | $\bar{R}^2$ | N |
|---|---|---|---|---|---|---|---|---|---|
| | | | | EYEGLASSES ALONE | | | | | |
| 1) All individuals in states with complete restrictions or with no restrictions | 7.482 (2.5) | .03981 (1.4) | .01246 (.17) | −3.192 (−1.1) | .1256 (.11) | 23.27 (3.5) | .046 | .018 | 177 |
| 2) All individuals in Texas, North Carolina and District of Columbia | 18.80 (4.1) | −.02422 (−.5) | .1572 (1.1) | −8.298 (−1.6) | .1599 (.07) | 18.06 (1.54) | .34 | .26 | 48 |
| | | | | EYEGLASSES AND EYE EXAMINATION COMBINED | | | | | |
| 3) All individuals in states with complete restrictions or with no restrictions | 4.33 (1.96) | .04500 (2.03) | .05615 (.96) | −.2998 (−.15) | −1.528 (−1.92) | 36.72 (7.5) | .038 | .025 | 382 |
| 4) All individuals in Texas, North Carolina and District of Columbia | 21.07 (5.6) | .001651 (.04) | .06701 (.63) | −3.437 (.94) | −2.54 (−1.6) | 37.30 (4.5) | .28 | .25 | 109 |

likely to have the long-run effects of these restrictions in evidence). This latter set of estimates is likely to overstate the impact of advertising restrictions, since North Carolina had other laws which would tend to raise prices independent of advertising regulations, and the proportion of the total price difference which can be attributed to advertising restrictions cannot be determined at this stage.

In the first set of estimates, the difference in mean prices of eyeglasses between the two categories of states is $6.70, with the lower mean price found in states having no advertising restrictions (Table 1, line 1).[12] The regression estimate of the difference is similar, $7.48 (Table 2, equation 1). The difference in price between the most and least restrictive states is much larger, $19.50 as measured by means (Table 1, line 2) and $18.89 as measured by the regression coefficient (Table 2, equation 2). Estimates using combined cost of eyeglasses and eye examinations yield the same results, although the absolute difference is somewhat smaller in one case (Table 2, equation 3).

Despite the shortcomings of these estimates,[13] they serve to indicate the direction and magnitude of effect. The estimates of eyeglass prices alone suggest that advertising restrictions in this market increase the prices paid by 25 per cent to more than 100 per cent.[14] Furthermore, these estimates are

[12] The coefficient of variation in prices ($\sigma/\bar{X}$) is also smaller in states which allow advertising (.55) as compared with states which prohibit advertising (.73).

[13] The coefficient of determination is low in these estimates. In terms of predicting the prices paid by individuals for eyeglasses, the model is obviously incomplete. A higher $R^2$ would be desirable, but results of this order are common in estimates of economic models which use individual data. One of the likely reasons for the low $R^2$ in this case is the unmeasured variation in type and quality of eyeglasses purchased. In the survey used, individuals were not asked about the specification or quality of frames and eyeglasses purchased. However, provided that quality is uncorrelated with the advertising variable $X_1$, the coefficient $\beta_1$ is an unbiased estimate of the systematic effects of advertising on prices. This issue is discussed *infra* at 345-48.

It has also been suggested that the difference in prices between states with advertising and states without is due to systematic variation in types of service provided: where physicians are the more frequent source of eye care, that is, in the restrictive states (see Table 4), fees for non-routine services may have been more frequently included with fees for eye examinations and eyeglasses. Although all the original questionnaires were examined for any indication that services other than eye examination and eyeglasses were provided, and those cases were excluded from the estimates of this paper, the possibility remains that a few non-routine items may have been included in the sample. To see if a few expensive cases affected the overall results, median prices for eyeglasses were calculated. The difference in median prices between states with advertising and states without is $4.00, and between North Carolina and Texas and the District of Columbia is $14.00, with the higher prices in the states restricting advertising.

[14] A further comparison was made by sampling, through personal visits, the prices of eyeglasses at nineteen opticians, optometrists, and commercial firms in Texas and New Mexico in July, 1971. A price quote was requested for eyeglasses with a given lens and frame specification without an examination. The mean price sampled in New Mexico, a

likely to understate the total savings to consumers occasioned by advertising, since the search process itself is less expensive when information is more readily and cheaply available.[15]

## V. Alternative Explanations of Observed Price Differentials

Some have argued that in this model advertising restrictions serve only as a proxy for other restraints on competition.[16] If this is so, then the higher prices observed in states with restrictions on advertising may be improperly attributed to the advertising restrictions. For example, interstate barriers to mobility for optometrists and opticians might account for the observed price differentials. If there are effective barriers to entry in some states, there will be an artificially low number of optometrists and opticians per capita there,[17] and this in turn will be reflected in higher prices. If states restricting advertising also keep the number of optometrists and opticians artificially low by restrictions on entry, then the higher prices might be inappropriately attributed to advertising restrictions.

To examine this question, the equations in Table 1 were re-estimated including as additional variables the number of optometrists and opticians per capita. To the extent that barriers to entry are systematically associated with the restrictions on advertising, the coefficient of the advertising variable should be reduced in absolute value when these two variables are added to the equation. However, the coefficient of $X_1$ was essentially unchanged when these two variables were added.

Many other types of regulations, if vigorously or selectively enforced, could

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state with restrictions on advertising, was $31.70 ($n = 10$) and in Texas, a state without restrictions, $25.90 ($n = 9$). The difference in mean prices paid by consumers would be larger than those figures indicate, since the volume of sales in the low-priced firms in Texas is much larger than the average volume of the other outlets.

Consumers in New Mexico are apparently not completely unaware of the lower prices in Texas. A newspaper editor from Albuquerque, New Mexico told Professor Yale Brozen of the University of Chicago that some families had in the past driven from Albuquerque to Amarillo, Texas to purchase glasses, a distance of 296 miles.

[15] Other associated costs of purchase such as transportation and time costs required to purchase items may increase with advertising. If so, the savings in search would be partially offset.

[16] A related argument suggests that advertising restrictions serve as a proxy for collusive behavior by sellers. Since there are a large number of establishments in the states included here, effective collusion appears unlikely without some method of enforcement. The most likely method would appear to be state laws or regulations. If prohibition of advertising is the only method used to reduce competition, then the argument presented earlier holds. If other restrictive legislation is involved, then the issue is that discussed in this section.

[17] For discussion of this issue, see L. Benham, A. Maurizi & M. Reder, Migration, Location and Remuneration of Medical Personnel: Physicians and Dentists, 50 Rev. Econ. & Stat. 332 (1968).

reduce competition and raise prices. These range from restrictions on employment of optometrists to extra-legal harassment. Unfortunately, they cannot be investigated as easily as barriers to entry because of the difficulties in classifying states according to the severity of these other regulations. *A priori* judgments concerning the effects of each regulations are quite arbitrary, and data limitations prevent the development of a model at this time to estimate the separate effects of each such regulation on prices.

In an attempt to deal with these problems, representatives of several optometric associations and commercial firms were contacted to obtain assistance in classifying states according to the extent of these other types of regulations. There was general agreement that certain states were generally restrictive (for example, North Carolina) and that others were generally unrestrictive (for example, Texas), but otherwise opinion diverged. There appeared to be considerable variation in these other types of regulations across states in both groups: advertising and non-advertising. An attempt was made to match states which allowed advertising with states which did not by the severity of their other regulations. The price patterns obtained were similar to those reported in Tables 1 and 2, but the comparisons were crude at best.

The representatives of commercial firms were also asked to give their assessments of the impact of advertising restrictions. All stated that the presence or absence of advertising restrictions affected their decision to move into new market areas. Several said that they would not enter a new market unless advertising were permitted, no matter what the other restrictions.[18] Furthermore, the representatives of two large commercial firms stated that the retail prices of their own firms varied across states, with the higher prices in the states with advertising restrictions.

Data limitations prevent a fuller treatment of this question. The qualitative evidence presented hardly eliminates the possibility that the advertising variable serves as a proxy for other restrictions.[19] Nevertheless, the available evi-

[18] The data used in this study suggest that commercial firms have a larger share of the market in the states with lower prices (Table 4). Another recent study of prices charged for frames and lenses by optometrists and by retail stores in New York showed substantially lower prices in the retail stores. The study also found that prices charged by optometrists were lower in an area with a high concentration of commercial firms (New York City) than in areas with a lower concentration of commercial firms. See A Retail Shopping Study of Optometrists and Retail Opticians, submitted by Marketing Research Dep't, Dale System, Inc., to N.Y. St. Optical Retailers Ass'n, January, 1958.

[19] An examination of the changes in prices over time as a function of changes in advertising laws would provide a better test of this question. For example, the actions being currently taken in some areas to reduce restrictions on prescription drug advertising should provide extremely useful evidence on this question.

dence is consistent with the hypothesis that restrictions on advertising reduce competition and raise prices and that the estimates in Tables 1 and 2 reflect the effects of advertising restrictions.

Another type of argument often given by the professionals (optometrists and ophthalmologists) is that the quality of service and product supplied by the "commercial" establishments is lower than that supplied by "professionals." By implication, the average quality of eyeglasses would be lower in states where commercial establishments were more strongly represented,[20] the states in which advertising was permitted. During the course of this study, several professionals referred to their own personal experience with low quality commercial work. Commercial representatives responded to these charges with allegations of low quality work by certain professionals. Although standards do not appear to be uniform across establishments, either commercial or professional,[21] the issue here is not that of establishing how many of these specific allegations are valid. It is rather one of determining any systematic differences in quality of products between states which allowed and states which prohibited advertising.[22] Several attempts were made to investigate this question.

The issue was first examined by investigating the source of eyeglasses by type of retail establishment. Some commercial firms produce their own eyeglasses; however, many purchase from the same sources as the professionals.[23] The professionals also purchase from the commercial firms. In 1971, one of the largest commercial firms sold only 50 per cent of its eyeglass output through its own retail outlets. The remainder was sold through professional establishments.[24] To the extent that commercial and professional firms both

[20] See Table 4, *infra*.

[21] For example, a reporter for the CBS Television Network traveled around the country having his eyes examined in 1969. He had excellent vision and did not wear glasses. He read all the charts and answered all questions honestly. Out of the 28 eye examinations which he took he was given three prescriptions, one each from an optical firm, an optometrist, and an opthalmologist. CBS Television Network, 60 Minutes, Tuesday, October 28, 1969.

[22] Even if the commercial firms sold eyeglasses which were unambiguously lower in quality, the case for eliminating these firms through legislative action is not obviously strengthened. For many individuals, the choice may be between the low quality, low price product and no product at all. The quality issue arises in this study because of the need to compare reasonably homogeneous items across states. For a discussion of the costs and benefits of eliminating "low quality" products from the market, see Milton Friedman, Capitalism and Freedom, ch. 9 (1962).

[23] Approximately 90% of eyeglasses worn in the U.S. are made by three companies: American Optical, Bausch and Lomb, and Shuron Continental.

[24] In the small survey of eyeglass prices in Texas and New Mexico, one of the highest

have the same source of eyeglasses, possibilities for quality variation are obviously reduced.

The quality issue was then raised with representatives of several large retail chains. They argued that the commercial firms were generally under more careful scrutiny by state regulatory authorities and state optometric association than the typical professional establishments and consequently had to be more concerned about quality control. They also argued that evidence on systematic quality differences would long since have been used against them in political and legal disputes, if any such evidence could be found, and that none had been so presented.

In following up this point, a search was made attempting to locate references to quality differences. No specific evidence was found to support the claim of systematic quality differences as a function of type of firm or of advertising regulations. The headquarters of the American Optometric Association, the Illinois State Optometric Association, and local optometrists were also unable to give any specific references to support these allegations. This lack of evidence does not establish the absence of a systematic difference in quality. However, it is consistent with this position particularly since the professional associations have a strong incentive to generate and use such information in their disputes with the commercial firms.

Some direct evidence on the prices of standardized products is available from two other sources. In a personal survey of retail outlets in Texas and New Mexico in which specification of frames and lenses was uniform, prices were found to be higher in New Mexico, a state with strict advertising laws.[25] The Bureau of Labor Statistics also collects price estimates of eye examinations and eyeglasses across cities for the consumer price index. The specifications used in pricing eyeglasses are quite detailed and leave little room for variation in type or quality of lenses or frames. The published data do not permit a comparison across states, and the Bureau would not release its detailed price estimates by cities. However, a representative at the Bureau who was familiar with its price estimates of eyeglasses stated that the price patterns were similar to the ones found here: cities in states with advertising restrictions tended to have higher prices than cities in states without restrictions.

The findings discussed in this section, although far from conclusive, suggest that variations in quality were not responsible for the results presented in Tables 1 and 2.

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prices quoted was by an optometrist in New Mexico who was selling frames and lenses produced by Texas State Optical, one of the large and low priced commercial firms in Texas (see *supra* note 14).

[25] See *supra* note 14.

## VI. Content of Advertising

The results presented above are consistent with the hypothesis that, in the market examined, advertising improves consumers' knowledge and that the benefits derived from this knowledge outweigh the price-increasing effects of advertising. However, some individuals have argued that eyeglass advertising contains substantially more information than other types of advertising and that consequently these findings cannot be generalized to most other goods and services.[26] It is true that there has been little if any advertising of eyeglasses on national television, a medium which some feel provides a less information-intensive form of advertising. However, there has been considerable local and statewide television advertising in those states which allow advertising. One large commercial firm spends 80 per cent of its advertising budget on television.

As one means of investigating this question further, newspapers of several cities in Illinois, a state with no advertising restrictions on eyeglasses in 1963, were examined for 1963 advertisements. During a week's search, few advertisements were found which contained any reference to price, and fewer still quoted specific prices. The proportion of eyeglass advertisements which contained price information was smaller than for most other items advertised in the newspapers, in particular clothing and furniture. This is obviously fragmentary but suggestive evidence that eyeglass advertising is not markedly more information intensive than other advertising.

Note that the relative infrequency of price advertising of eyeglasses is not necessarily inconsistent with the argument that restrictions on advertising have a significant impact on price. Only a few price advertisements may be required to inform a sufficient number of consumers so that the average purchase price is reduced substantially. Non-price advertising may also be a close substitute for price advertising.

To examine the effect of non-price advertising on prices, I re-estimated Table 2, equation 1 with the addition of individuals in the sample who purchased eyeglasses in states which in 1963 prohibited price advertising but allowed other types of advertising.[27] A dummy variable $X_6$ was added, where $X_6$ equals 1 if the individual purchased eyeglasses in a state which prohibited only price advertising, and equals 0 otherwise. The results are shown in Table 3. The coefficient of $X_6$ suggests that in states prohibiting only price advertising prices are slightly higher than in states with no restrictions, and

[26] For an interesting discussion of advertising as information, see Phillip Nelson, Information and Consumer Behavior, 78 J. Pol. Econ. 311-29 (1970); and Phillip Nelson, Advertising as Information, (unpublished manuscript at St. Univ. of N.Y. at Binghampton).

[27] These states were California, Florida, New York, Oregon, and Virginia.

are considerably lower than in states prohibiting all advertising.[28] This estimate suggests that even "non-price" advertising may lower prices.

TABLE 3
REGRESSION ESTIMATES FOR COST OF EYEGLASSES FOR VARIOUS POPULATION GROUPS IN 1963 AS A FUNCTION OF RESTRICTIONS ON ADVERTISING IN STATES AND OTHER VARIABLES
(t statistic in parentheses)

| Population Group | Complete Advertising Restrictions 0 = No, 1 = Yes | Restrictions on Price Only 0 = No, 1 = Yes | Total Family Income | Age | Sex Female = 0 Male = 1 | Family Size | Constant | $R^2$ | N |
|---|---|---|---|---|---|---|---|---|---|
| | | | | EYEGLASSES ALONE | | | | | |
| All individuals | 7.369 | 1.320 | .03154 | −.0003 | −2.645 | −.01409 | 24.73 | .028 | 287 |
| | (2.4) | (.55) | (1.3) | (.00) | (−1.2) | (−.02) | (4.7) | | |

## VII. WHO BENEFITS?

The discussion thus far has been concerned with the costs of advertising restrictions to consumers. The extent to which various groups supplying eyeglasses benefit from these restrictions depends upon a number of factors including the elasticity of demand for eye examinations and eyeglasses, the effect of advertising restrictions on firm size, the level of specialization within firms of differing sizes, and restrictions on entry into the state.

A crude estimate of the elasticity of demand can be obtained by comparing per capita expenditures on eyeglasses and eye examinations for the total sample population in states which restricted advertising and in those which did not. Two comparisons were made, one for the sample as a whole and one for the subset of Texas, the District of Columbia, and North Carolina. Both results suggest that the industry faces an inelastic demand, since per capita expenditures were higher in states which had higher prices (and which had restrictions on advertising).

There is in addition some evidence which suggests that the share of the market held by the large commercial firms declines when advertising is prohibited (Table 4). The individuals in the sample were asked about the source of their eye examinations and eyeglasses, and responses were classified into four categories: physicians, optometrists, firms (or clinics), and unknown. The first two categories are more likely to indicate individual or small firm operations, while the third category is more likely to represent larger com-

[28] This estimate should be viewed with caution, because without the observations from New York the coefficient of $X_2$ would be approximately the same as the coefficient of $X_1$.

TABLE 4
SOURCE OF EYE EXAMINATION AND EYEGLASSES FOR INDIVIDUALS IN STATES WITH AND WITHOUT ADVERTISING RESTRICTIONS, IN 1963
(percentage)

| Population Group | Physicians | Optometrists | Clinic or Firm | Source Unknown |
|---|---|---|---|---|
| Individuals living in states with advertising permitted | 22.1 | 31.1 | 36.4 | 10.3 |
| Individuals living in states with all advertising prohibited | 39.7 | 43.7 | 15.0 | 1.6 |
| Individuals living in Texas and the District of Columbia (advertising allowed) | 13.6 | 16.4 | 52.0 | 1.6 |
| Individuals living in North Carolina (advertising prohibited) | 55.3 | 39.5 | 5.3 | 0.0 |

mercial firms. Although these figures should not be interpreted as accurate measures of the distribution of sales by firm size, the results do suggest that a larger fraction of purchases are made from "large" firms in states which allow advertising. The frequency with which the large chains were specifically named as the source also follows the same pattern. Since larger firms tend to employ fewer optometrists per volume of sale,[29] a decline in the large firms' share of the market would appear to benefit optometrists and physicians.

Finally, advertising restrictions make it more difficult for new firms to become established, and they increase the opportunities for price discrimination.

Taken together, this evidence suggests that established optometrists and other professionals within a state are likely to benefit if advertising is prohibited, not a surprising conclusion given the enthusiasm with which they support these restrictions.[30]

## VIII. CONCLUSION

Several professors in economics and marketing at the University of Chicago were asked whether they thought the price of eyeglasses would increase or decrease if advertising were prohibited. Of those individuals polled, approxi-

[29] Higher costs of production are often alleged to be evidence of higher quality, particularly when the higher costs are associated with the use of a larger proportion of professional inputs. This argument essentially defines the quality of output in terms of the quality (costs) of inputs and denies benefits to specialization in production.

[30] When questioned about restrictions on advertising in the District of Columbia, an optometrist there informed me that there were none but that such restrictions would be the first item on the agenda if the optometrists ever obtained professional control.

mately 40 per cent of the economists and 100 per cent of those in marketing expected prices to be the same or lower where advertising was prohibited. It is, I think, the most common view to emphasize the costs of advertising,[31] the demand inducing and product differentiating aspects and to put relatively less emphasis on the information provided and the effects of this information on organization and efficiency in the market. These results suggest that, at least for the item considered, the emphasis has been misplaced. Prices were found to be substantially lower in states which allowed advertising.

The extent to which these results can be generalized to other goods will have to await further study. Eyeglasses may of course be a special case. Nevertheless, on a question which has in the past been overwhelmingly judged on *a priori* grounds, it has been possible to obtain a range of estimates of the impact of advertising on prices.

[31] Several large commercial firms were questioned about their advertising costs per pair of eyeglasses sold. Such a figure is often used to estimate the cost to consumers of advertising. Only one firm, a large firm operating in many states, was willing to provide this information: its average expenditure on advertising per pair of glasses sold is approximately $2.00.

Lee Benham & Alexandra Benham, *Regulating Through the Professions: A Perspective on Information Control*, 18 J.L. & ECON. 421 (1975).

**Scope of Study:** This paper examined the effect of advertising on prices in the eyeglass market, and considered the effect of professional information controls more generally. The authors used three indices of professional control: the proportion of licensed optometrists who were members of the American Optometric Association (which restricts the advertising of members), the difficulty of commercial firms entering and operating in a state (obtained by survey, the most common reason cited for a state being difficult was advertising restrictions), and the proportion of individual eyeglass sales made by commercial firms.

**Conclusions:** Benham and Benham concluded that all three indices of professional control are strongly associated with higher prices for professional services and reduced the probability that a consumer would obtain those services. They found that prices were 25 to 40 percent higher in markets with greater professional control.

# REGULATING THROUGH THE PROFESSIONS: A PERSPECTIVE ON INFORMATION CONTROL*

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## 1 Introduction

Professions in the service sector exercise extensive controls over the types of goods and services which can be sold, the individuals and organizations which can sell them, and the type and amount of information publicly disseminated about these services. Professional codes of ethics usually prohibit advertising, limit brand name identification, strongly discourage public evaluation of other professionals' work, and place limitations wherever possible on other public indications of the characteristics, quality, or price of the services provided. Members of the professions sharply distinguish between commercial exchanges and their own professional services in which public trust resides with standards of performance to be determined autonomously by the profession.[1]

In this situation the mechanisms of choice and control are assigned primarily to the profession rather than to the consumer, and in the extreme case the consumer has little or no information concerning the differential characteristics of the individuals supplying the services or the market prices for such services. This assignment of control is defended on the grounds that many individuals cannot cope successfully with a commercial environment and that severe restraints are necessary on the dissemination of information to prevent unscrupulous suppliers of services from misleading such individuals. The undesirable consequences associated with such "commercial"

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[1] This view has been developed in the statement: "The quack ... is the man who continues through time to please his customers but not his colleagues." Everett C. Hughes, Men and Their Work 98 (1958).

practices are considered to outweigh by far any benefits which might be forthcoming.

A landmark decision in this area which sets forth explicitly many of these tenets is the 1935 case of Semler v. Oregon State Board of Dental Examiners,[2] which involved a dentist who had advertised in Oregon contrary to state law. In delivering the opinion of the United States Supreme Court, Chief Justice Hughes stated:

> [The State court said that] it could not be doubted that practitioners who were not willing to abide by the ethics of their profession often resorted to such advertising methods "to lure the credulous and ignorant members of the public to their offices for the purpose of fleecing them." . . .
>
> We do not doubt the authority of the State to estimate the baleful effects of such methods and to put a stop to them. The legislature was not dealing with traders in commodities, but with the vital interests of public health, and with a profession treating bodily ills and demanding different standards of conduct from those which are traditional in the competition of the market place. The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises of physical relief. And the community is concerned in providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous. What is generally called the "ethics" of the profession is but the consensus of expert opinion as to the necessity of such standards.
>
> It is no answer to say, as regards appellant's claim of right to advertise his "professional superiority" or his "performance of professional services in a superior manner," that he is telling the truth.[3]

This paper proposes a substantially different argument, that more stringent and widespread professional control, leading to restraints on the usual commercial flow of information, decreases competition and results in higher prices. This approach is also different from that of most previous research on regulation and control in the service sector, which has concentrated on barriers to entry, barriers to mobility, and regulations concerning specialization and production techniques. These aspects of regulation of course affect resource allocation and price and are found to some degree in nearly all professional markets. But the professions' control of the types and quantity of information which can be generated and transmitted should also have significant effects on market outcomes, and the investigation of this relationship will be the focus here.

One might ask why professions should desire to constrain information. A

[2] 294 U.S. 608 (1935).

[3] *Id.* at 611-12.



reply is that the removal of commercial stimuli from the environment (including advertising, brand name identification, and identification with well-known establishments) limits consumers' knowledge of current or potential alternatives and hence also limits their response to these alternatives. This has the important consequence of greatly reducing the benefits a practitioner receives from deviating from professionally accepted modes of practice or from offering services which consumers desire if these conflict with the collective interests of the profession. From the point of view of the profession, restricting information may be one of the most effective politically acceptable methods available for constraining the behavior of suppliers and consumers in the desired direction.

The impetus for this investigation was provided by an earlier study in which higher prices for eyeglasses were found to be associated with restrictions on advertising.[4] It was recognized in that study that advertising restrictions were a consequence of efforts by the professionals involved. Inquiry into the sources of such restrictions and the consequences of more general constraints on information in the retail market for eyeglasses will be considered here. The activities of the professional groups within this market, principally the optometrists,[5] illustrate behavior which is common to many professions. The specific ways in which regulation and control have been introduced in this market differ in some respects from those of other professions, but the philosophy articulated and the policies pursued here have been quite similar to those used elsewhere. This market also has an important distinctive feature in the considerable diversity which exists across states in the strength and uniformity of professional controls. This variation permits analysis of the question at hand with available cross-sectional data, providing a reasonably good experimental situation in that at a given point in time general social and economic characteristics are relatively uniform.[6]

While the general issue has been debated for some time, evidence on the actual outcomes of transactions has been very limited. Do the restraints

[4] Lee Benham, The Effects of Advertising on the Price of Eyeglasses, 15 J. Law & Econ. 337 (1972).

[5] In this market, eyeglass prescriptions are usually obtained only from optometrists or physicians (usually ophthalmologists), while eyeglasses are dispensed by optometrists, physicians, commercial firms (in which dispensing is usually handled by opticians), and other sources such as clinics. In the national health survey used for this study, optometrists were found to supply about 42% of the eyeglasses, and physicians 22% (see Table 1). A different national study found 37% of prescriptions to be obtained from optometrists, 55% from physicians, and 8% from unknown sources. See U.S. Dep't Health, Education, & Welfare, Characteristics of Persons with Corrective Lenses 11 (Nat'l Center for Health Stat., ser. 10, no. 53, 1969).

[6] For more firmly established professions like medicine, the level of professional control is fairly uniform across states. While in principle the effects of changes in this level of control could be examined over time, there are very serious difficulties in separating such effects from those of other secular changes.

placed on dissemination of information and the shift of responsibility to the provider bring us closer to stated social objectives? Do they, for example, operate to the relative advantage of those who cope less well in general? What is the overall impact in terms of the prices paid, and the frequency with which individuals obtain services? To investigate these questions, we construct various indices of the extent of professional control in the eyeglass market, indices which reflect in alternative ways the level of commercial or competitive market information available to consumers, and then estimate the relationship between these indices and the prices paid and quantities obtained.

## II. Information Control in the Market for Eyeglasses

It has been argued that a principal consequence of the application of professional norms to a market is the reduction in or elimination of the types of information generated in the usual process of commercial exchange. Within the eyeglass market, this is demonstrated by the considerable emphasis placed on the control of information within the optometric profession, which has actively sought to emulate the more firmly established professions such as medicine.[7]

> The American Optometric Association Rules of Practice adopted in 1950 contain 14 separate rules; again, however, there are only two major themes which cover all of the rules. . . . These are, (1) the professional man obtains his clients by means other than advertising, and (2) the professional man emphasizes service rather than merchandise.[8]

Among the practices deemed by the American Optometric Association to be unethical and to constitute unprofessional conduct are "advertising professional superiority, or the performance of professional services in a superior manner," "advertising one or more types of service to imply superiority or lower fees," "holding one's self forth to the public under the name of any corporation, company, institution, clinic, association, parlor, or any other name than the name of the optometrist," "holding one's self forth as possessed of, or utilizing exclusive methods of practice or peculiar styles of service," and "advertising of any character which includes or contains any fee whatsoever, or any reference thereto, or any reference to the cost to the patient, whether related to the examination or the cost or fee for lenses, glasses, frames, mountings, or any other optometric service, article, or device necessary for the patient."[9]

[7] Ophthalmologists are, of course, constrained by the code of the medical profession.

[8] Monroe J. Hirsch & Ralph E. Wick, The Optometric Profession 173 (1968).

[9] American Optometric Ass'n, Code of Ethics and Supplements, Rules of Practice 3 (1970). Restrictions on other kinds of information flows are also included. "The optometrist, in his relations with a patient under the care of another optometrist, should observe the strictest caution and reserve, should give no derogatory hints relative to the nature and care of the patient's disorder, nor should the course of conduct of the optometrist directly or indirectly tend to diminish the trust reposed in the attending optometrist. In embarrassing situations or whenever there may seem to be a possibility of misunderstanding with a colleague, the optometrist should always seek a personal interview with his fellow. . . . When an optometrist succeeds another optometrist in the charge of a case, he should not make comments on, or insinuations regarding the practice of the one who preceded him. Such comments or insinuations tend to lower the esteem of the patient for the optometric profession and so react against the critic." Id. at 4-5. All this obviously makes certain kinds of information difficult to obtain in the professional environment. One correspondent has written us, ". . . most druggists, eye doctors, dentists will not quote prices, they say come in we will talk about it, which most people cannot do or are embarrassed to. . . ."



This theme is also emphasized in the state optometric association codes. While not all state associations have point systems for membership, the de facto regulations are generally similar to those shown in the following excerpts from the Michigan Optometric Association rules:

> Eligibility for membership in the Michigan Optometric Association is based upon a point system. Initially, 65 points will be the minimum required for membership application.
>
> Members entering the association with fewer than 85 points must improve their point count standing a minimum of five (5) points each calendar year until at least 85 points are achieved. Thereafter, a minimum of 85 points must be achieved yearly to maintain membership.[10]

The point evaluation plan of this association, in condensed form, is as follows:[11]

| | Total points possible for |
|---|---|
| Not advertising (refers to media advertising, telephone book listings, and window displays) | 30 |
| Location in a professional or office building as opposed to "an establishment whose primary public image is one of reduced prices and discount optical outlet" | 25 |
| Limiting office identification sign to approved size and content | 15 |
| Educational activities (professional meetings and activities) | 14 |
| Physical facilities (rooms and laboratory) | 8 |
| Functional facilities (equipment) | 8 |
| | 100 |

Note that out of the 100 possible points, information constraints account for 70.

[10] Michigan Optometric Ass'n, Membership Point Plan Rules and Provisions 1-2 (rev. Jan. 1, 1962).

[11] Michigan Optometric Ass'n, Point Evaluation Plan (condensed from the original).

Given the nature of these professional codes, the greater the proportion of practitioners in an area who belong to the professional associations, the less likely is information to be disseminated concerning the prices of services, the location of outlets, trade name identification, and the nature of the practice itself. The first index of professional control we use is accordingly the proportion of licensed optometrists within each state who are members of the American Optometric Association through its state affiliates.[12] In 1969 this proportion varied from .43 to .93 across the states examined in this study.

Many of the characteristics most opposed by the professionals in this market are represented by the commercial firms, or "commercialists." Commercial firms advertise (when not forbidden to do so by law), frequently locate outlets in establishments such as large department store chains whose reputation provides information about prices and services, and in general do not abide by the norms of the profession. Under these conditions, the commercial firms rather than the professions become the certifiers of the product, with the commercial firm names providing information relevant to consumer choice. These firms have long been a main target of the professionals in the retail eyeglass industry:

> Optometry has passed through periods of earnest debate on the need for professional behavior. Today there is no longer such debate. The only question is when and how to obtain total conformity to professional rules. Most recently, the American Optometric Association set a target date in the 1970's for the total disappearance of commercial practice.[13]

Accordingly, the other two indices measure the degree of professional control over information by the extent to which commercial firms are discouraged or eliminated, by state.

One index was developed by surveying several large commercial firms to obtain their assessment of the difficulty which a commercial firm has entering and operating in a state for reasons other than competition with existing commercial firms.[14] The states ranked as most difficult were classified as "restrictive," those ranked least difficult were classified as "nonrestrictive," and the remaining states were classified as "other." In this context, difficulty of entry should indicate greater restrictions on information flows essential to the development of a commercial practice, and indeed one of the reasons most frequently mentioned for difficulty in entering and operating was the existence of restrictions on advertising. While a variety of rules and regulations are used to discourage or eliminate commercial practice, a dominant theme in such regulations is the elimination of the types of information dissemination which would make the large-volume commercial firm viable.[15]

Constraints on information flows in this market should also be reflected in the actual market position of commercial firms across states. In accordance with the discussion above, professional control is likely to be weaker, and information available to consumers greater, in states where a larger proportion of sales are made by commercial firms. As a third index we use the proportion of individuals by state in a 1970 health interview survey whose eyeglasses were obtained from commercial sources rather than from optometrists or physicians.[16] There is considerable variation in this index across states for this sample; the range is from 0 to 79 per cent.

These three indices represent alternative but interrelated approaches for

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[12] Physicians' behavior with respect to the practices discussed above is uniformly constrained across states.

[13] Monroe J. Hirsch & Ralph E. Wick, supra note 8, at 175-76.

[14] Five representatives of large commercial firms were asked to list the states which they believed to be the most difficult and the least difficult on this dimension. The states listed in these two extreme categories were not always the same, in part because some of the companies had only regional experience. However, there was substantial agreement on many rankings and there were no instances of a state being ranked among the most difficult by one respondent and among the least difficult by another.

For this study, a state was classified as "restrictive" if at least one respondent included it among the most difficult states, and as "nonrestrictive" if at least one respondent included it among the least difficult states. The remaining states were designated as "other." The resulting classification is: restrictive: Arkansas, California, Connecticut, Idaho, Louisiana, Maine, Montana, New Mexico, North Carolina, North Dakota, Oklahoma, South Carolina, Tennessee; nonrestrictive: Alabama, District of Columbia, Illinois, Maryland, Michigan, Minnesota, Missouri, Nebraska, New York, Ohio, Pennsylvania, Texas, Utah; other: Arizona, Florida, Georgia, Indiana, Iowa, Kansas, Kentucky, Massachusetts, New Hampshire, New Jersey, Oregon, Washington, Wisconsin. (The basic health interview survey used for this study contained no sample of individuals for some states; such states were not included in this study and do not appear on the list above.)

[15] The regulations include restraints on or prohibition of explicit advertising, restraints on implicit advertising (for example, limiting the extent to which an eyeglass outlet can associate itself with the name of an established firm), and restraints on the information which can be communicated to patrons of mercantile establishments (for example, regulations making it illegal to display eyeglasses or signs indicating that eyeglasses are for sale which are visible in any part of the store except within the area where the eyeglasses are sold).

Some states also prohibit the employment of optometrists by corporations. When the optometrists themselves are not constrained from engaging in commercial practice (for example, advertising), this regulation should not by itself have major impact on information flows unless there is a shortage of entrepreneurial talent among optometrists. However, the regulations in the more professional states insure that optometrists are also constrained from engaging in such commercial practices. In such cases, restrictions in hiring by corporations serve in effect to limit information.

[16] This index was constructed from the survey records by excluding all sources of eyeglasses listed in The Directory of the American Medical Association and The Directory of the American Osteopathic Association (for these, source of eyeglasses was coded as "physician"), all listed in The Blue Book of Optometrists (for these, source of eyeglasses was coded as "optometrist"), and entries of "don't know." As such, it is clearly not a perfect proxy for commercial source. Checks of a sample of the original survey questionnaires indicate that it probably overstates the number of commercial firms in restrictive states relative to those in nonrestrictive states, so its bias, if any, is to make the results below weaker than they would otherwise be.

examining the impact of professional control on market outcomes. Those states with a higher proportion of practitioners in the professional association are likely to have greater constraints on the information which can be provided by the commercial firms, implying greater difficulty for commercial firms in operating in the market and a smaller market share for them. Conversely, where the commercial operations are less viable because of such constraints, opportunities for alternative commercial types of employment for practitioners are sparser and less attractive, and the costs (in terms of foregone alternatives) to individual practitioners of conforming to the professional association membership code are likely to be lower. Furthermore, as the size of the commercial sector shrinks, its political viability is also reduced, lessening the resistance to increased professional control.

Some empirical relationships among these three indices are shown in Table 1.[13] In the states classified as restrictive, the mean proportion of optometrists in the American Optometric Association is indeed higher and the proportion of eyeglasses purchased from commercial firms is lower than in the states classified as nonrestrictive. The correlation across states between the proportion of optometrists in the American Optometric Association and the proportion of eyeglasses obtained from commercial firms is R = −.47.

Data concerning prices paid for eyeglasses, source of eyeglasses, quantities purchased, family income, and other demographic variables are taken from a 1970 health interview survey conducted by Ronald Andersen in conjunction with the National Opinion Research Center and the Center for Health Administration Studies of the University of Chicago. The sample is an area probability sample of the civilian non-institutionalized population of the United States, drawn to overrepresent individuals living in inner cities, those living in rural areas, and the elderly. The data file used in the present study includes 10,000 individuals, of whom 1625 obtained eyeglasses in 1970.[14]

[13] Note that although half a century or more has passed since state laws regulating optometry were introduced, the states in which optometric laws were introduced earlier tend to rank higher on current indices of professional control. The correlation between year of first state law and proportion of optometrists in state belonging to the AOA is R = −.25; the correlation between year of first state law and proportion of eyeglasses in state obtained from commercial firms is R = .26.

[14] Some observations were eliminated from the original sample of 11,619 individuals (of whom 1733 obtained eyeglasses) because of location or age. Four primary sampling units were excluded because of their proximity to markets in other states having lower levels of professional control. See note 18 infra. Individuals under six years of age were also excluded. Of the 1625 persons within the file used who obtained eyeglasses, 929 reported the price they paid for eyeglasses separately, 422 reported the combined price paid for eyeglasses and eye examination, and 274 provided no price information. When only a combined price for eyeglasses and eye examination was given, the cost of eyeglasses was calculated as 67% of the total cost if a physician was listed as the source of care, and as 70% otherwise. The 1351 individuals who provided price information are used as the basic sample to obtain price estimates. The effects of



TABLE 1

SELECTED CHARACTERISTICS OF STATES RELATED TO PROFESSIONAL CONTROL IN RETAILING OF EYEGLASSES

| | Percentage of Licensed Optometrists in State Belonging to American Optometric Association[a] | | Percentage of Surveyed Individuals in State Whose Source of Eyeglasses Was a Commercial Firm | | Percentage of Surveyed Individuals in Entire Given Category of States Whose Source of Eyeglasses Was[b] | | | Year of First State Law Regulating Optometrists[c] | |
|---|---|---|---|---|---|---|---|---|---|
| Category of State | Mean Percentage | Median Percentage | Mean Percentage | Median Percentage | Physician Percentage | Optometrist Percentage | Commercial Firm Percentage | Mean Year | Median Year |
| Restrictive | 76 | 81 | 19 | 19 | 24 | 52 | 22 | 1910 | 1908 |
| Other | 64 | 65 | 25 | 25 | 20 | 51 | 28 | 1911 | 1909 |
| Nonrestrictive | 53 | 51 | 45 | 42 | 21 | 32 | 45 | 1914 | 1915 |
| All states in survey | 65 | 55 | 29 | 28 | 23 | 42 | 35 | 1912 | 1909 |

Sources:

[a] Membership count by state as of May 31, 1970 from American Optometric Assn., Comparison of Three Concepts of Voting Strength of AOA House of Delegates; optometrists by state as of December 1967 from U.S. Dep't Health, Education & Welfare, Health Resources Statistics: Health Manpower and Health Facilities, 1971, at 270 (Pub. Health Serv., Nat'l Center for Health Stat., Feb. 1972).

[b] Excluding four primary sampling units and all persons under six years of age, see supra note 14.

[c] Dates of first laws from James R. Gregg, American Optometric Association: A History 261-66 (1972).

## III. Specification of the Model

A simple two-equation model is used to estimate (1) the overall impact of professional control on the prices paid for eyeglasses, and (2) the effect of prices paid on the likelihood that individuals obtain eyeglasses during a given time period. The model consists of a price equation and a demand equation with the following general specification.

$$\text{Price} = f(\text{professional control}, x_1, \ldots, x_m)$$

$$\text{Likelihood of obtaining eyeglasses} = f(\text{price}, y_1, \ldots, y_n)$$

where professional control is measured by the indices described above, $x_1, \ldots, x_m$ are other market and individual variables which affect the price paid, and $y_1, \ldots, y_n$ are other characteristics which affect the likelihood that an individual obtains eyeglasses during a specified time period.

On theoretical grounds, there is no clearly indicated a priori specification for these equations. A relatively simple specification is estimated first, and the robustness of the results with respect to a range of alternatives is subsequently discussed.

The specification of the price equation is based in part on the economics literature which indicates that purchase price is affected by time costs associated with search and purchase.[19] Many factors have been discussed as affecting price through their association with cost of time and with search efficiency; family income, family size, and location of residence are considered here.

Families with higher incomes have higher opportunity costs of search, a factor which tends toward their paying higher prices.[20] This effect is enhanced insofar as the income elasticity of demand for more elaborate or costly frames is positive.[21] On the other hand, those with high incomes also buy more glasses, thus increasing their returns from search. Individuals in high income families are also likely (because of the strong association between income and education) to be more efficient in nonmarket activities, including search. These latter effects suggest a negative partial association between family income and price. The net outcome of these factors is unclear, hence the sign of the relationship to be expected between family income and price is uncertain.

As family size increases, the total number of purchases by the family is likely to go up, so the returns to the family from knowledge about sellers will increase. More search is therefore likely to be undertaken, and prices paid should be lower.

Individuals living in inner city locations generally have access to more eyeglass outlets at lower transportation costs than those living in less densely populated areas. This lower search cost should lead to lower prices paid, both directly because consumers can more readily shop around to locate the lower existing prices, and indirectly because more intensive consumer search increases competition which lowers general market prices. These arguments suggest that prices should be lower in the inner city. The effects on price of inner city residence and rural residence will be compared to the effects of other urban residence.

Age is included because of the higher price of multifocal lenses, which constitute a larger proportion of the lenses of older individuals. A dummy variable to indicate age greater than 65 is also included to check for nonlinearity in the association between price and age.

The demand equation expresses the likelihood that an individual obtains eyeglasses during a given time period as a function of the market price of eyeglasses faced by the individual and other selected personal characteristics. The dependent variable in this equation is a dummy variable which takes on a value of 1 if the individual obtained eyeglasses during 1970. Individuals obtain eyeglasses periodically depending upon the rate of change in their vision, loss or breakage of eyeglasses, other characteristics such as income, and price. In any given year of sampling, an individual may or may not obtain a pair; observations for 1970 are used here as a measure of annual demand.

The specification of the demand equation is based in part on the standard argument that quantities demanded fall as prices increase. Two measures of the prices individuals face are considered. The first measure (which is the same for all individuals in a given state) is the mean price paid by those in the state who actually purchased eyeglasses. The second measure is the price

excluding the 422 individuals who reported only combined price are discussed in note 25 infra. The 374 individuals who obtained eyeglasses but did not provide price information were included only in the estimates of the frequency of obtaining eyeglasses.

The proportion of this surveyed population obtaining eyeglasses during 1970, 16%, compares reasonably with an estimate that 28% of the U.S. population three years old and over obtained eyeglasses during a two-year period (see U.S. Dep't Health, Education, & Welfare, supra note 5, at 35), particularly since this survey was drawn to overrepresent the elderly.

[19] A principal implication of this literature is that price dispersion is reduced as search increases. However, the impact of professional control of information on price dispersion is far from clear-cut. Information constraints are likely to affect the size distribution of firms (through their impact on economies of scale) which in turn will affect the distribution of time and travel costs for purchasers. The dispersion of prices paid will thus depend on several factors including the cost of time and transportation to consumers and the functional relationship between prices and volume of sales.

[20] Additional measures of search costs, including employment income, were included in alternative specifications.

[21] The survey included information on whether or not the individual purchased eyeglasses or contact lenses, the number of pairs purchased, the source and the price paid, but not on the type of frames or nature of lenses obtained. Contact lenses constituted a very small proportion of total purchases and were excluded from the analysis.

predicted for the individual by the price equation when level of AOA membership is the index of professional control. This predicted individual price is computed by using the coefficient estimates in Table 2 and the specific characteristics of the individual.

The expected relationship between the likelihood that individuals obtain eyeglasses and the prices they face is of course negative. The coefficient of the price variable can be used to obtain an estimate of the demand elasticity, although this will understate the overall price elasticity of demand since no account is taken here of multiple purchases of eyeglasses.[22]

Other variables included in the basic demand specification are family income, age, sex, and race. Purchase during the year is expected to be more likely for individuals with higher family income. A positive relationship between demand for eyeglasses and age is expected, because of the diminishing ability of the eye to focus at various distances as age increases. Sex and race are included because visual acuity tests have found that men have better unaided vision than women, and blacks have better unaided vision than whites. The measured rate of obtaining corrective lenses is also lower for men than women, and for blacks than whites.[23]

The basic specification for the two-equation model is then as follows:

$$\begin{aligned} \text{COSTGLASS} = {} & \alpha_0 + \alpha_{1i}\text{PROF}_i + \alpha_2\text{FAMINC} + \alpha_3\text{FAMSIZ} \\ & + \alpha_4\text{INNER} + \alpha_5\text{RURAL} + \alpha_6\text{AGE} \\ & + \alpha_7\text{AGE65} + \mu_1 \end{aligned}$$

$$\begin{aligned} \text{GETGLASS} = {} & \beta_0 + \beta_{1j}\text{PRICE}_j + \beta_2\text{FAMINC} + \beta_3\text{AGE} \\ & + \beta_4\text{AGE65} + \beta_5\text{MALE} + \beta_6\text{BLACK} + \mu_2 \end{aligned}$$

where

COSTGLASS = cost of eyeglasses for those individuals who obtained eyeglasses and who quoted a price in the survey (excludes cost of eye examination)

$\text{PROF}_i$ = index i of professional control, i = 1, 2, 3
- $\text{PROF}_1$ is AOAMEM, the proportion of licensed optometrists in state belonging to the American Optometric Association
- $\text{PROF}_2$ is a set of dummy variables, RESTR, NONRESTR, OTHER indicating classification of states as restrictive (RESTR = 1), nonrestrictive (NONRESTR = 1), other (OTHER = 1)
- $\text{PROF}_3$ is COMMER, the proportion of individuals in state whose source of eyeglasses was commercial

[22] Multiple purchases are considered in Table 4.

[23] U.S. Dep't Health, Education, & Welfare, supra note 5, at 8.



FAMINC = family income of individual
FAMSIZ = family size of individual
AGE = age of individual
AGE65 = 1 if individual is 65 years old or older
INNER = 1 if individual lived in inner city
RURAL = 1 if individual lived in rural area
GETGLASS = 1 if individual obtained eyeglasses during year
$\text{PRICE}_j$ = estimated price of eyeglasses facing individual, j = 1, 2
- $\text{PRICE}_1$ = MEANCOST, mean price paid for eyeglasses by individuals in state
- $\text{PRICE}_2$ = ESTCOST, predicted price facing individual calculated on basis of price equation coefficients

MALE = 1 if individual was male
BLACK = 1 if individual was black

## IV. Estimation of the Model

The model is estimated under two alternative sets of assumptions regarding the market price faced by consumers. In one case, the mean price paid in the market area (the state) is used to represent this price, and both equations are estimated by ordinary least squares; alternatively, the demand equation is estimated by generalized least squares. In the other case, the model is estimated using instrumental variables, with the predicted value of price for each individual used to represent the price faced in the demand equation.

The ordinary least squares estimates of the price equation are shown in Table 2. Equation 1 indicates a large positive association between the proportion of optometrists within a state who belong to the American Optometric Association (AOAMEM) and the prices paid for eyeglasses by individuals living within that state. The coefficient of AOAMEM is 25.38, which implies a price increase of approximately $12.18 as the membership proportion increases from .43 to .91, the range across the states included in this estimate.[24] The elasticity calculated at the mean is .47, suggesting that prices increase at nearly half the rate at which the membership proportion increases.

In equation 2, the coefficient of the dummy variable NONRESTR estimates the price difference between states classified as nonrestrictive and those classified as restrictive. The coefficient −8.46 implies that prices are on average $8.46 lower in the nonrestrictive states. Note that prices in states

[24] New Mexico has an AOA membership rate of .91 but is not included here because no individuals surveyed in New Mexico obtained eyeglasses in 1970.

TABLE 2

PRICE PAID FOR EYEGLASSES AS A FUNCTION OF LEVEL OF PROFESSIONAL CONTROL IN STATE

(t statistic in parentheses; elasticity calculated at the mean in brackets)

| Dependent Variable | ADAMEM | NONRESTR | OTHER | COMMER | FAMINC | FAMSIZ | INNER | RURAL | AGE | AGE65 | Constant | $R^2$ | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COSTGLASS | [illegible] | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | | [illegible] | [illegible] | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |



classified as "other" (neither nonrestrictive nor restrictive) appear to lie in between.

The third index is the proportion of eyeglasses purchased in state from commercial sources. States with a greater proportion of commercial purchases appear to have significantly lower prices. As the commercial proportion declines from 70 to 0 per cent, the range observed in this survey, the mean price increases $11.71.

All three indices of professional control are thus strongly associated with prices paid for eyeglasses.[25] Note also that in all three sets of estimates, the coefficients of these indices are statistically different from zero at the .001 level.

The only other variables in this specification which are significantly associated with price are those representing age and inner city residence. As expected, the price paid increases with age. The combined coefficients of AGE and the dummy variable AGE65 imply that a person of age 65 pays roughly $3.50 more than a person of age 20. Individuals living in inner cities appear, also as expected, to pay lower prices. Somewhat surprisingly, neither family income nor family size is significantly associated with price.

Several alternative specifications were estimated to examine the robustness of these results. They included, in addition to the variables above, subsets of the following: years of schooling, race, sex, marital status, employment income, other income, car ownership, number of pairs of eyeglasses purchased, per capita optometrists in state, insurance coverage for eye-related expenses, cost of eye examination, and free eye care received. The range of values observed across these alternative specifications for the coefficient of ADAMEM was 23.63 ($t = 7.65$) to 25.58 ($t = 8.43$); for NONRESTR, $-7.98$ ($t = -8.67$) to $-8.64$ ($t = -8.97$); for COMMER, $-14.84$ ($t = -6.57$) to $-16.05$ ($t = -6.58$).[26]

[25] To see if the results are affected by the inclusion of 422 individuals who provided information only on the combined price of eye examination and eyeglasses, and for whom costs had to be allocated between examination and eyeglasses (*supra* note 15), the equations in Table 2 were re-estimated excluding those observations. The differences in the estimates are minor. The coefficient of ADAMEM is 24.35 ($t = 6.16$), of NONRESTR is $-7.49$ ($t = -6.90$), and COMMER is $-16.11$ ($t = -5.24$).

[26] The relationship between professional control and price can be examined somewhat differently by looking at individuals who live near a state with a lower level of professional control than their state of residence. These individuals should have greater access to information concerning availability and prices of eyeglasses than typical consumers in their category of state and should thus pay lower prices than typical for their category of state.

This is tested by examining the individuals in four primary sampling units which were excluded initially because of proximity to less restrictive states (Newark, New Jersey; Paterson, New Jersey; Waterbury, Connecticut; and Grand Forks County, North Dakota). The price equation is re-estimated including these individuals, with a dummy variable (CLOSE) added to indicate residence in these four sampling units. In each estimate (one for each index of professional control), the coefficient of CLOSE lies between −8.82 and −10.50 and is statistically

To estimate the demand equation of the model, the first approach taken is to use the mean price paid for eyeglasses by state (MEANCOST) as the price facing consumers. One would typically then estimate the equation by ordinary least squares. However, the problem of heteroskedasticity arises in estimating by ordinary least squares relationships in which the dependent variable is dichotomous. The generalized least squares procedure discussed by Goldberger can be used to handle this problem if the values of the dependent variable predicted from the ordinary least squares estimate of the equation all lie within the unit interval.[27] The demand equation was accordingly estimated first by OLS, and the predicted values of the dependent variable across the sample of 10,000 individuals were all found to lie within (0,1). The generalized least squares estimates were then obtained.

The results obtained by these two estimation techniques are shown in Table 3. In equation 1 (OLS estimate), the coefficient of MEANCOST is −.0047 and is 7.67 times as large as its standard error. The price elasticity calculated at the mean is −.95.[28] In equation 2 (GLS estimate) the coefficient of MEANCOST is −.0043, 7.49 times as large as its standard error, and the elasticity calculated at the mean is −.88.

The other approach is to estimate the demand equation using instrumental variables: the market price facing each individual is taken to be ESTCOST, calculated for each individual on the basis of the coefficients obtained in the price estimating equation with AOAMEM as the index of professional control (Table 2, equation 1). The results are shown in equation 3. The estimated coefficient of ESTCOST is −.0059, and it implies a price elasticity at the mean of −1.14.

The coefficients of the other variables also change little across the three estimation techniques. As expected, the coefficient of FAMINC is positive and the coefficients of MALE and BLACK are negative. The combined effect of the two age variables indicates a positive association between age and the frequency of obtaining eyeglasses.

As with the price equation, there is a question here concerning appropriate specification. Several alternative specifications were estimated by ordi-

different from zero at the .05 level. Thus given the other factors included in the price equation, in particular the index of professional control in state of residence, individuals living near a less restrictive state appear to pay lower prices. Since these differences cannot be fully accounted for by the proportion of individuals obtaining eyeglasses out of state (only 14% of the persons in these four sampling units purchased eyeglasses out of state), the lower prices partly reflect lower prices in the border area of the state of residence.

[27] Arthur S. Goldberger, Econometric Theory 250 (1964). We appreciate the assistance of Wesley Mellow in obtaining the estimates.

[28] This demand equation takes no account of multiple purchases. Because the (multiple) number of eyeglasses purchased by individuals is also a function of price, the total volume of sales will be more price elastic than this estimate indicates.



TABLE 3

LIKELIHOOD OF INDIVIDUAL OBTAINING EYEGLASSES DURING YEAR AS A FUNCTION OF PRICE

(t statistic in parentheses; elasticity calculated at the mean in brackets)

| Dependent Variable | Estimation Procedure | Measure of Price | PRICE | FAMINC | AGE | AGESQ | MALE | BLACK | Constant | $R^2$ | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GETGLASS | Ordinary least squares | MEANCOST | −.0047 (−7.67) [−.95] | .0008 (1.40) | .0023 (9.91) | −.0020 (−9.58) | −.0266 (−3.66) | −.0351 (−4.26) | .2485 | .07[a] | 10000 |
| GETGLASS | Generalized least squares | MEANCOST | −.0043 (−7.49) [−.88][b] | .0012 (2.23) | .0023 (10.30) | −.0466 (−3.00) | −.0276 (−4.04) | −.0346 (−4.69) | .2449 | .07 | 10000 |
| GETGLASS | Instrumental variables | ESTCOST | −.0059 (−7.78) [−1.14] | .0008 (1.56) | .0036 (11.17) | −.0777 (−5.09) | −.0267 (−3.63) | −.0496 (−5.88) | .2521 | .02 | 10000 |

[a] [illegible]

[b] [illegible]

nary least squares, including such additional variables as location of residence, family size, marital status, educational attainment, and professional control.[28] The range of estimates for the coefficient of MEANCOST over the specifications examined was −.0039 (t = −4.15) to −.0050 (t = −8.26).

Table 3 indicates that the likelihood of obtaining eyeglasses during a year is substantially lower in states with higher prices. One can estimate the approximate overall impact of this effect in a variety of ways. If the results in the price equation can be taken to suggest that prices are on average $10.00 higher in the states with high professional control than in those with low, the demand estimates imply that between 4.7 and 5.9 per cent less of the population within the high control states obtained eyeglasses during 1970 than in the low control states. This effect is very substantial when one considers that only 16.2 per cent of the overall sample obtained eyeglasses during the year.[29]

An alternative approach is to assume that the price elasticity calculated at the mean holds throughout the range of increase. A 30 per cent increase in price associated with increased professional control implies a fall in the proportion of people obtaining eyeglasses of between 28.5 and 34.2 per cent.

The model has been examined across various specifications, with different indices, price measures, and estimation procedures. The results throughout have been quite similar. Consider yet another approach: merely examine the mean prices and likelihood of purchase for individuals living in states with high and low degrees of professional control. These figures are shown in Table 4. When states with a rate of AOA membership greater than .7 are

[28] A variable which we initially desired to examine in the model is the extent to which individuals received free eyeglass care across states. Since the variable GETGLASS includes some individuals who received free eyeglasses or paid discount prices for them, the elasticities reported in Table 3 are a weighted average of the price elasticities of individuals and the price elasticities of the organizations which provide free care. Such organizations will presumably encounter higher prices in the states with greater professional control, and they are also faced with budget constraints.

Difficulties arose because the survey coding for free care also included free care related to eye examinations, hospitalization, and other eye care. As a rough measure of free care for the present purpose, we use PCTFREE (per cent of individuals in state receiving some free eye care). When PCTFREE is included in the demand equation, the OLS estimate of the coefficient of MEANCOST changes from −.0047 to −.0027 (t = −3.64), and the elasticity falls to −.58 (−.72 if calculated at the mean of those not receiving free care). Including a dummy variable in alternative specifications of the price equation to indicate whether the individual received free eye care does not affect the coefficients of the professional control variables.

[29] A relatively small proportion of individuals facing higher prices in states with higher levels of professional control will do entirely without. They will hold a smaller inventory of eyeglasses and wait longer between changes. Some low income individuals develop alternative sources of supply. For example, the president of the Congress of Senior Citizens Organizations of Florida has told us that members of this organization are requested to donate their old eyeglasses to the association. Other members can then select, without charge, eyeglasses from this inventory for their own use.



TABLE 4

MEAN PRICE PAID FOR EYEGLASSES, PERCENTAGE OF INDIVIDUALS OBTAINING EYEGLASSES, AND MEAN NUMBER OF PAIRS OBTAINED BY LEVEL OF PROFESSIONAL CONTROL IN STATES

| Category of State | Mean Price Paid (N = 1351) | Standard Deviation of Price (N = 1351) | Percentage of Individuals Obtaining Eyeglasses in 1970 (N = 1625) | Mean Number of Pairs of Eyeglasses Obtained by Those Who Obtained Any (N = 1625) | Individuals Surveyed in Given Category of State (N = 10000) |
|---|---|---|---|---|---|
| AOAMEM > .7 | 37.11 | 15.16 | 14.8 | 1.088 | 2217 |
| AOAMEM < .5 | 26.66[a] | 12.03 | 20.1 | 1.199 | 3110 |
| RESTR = 1 | 37.38 | 15.31 | 13.7 | 1.148 | 2766 |
| NONRESTR = 1 | 28.11[b] | 12.66 | 18.8 | 1.193 | 4570 |
| COMMER < .33 | 36.18 | 14.33 | 13.5 | 1.039 | 2565 |
| COMMER > .33 | 29.08[c] | 12.23 | 15.9 | 1.311 | 1523 |
| All states in survey | 32.17 | 14.76 | 16.2 | 1.172 | 10000 |

[a] F ratio for difference of means is [illegible].
[b] F ratio for difference of means is 51.8.
[c] F ratio for difference of means is 77.5.

compared with those with a rate of less than .5, the mean price differs by $10.33; it is 40 per cent higher in the former. The price difference between states classified as restrictive and those classified as nonrestrictive is $9.27, 33 per cent higher in the restrictive states. Similar results hold for the categories of states with proportion of eyeglasses obtained from commercial firms less than .25 or greater than .50. In this case, the price differs by $7.16 and is 25 per cent higher in the former. In all three cases individuals living in states with a high level of professional control pay substantially higher prices.

Consider next the likelihood of obtaining eyeglasses in the various categories of states. The results here are consistent with the regression results of Table 3. For each measure of professional control, the likelihood is substantially higher (from 17 per cent to 35 per cent) in the states with a low degree of control.

An approximately unitary price elasticity of demand with respect to the frequency of obtaining eyeglasses was found in Table 3, implying that total revenue generated from the sale of eyeglasses is approximately the same (ignoring multiple purchases) in the more and less restrictive states, ceteris paribus. This can be examined directly here by estimating 1970 per capita expenditures for eyeglasses for the two sets of states. If multiple purchases are disregarded and per capita expenditures are represented as the product of mean price paid and likelihood of individuals obtaining eyeglasses in 1970, computations show a 1970 per capita expenditure of $5.50 in the states with a high level of AOA membership and of $5.35 in states with a low level. Thus in the latter set of states per capita expenditures on eyeglasses were 3 per cent lower while the proportion of the population obtaining eyeglasses was 36 per cent higher. When multiple purchases of eyeglasses are taken into account, the corresponding figures are 50 per cent more eyeglasses obtained per capita with 7 per cent greater expenditures per capita than in the states with high AOA membership.

The calculations for Table 4, of course, take no account of different characteristics of individuals living in states with high and low AOA membership. This sample was not drawn as a random sample of individuals within particular states, nor was there a design to obtain random samples of individuals within states with high and low levels of professional control. The survey also oversampled certain groups—those living in inner cities, those living in rural areas, and the elderly. However, the results here are similar to those obtained from estimates of the model shown in Tables 2 and 3 (which control for many of these characteristics) and further illustrate the robustness of the principal relationships found.

## V. Price By Source of Care

An explanation commonly given by professionals in this industry for the observed price differentials across states is that in the more professional



states a larger proportion of the output is supplied by the optometrists and physicians, whose services are of higher quality and correspondingly more costly.[31] That is, the differences observed across states are asserted to be more a function of the composition of the industry within states than of price variation across states for given sources of care. On the other hand, the arguments offered above concerning information flows suggest that for *each* source of care the prices paid should increase as professional control increases. One might expect a smaller associated increase for physicians than for optometrists or commercial firms, since physicians are everywhere constrained from participating in most kinds of commercial information flows.

Table 5 shows the distribution of sources of eyeglasses in states with low, medium, and high levels of professional control as measured by membership in the AOA. There is indeed a substantial difference in the composition of the industry, a difference in the suggested direction. However, the table also shows that the mean price paid for eyeglasses increases for each category of suppliers as level of professional control increases. A comparison of states with low and high AOA membership levels shows mean prices paid for eyeglasses obtained from physicians to be 20 per cent higher in the states with high membership. The corresponding price increases for optometrists and commercial firms are 42 per cent and 41 per cent, respectively.

Table 6 presents regressions dealing with the same relationship. The coefficients of AOAMEM for optometrists (29.36) and for commercial firms (30.16) indicate a substantial and highly significant relationship between level of professional control and selling price for each of these groups. For physicians the coefficient of AOAMEM is much smaller (8.55) and not significantly different from zero.

The lower prices in states with lower levels of professional control are thus seen not to be simply the result of a shift in source of care. Rather, the overall price level falls for all providers; prices paid to optometrists and (less clearly) to physicians as well as to commercial firms vary directly with the extent of professional control. These results also demonstrate the strong incentives which optometrists have to increase professional control, as both their selling price and their market share increase substantially with this control.

## VI. Protection in the Professional Environment

Individuals obtain eyeglasses with greater frequency in the states with less professional control. To what extent is this due to the lower prices, and to

[31] Some might argue that the level of professional control by state reflects a positive income elasticity of demand for more professional services. This argument implies a positive relationship between income and level of professional control across states. However, this is not the case; the correlation between AOAMEM and per capita income across the states in this study is $R = -.23$

TABLE 5

PERCENTAGE OF INDIVIDUALS USING GIVEN SOURCES OF EYEGLASSES AND MEAN PRICES PAID BY SOURCE BY LEVEL OF PROFESSIONAL CONTROL IN STATES

| Category of State | Percentage of the Individuals in Given Category of State Obtaining Eyeglasses Who Used Indicated Source for Their Eyeglasses | | | Mean Price Paid for Eyeglasses by Individuals in Given Category of State Using Indicated Source for Their Eyeglasses | | |
|---|---|---|---|---|---|---|
| | Physician | Optometrist | Commercial Firm | Physician | Optometrist | Commercial Firm |
| AOAMEM > .7 | 22 | 55 | 21 | $37.03 | $38.28 | $34.93 |
| .5 ≤ AOAMEM ≤ .7 | 26 | 45 | 28 | 35.75 | 34.46 | 33.41 |
| AOAMEM < .5 | 19 | 36 | 44 | 30.76 | 26.61 | 24.73 |
| All states in survey | 22 | 42 | 35 | 34.33 | 33.38 | 29.22 |

TABLE 6

PRICE PAID FOR EYEGLASSES AS A FUNCTION OF LEVEL OF PROFESSIONAL CONTROL IN STATE, BY SOURCE OF EYEGLASSES

(t statistic in parentheses; elasticity calculated at the mean in brackets)

| Source of Eyeglasses | Dependent Variable | AOAMEM | FAMINC | FAMSIZ | INNER | RURAL | AGE | ACCESS | Constant | $R^2$ | N* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Physician | COSTGLASS | 8.95 (1.25) [.15] | .00012 (1.18) | .15 (.28) | −3.82 (−1.78) | 2.35 (1.09) | .21 (4.28) | −6.57 (−2.25) | 19.24 | .08 | 304 |
| Optometrist | COSTGLASS | 20.36 (7.05) [.55] | −.00028 (−.85) | .04 (−.12) | −1.83 (−1.14) | −2.57 (−1.71) | .16 (4.87) | −7.90 (−3.94) | 21.44 | .11 | 595 |
| Commercial Firm | COSTGLASS | 30.16 (4.78) [.58] | −.00015 (−1.25) | .02 (.05) | −2.62 (−1.47) | −2.73 (−1.28) | .15 (3.16) | .51 (.21) | 9.51 | .11 | 436 |

* Of the 1151 individual ... 15 could not be classified according to the three source categories above.



what extent to the commercial nature of the environment? The argument that advertising is often used by sellers "to lure the credulous and ignorant members of the public to their offices for the purposes of fleecing them" should imply in this context that a commercial environment induces some consumers to obtain eyeglasses which they do not "need." If this is so, then at any given market price, consumers in a more commercial environment should be more likely to obtain eyeglasses than consumers in a less commercial one.

To examine the effect of professional control on this likelihood, the indices of professional control are added to the demand specification.[22] In each estimate of the new equation, the coefficient of the professional control variable is less than 1.20 times the size of its standard error.[23] The coefficient of the price variable is reduced by as much as 17 per cent in absolute value in these estimates, but it remains highly significant (the t statistic is always larger than 4.73).[24] These results are consistent with the view that there is little independent effect of professional control on the likelihood of obtaining eyeglasses, given market price.[25]

The results obtained in Section IV also bear on some dimensions of the issue of exploitation. In terms of mean prices paid for eyeglasses or mean annual per capita expenditures on eyeglasses, it is difficult to see how the charge of exploitation can be appropriately applied to the more commercial as compared to the more professional states.

Some individuals argue that greater professional control protects the less competent and those less able to cope from the problems associated with the

[22] The average price paid within a state (MEANCOST) and the indices of professional control are correlated across states, but substantial independent variation remains. For the set of 37 states for which price information was available, the correlation between MEANCOST and AOAMEM is R = .59 and between MEANCOST and COMMER is R = −.48.

[23] When AOAMEM is entered, the coefficient of MEANCOST is −.0041 (t = −5.19) and the coefficient of AOAMEM is −.0404 (t = −1.14); with NONRESTR, the coefficient of MEANCOST is −.0039 (t = −4.73) and the coefficient of NONRESTR is .0147 (t = 1.14); with COMMER, the coefficient of MEANCOST is −.0034 (t = −6.00) and the coefficient of COMMER is .0290 (t = 1.19).

[24] The same exercise was performed using as the dependent variable the number of pairs of eyeglasses obtained by individuals who purchased any eyeglasses at all (NUMGLASS). For two indices, increased professional control was associated with fewer pairs purchased by individuals getting eyeglasses. The other index (NONRESTR) showed more pairs purchased with increased professional control. The coefficients and t statistics of the professional indices in the three estimates were as follows: AOAMEM, −.2060 (t = −1.69); COMMER, .2120 (t = 2.57); NONRESTR, −.0711 (t = −1.04).

[25] An alternative way to view the effect of professional control on the likelihood that individuals obtain eyeglasses during a given time period is to estimate the relationship directly without considering the effect of professional control on price. The demand equation was re-estimated three times, each time substituting one index of professional control for the price variable. The coefficient, t statistic, and elasticity at the mean for AOAMEM are −.1558, t = −1.53, η = −.53; for COMMER, .1024, t = 4.84, η = .21; for NONRESTR, .0568, t = 6.47.

commercial environment. This argument must mean that such groups are better off, at least relative to other groups, in the professional environment. One dimension of this argument would imply that the price increases for such groups in going from a commercial environment (in which they were allegedly exploited) to a professional environment (in which they were no longer exploited) should be less than for other groups.

Consider level of education as a rough proxy for the general ability to cope. Evidence from the human capital literature indicates that individuals with more education tend not only to have higher market productivity but also to be more efficient in their nonmarket activities. Highly educated individuals are generally considered to be one of the groups least in need of protection against deception. This suggests using groups of individuals with high and low levels of education to examine this question.[36]

Table 7 shows price as a function of level of professional control for two groups: those with thirteen or more years of schooling and those with eight or less. For all three indices, the impact of professional control on price, given the other variables in the equation, appears greater for the less educated. All three coefficients are larger, with larger t statistics, for the less educated sample.

The arguments concerning protection of individuals are not directed exclusively at prices individuals pay. It would be inappropriate to generalize to other characteristics of the transaction from these results. But by this measure the less educated do not appear to be better protected by a shift to greater professional control and may indeed be worse off.

## VII. Conclusions

The process of professional control examined here is only one example of a well established and widely accepted method of regulating markets. The market for eyeglasses and the profession of optometry are of particular interest because they provide an opportunity for examining in the cross-section some general questions concerning the effects of professionalization. The restraints in this market, particularly the restraints on dissemination of information, are very similar to those elsewhere; there is no indication that optometrists are doing more than emulating the conduct of other more firmly established professions.[37] Many other groups are at present attempting to follow the same pattern.

[36] Other reasons why the shift from a commercial to a professional environment will have differential effects on groups with different levels of education involve tradeoffs between time and efficiency of search, and differing opportunity costs of time.

[37] This is clearly seen in the AOA Rules of Practice. "Members shall practice in such location



TABLE 7

PRICE PAID FOR EYEGLASSES AS A FUNCTION OF LEVEL OF PROFESSIONAL CONTROL IN STATE FOR HIGH AND LOW EDUCATION GROUPS

(t statistic in parentheses, elasticity calculated at the mean in brackets)

| Dependent Variable | ADVMIN | ADVRESTR | OTHER | COMMER | FAMINC | FAMSIZ | INNER | RURAL | AGE | AGESQ | Constant | R² | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 13 or More Years of Schooling | | | | | | | | |
| COSTGLASS | [illegible] | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | | [illegible] | [illegible] | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | | | | 8 or Less Years of Schooling | | | | | | | | |
| COSTGLASS | [illegible] | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | — | [illegible] | [illegible] | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| COSTGLASS | — | — | — | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

Widespread concern has been expressed about the difficulties consumers face in commercial markets; relatively little attention has been given to the attendant difficulties in the professional environment. The results of this study suggest that the associated costs are substantial.[38] The professional constraints examined here have very significant consequences for the cost of services and the frequency with which individuals obtain the services. Prices appear to be 25 per cent to 40 per cent higher in the markets with greater professional control. These higher prices are in turn associated with a significant reduction in the proportion of individuals obtaining eyeglasses during a year. The price elasticity of demand was estimated to be approximately −1.0.

The frequency with which individuals utilize many professional services does not correspond to expert judgment concerning the appropriate utilization patterns. This is true of eye care; professionals have asserted that the utilization of eye care in the United States is approximately half the optimal rate.[39] Public policy is directed toward alleviating this public "need," and substantial resources are directed toward this end, including subsidies for training, welfare programs, and charities. The results of this study suggest the extent to which the application of professional norms moves the public further away from these espoused goals.

There is a basic incompatibility between providing consumers with the information which is generated in the usual commercial market and the implementation of professional codes of ethics. This raises a fundamental question, given that these information constraints appear to result in significantly higher prices and lower utilization, as to the magnitude of the benefits derived from professionalization compared to the costs. It must be emphasized that this study has not measured the absolute effects of professional control; it has only examined the differences between highly restrictive and somewhat less restrictive state markets. Furthermore, the market examined in this study is only a small part of the total service sector, and optometry is not one of the most professionalized groups within the sector.

and manner as is customary with other health care professionals in the area. Members shall maintain their offices so that the physical appearance is similar to that customary with other health care professionals in the area. . . . Members shall present themselves to the public in a manner similar to that customary with other health care professionals in the area. . . ." American Optometric Ass'n, *supra* note 9, at 6.

[38] These consequences are separate and distinct from the consequences of control over entry into occupations, a topic which has been extensively studied by economists. The present results suggest that viewing the cost of professional control in terms of the barriers to entry to the profession, as reflected in high rates of return to professional training or excessive training costs, may significantly understate the overall cost of this form of market control.

[39] Monroe J. Hirsch & Ralph E. Wick, *supra* note 8, at 259.



For these reasons, the cost estimates in this study indicate only a small part of the total price of "providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous."[40]

[40] Semler v. Ore. St. Bd. Dental Examiners, 294 U.S. 608, 612 (1935).

Ronald S. Bond et al., *Staff Report on Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry* (Executive Summary), Bureau of Economics, Federal Trade Commission (Sept. 1980).

**Scope of Study:** As part of this study, trained subjects were sent to purchase eye examinations and eyeglasses in a variety of cities. The study classified cities by how much they restricted advertising and commercial optometry practice. This was done by observing the extent of mass media advertising and whether or not there were large commercial chains in the city.

**Conclusions:** The authors found that advertising does not result in lower quality. In fact, optometrists in cities where advertising was permitted were less likely to prescribe unnecessary new glasses than were optometrists in cities that restricted advertising. Furthermore, they found that the prices for the combined eye exam and glasses was $29 less in the cities with the least restrictive advertising regimes than in those with the most restrictive regimes. Even those sellers that did not advertise charged 20 percent lower prices in the least restrictive cities than in the average city.

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FEDERAL TRADE COMMISSION

# Staff Report on Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry

## EXECUTIVE SUMMARY


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Bureau of Economics

September 1980

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EXECUTIVE SUMMARY

## Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry

This study provides empirical evidence concerning the relation between price as well as quality of professional services and restrictions on advertising and commercial practice. Proponents of commercial restrictions argue that these restrictions are necessary to maintain the quality of professional care; critics claim that the restrictions raise the prices people must pay for professional services.

### The Nature of the Restrictions

The most commonly found commercial restrictions in the professions are of two general types: (1) prohibitions against advertising and (2) prohibitions against commercial practice. Both classes of restrictions are imposed by licensing boards, state law, or private professional organizations through canons of ethics. Restrictions of the former type are straightforward prohibitions against soliciting business by advertising. Restrictions of the latter type are more complex. These affect the method in which professional services may be produced and sold, including prohibitions against the following: (1) professionals' being employed by, or locating an office in, a commercial establishment such as a department store; (2) the use of brand names to establish the identity of a professional practice; (3) the ownership of a professional practice by laypeople; and (4) the establishment of a professional practice through franchise arrangements and multiple branch outlets.

### Arguments for and Against Restrictions

Those who favor restrictions on commercial behavior in the professions argue that the normal forces of competition will cause a deterioration in the quality of professional services available in the marketplace. Because they are unable to fully assess the quality of complex professional services, consumers will be particularly vulnerable to appeals based upon price. And because many such services are infrequently purchased, information concerning individual providers of such services is especially scarce. Thus, market forces are weak, and unethical professionals can offer lower prices and substitute lower quality.

Without prohibitions on commercial practice, professionals may work for lay corporations. It is argued that profit-oriented corporations will have a strong incentive to substitute low for high quality services. Without restrictions on advertising, unethical professionals can reach large segments of the population through the mass media. Unethical behavior becomes more profitable, and a larger number of consumers are deceived. Moreover, high quality, high-priced professionals will find themselves disadvantaged. To remain price competitive they must either lower quality or they must leave the market. Thus, the argument concludes, the quality of professional care is reduced throughout the market.

In contrast, those who oppose commercial restrictions argue that certa professional services are, in fact, relatively standardized and often routin For such services consumers should benefit from shopping on the basis price. Commercial restrictions on advertising raise the cost of shopping a result in higher prevailing prices. Commercial restrictions on forms professional practice reduce the opportunities for sellers to adopt cos cutting technologies and to pass those savings along in the form of low prices. Opponents of commercial restrictions conclude that the primary effe of restrictions is to raise the prices consumers must pay for profession services. This conclusion is consistent with empirical evidence f standardized goods.

The Experiment

In the United States, commercial restrictions for professional servic (including the dental, medical, accounting, veterinary, and other profession have been common in almost all of the states. Optometry is the one professi in which a great variety of restrictions have long existed. Some states a cities are nonrestrictive; they do not have any prohibitions against adverti ing or commercial practice for optometric services; other states and citi are restrictive; they have prohibitions against both advertising and co mercial practice.

In nonrestrictive cities, trained subjects purchased eye examinations a eyeglasses from optometrists who advertised, optometrists who were associat with large chain optical firms, as well as from optometrists (nonadvertiser who practiced in the professional tradition. The subjects also made purchas from optometrists in restrictive cities. Optometrists in these cities we all necessarily nonadvertisers.

In total, 19 subjects purchased 434 eye examinations and 280 pairs of ey glasses, in 12 different metropolitan areas. Data were collected on the fo lowing: (1) the thoroughness of the eye examination, including tests for e disease as well as visual acuity; (2) the accuracy of the prescription; ( the accuracy and workmanship of the resulting eyeglasses; (4) the total pri of the eyeglasses and examination; and (5) whether or not new glasses we prescribed when they were not needed.

The Results

Price

Whether purchased from a nonadvertiser, an advertiser, or a chain-fir the statistical estimates reveal that the average eye examination and ey glasses cost less in a nonrestrictive city. In restrictive cities t estimated average price is $94.46. In nonrestrictive cities estimates sh that nonadvertisers charge $73.44, advertisers charge $63.57, and large cha optical firms charge $61.37. The estimated overall average price f nonrestrictive cities is $70.72.

Quality

Advertising optometrists and chain-firm optometrists derive the correct perscription and produce accurate eyeglasses no less frequently than non-advertising optometrists in either restrictive or nonrestrictive cities. The data also indicate that there are no significant differences in the quality of eyeglass frames or lenses no matter where eyeglasses are purchased. Moreover, advertising optometrists and chain-firm optometrists are no more likely than nonadvertising optometrists (from restrictive or nonrestrictive cities) to prescribe new eyeglasses when they are not needed.

The examinations given by advertising and chain-firm optometrists are however, significantly less thorough than the examinations given by non-advertising optometrists in the same geographic market. Nonetheless, the percentage of optometrists who give less thorough examinations is about the same in restrictive as in nonrestrictive cities, but in restrictive cities these optometrists cannot advertise. Optometrists who give more thorough examinations were not, however, driven out of nonrestrictive cities. The percentage of optometrists offering thorough examinations is about the same in both restrictive and nonrestrictive cities.

Summary

Taken together the results for price and quality suggest the following: Prescriptions and eyeglasses are no less adequate when purchased from an advertising optometrist or chain-firm optometrist than when purchased from a nonadvertising, noncommercial optometrist in either a restrictive or non-restrictive city. The thoroughness of the examination, however, does vary. In all cities some optometrists give more thorough and some optometrists give less thorough examinations in about the same percentages. In nonrestrictive cities, more thorough examinations tend to be given by nonadvertisers and less thorough examinations tend to be given by advertisers and chain-firm practitioners.

Regardless of the thoroughness of the examination, prices tended to be lower in nonrestrictive cities. A package consisting of a thorough eye examination and eyeglasses costs about $21 less when purchased from a non-advertising optometrist in a nonrestrictive city than when purchased from a nonadvertising optometrist in a restrictive city. A package consisting of a less thorough eye examination and eyeglasses costs about $31 less when purchased from an advertising optometrist or chain-firm optometrist in a non-restrictive city than when purchased from a nonadvertising optometrist in a restrictive city.



U.S. GOVERNMENT PRINTING OFFICE : [illegible]

John F. Cady, *An Estimate of the Price Effects of Restrictions on Drug Price Advertising*, 14 ECON. INQUIRY 493 (1976).

**Scope of Study:** Cady considered the relationship between restrictions on price advertising and retail price in the retail market for prescription drugs. Cady created an index of prices, derived from the quoted prices for 10 prescription drugs in various locations. Next, Cady controlled for environmental characteristics (geographic and demographic variables), structural characteristics (pharmacy costs associated with prescription drug dispensing), and organizational characteristics (purchasing characteristics of the pharmacy and whether the pharmacy was part of a chain). Finally, Cady identified those jurisdictions that had restrictive advertising regulations.

**Conclusions:** Cady determined that states restricting the advertising of prescription drugs had prices that averaged 2.9 percent higher than states without such restrictions. Controlling for all other pharmacy regulations, this difference increased to 4.3 percent; further model refinements yielded a 5.2 percent differential. Cady estimated that in the states that restricted advertising, consumers paid between $135 and $152 million in higher prices for prescription drugs in 1970 as a result of advertising restrictions.

# AN ESTIMATE OF THE PRICE EFFECTS OF RESTRICTIONS ON DRUG PRICE ADVERTISING

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*This paper examines the relationship between restrictions on price advertising in the retail market for prescription drugs and the retail price of prescription drugs. Utilizing data on state retail advertising restrictions and data from a national survey of pharmacies, the study estimates the effect of advertising restrictions on the retail price of prescription drugs, and the cost to consumers resulting from these restrictions.*

In 1973 American consumers paid nearly seven billion dollars for prescription drugs at retail. Contrasted to published 1970 expenditures this figure represents an increase of almost 68 percent (Cooper and Worthington 1972, Rosenthal 1973, Prescription Drugs: Retail Price Disclosures 1975).

A significant characteristic of the retail market for prescription drugs, one that has received substantial attention from consumer groups, and more recently government agencies, is great variation among pharmacies in the price level of prescription drugs (Berki 1971, Rosenthal 1973).

A primary source of variation in price levels among pharmacies may be the structural and organizational conditions which characterize the market: small scale pharmacies exhibit higher than average prices, large scale pharmacies exhibit lower than average prices. Consumer service provision varies considerably among pharmacies. Some offer a wide variety of services such as credit, delivery and the maintenance of family health records while others offer few of these services or none at all. Independent pharmacies utilizing traditional producer-wholesaler-retailer channels of distribution tend to pay higher prices for drugs than chain pharmacies purchasing directly from producers. Since these structural and organizational characteristics represent variation in costs among pharmacies they may be expected to be related to variations in price.

Consumer price information (or the lack of it) has also been considered as a factor related to prescription drug prices in papers by Rosenthal (1973) and Donnem (1974) and in the work of Fletcher (1967). The absence of consumer price information is characteristic of a large part of the retail drug market. The principal reason why this information is

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absent is the existence of professional sanctions, in the form of state pharmacy board regulation and state legislation, on advertising prescription drug prices.

## I. BACKGROUND

Nominally, according to Fletcher (1967), the implementation of restrictions on advertising grew from a concern for the public health and safety. Advertising prescription drug prices has been characterized as detrimental to the public interest because it may act as a stimulus to unnecessary drug consumption. Furthermore, it is often asserted that price advertising increases drug prices because the cost of advertising is passed along to consumers. Such claims have not gone unchallenged by critics of advertising restrictions. Spokesmen for consumer interest groups have denied that price advertising could be related to drug consumption because it is necessary for consumers to obtain written prescriptions from physicians in order to purchase drugs. No competent physician, it is argued, would submit to any pressure to prescribe unnecessary drugs or to prescribe quantities larger than necessary to cure or alleviate a given illness. Consumer surveys have found drug prices to be lower in areas where drug price advertising is not restricted. Rosenthal (1973), for example, reports that drug prices averaged 34 percent lower in Philadelphia where advertising is permitted than in New York City where advertising is restricted. While Masson (1975) has found less substantial differences in a study of prescription prices in mid-western cities, a study by Benham (1972, p. 352) of the relationship between advertising restrictions and the price of eyeglasses concluded that "[prices] were found to be substantially lower in states which allowed advertising."[1]

1. Advertising restrictions may result in higher prescription prices for several reasons:

a) Advertising restrictions may inhibit the entrance of some traditionally high volume, low margin sellers (typically chains) into a state. Cady (1975a) was unable to provide strong support for this contention, however Benham (1972, p. 346) reported that in the retail market for eyeglasses, spokesmen for several commercial firms stated that they would not enter a new market unless advertising were permitted. To the extent that retail pharmacy managers make similar decisions price levels will be higher in restricted than in unrestricted states.

b) In the absence of formal advertising restrictions, the threat that some pharmacy will violate informal Codes of Ethics and advertise always exists. However, the benefit to a pharmacy from advertising prices depends, in part, on the price it charges relative to competitors. If pharmacists desire to decrease the probability that some pharmacy will advertise, they may maintain relatively low prices.

c) Advertising restrictions make it relatively difficult for pharmacists to determine how their level of prices compares to competitors. In unrestricted states if even a few pharmacies advertise, then pharmacists with prices substantially higher than those who advertise may lower prices to be "in line" with competition.

d) Finally, a lower market price may result where advertising is permitted in the short run as consumers switch from relatively high to relatively low price pharmacies. Pharmacists finding that they are losing customers because of high prices may lower prescription prices to attract new customers or regain former customers.

*footnote 1 continued on next page . . .*

The purpose of this paper is to examine the effects of restrictions on retail drug price advertising on prescription drug prices and to estimate the cost to consumers resulting from these restrictions.

## II. ESTIMATING THE EFFECTS OF ADVERTISING RESTRICTIONS

To examine the relationship between advertising restrictions and prescription prices, a model was formulated incorporating variables indicated in previous studies by Bass (1956), Berki (1971), and Cady (1975a) to be related to prescription drug costs and prices in addition to variables representing advertising restrictions. While the focus of this analysis is on the impact of advertising restrictions on price, the environmental, structural, and organizational variables in the model serve as control variables reflecting variations in cost conditions. With cost related structural and organizational variations in price controlled for, the coefficient of the advertising restriction variable serves as an estimate of monopoly prices attributable to advertising restrictions.

## III. THE MODEL[2]

$$P_{pj} = f(E_j, S_j, O_j, R_j)$$

$P_{pj}$ = Index of prescription prices of pharmacy $j$
$E_j$ = Environmental characteristics of the market in which pharmacy $j$ operates
$S_j$ = Structural characteristics of pharmacy $j$
$O_j$ = Organizational characteristics of pharmacy $j$
$R_j$ = Advertising regulation characteristics of the market in which pharmacy $j$ operates

*Prescription Drug Price Index.* Pharmacy prescription price levels were determined by constructing an index of prescription drug prices. The index is the arithmetic mean of the quoted selling price of

*. . . footnote 1 continued.*

Notice that the existence of advertising restrictions in itself may result in higher prices in the first two cases listed above. However, there is evidence suggesting that some pharmacies will advertise where restrictions do not exist. The most common advertisements stress the availability of comparative price lists, and implying "discount" prices ("Prescription Drugs: Retail Price Disclosure," 1975, pp. 261-266, 276).

A survey of chain pharmacies by the F.T.C. Staff revealed that substantial advertising took place in unrestricted states in 1970. In Arizona, for example, where advertising restrictions were not in effect, six chains, Walgreens, Federal Prescription Services, Skaggs, Revco, SupeRx, and Retired Persons Prescription Service advertised prices and discount claims continually throughout 1970. Contrasted to this, in California where advertising was restricted, only a single observation of price advertising (use of a price list by Federal Prescription Service) could be found. Revco management follows a policy of advertising discount prices only in states without advertising restrictions.

2. Data used in this analysis were from a national survey of 1933 pharmacies in 1970. This survey, sponsored by the National Association of Retail Druggists (NARD) and the National Association of Chain Drug Stores (NACDS), elicited comprehensive information on operating characteristics, service provision, wage rates and price levels of retail pharmacies.

ten representative prescription drugs. The ten prescription drugs represented a cross section of drugs by therapeutic category, frequency of sale, and cost to the pharmacy. In the estimates presented here, the index for each pharmacy has been divided by the mean for the sample. Regression coefficients are therefore in percentage terms.

While it is much easier to obtain the quoted selling price of the drugs contrasted to actually purchasing the drugs from each pharmacy, a measurement problem may arise if quoted prices and purchase prices differ systematically. Pharmacists might, for example, quote lower prices to individuals requesting price quotes in the hope of attracting customers. Individuals who do not request information on price prior to sale might be charged higher prices.

It can reasonably be argued that if this practice does occur it would be commonly observed among pharmacies in states restricting advertising. In states where price information may be made available to customers through advertising it would be more difficult to charge different prices to consumers for the same drugs since consumers would be aware of the prices of at least some products. Thus the difference in prices between those states restricting advertising and those not restricting advertising estimated from survey data on quoted prices might be smaller than an estimate derived from data on purchase prices; estimates of the effect of advertising restrictions on prices would be understated.

However, if quoted and purchased prices are highly correlated, and if pharmacists are about as likely to quote prices higher than purchase prices as they are to quote lower prices, then the estimates derived from the average of ten drug prices will be quite accurate since the averaging would compensate for quote mistakes. This contention has some empirical support. Masson (1974, p. 67) reports that in a study conducted by F. L. Sweeney (1974) in Chicago, a correlation of .809 was found between quoted and purchase prices. In a survey of drug prices in California (Prescription Drug Price Survey, 1973), 61 comparisons of quoted and purchase prices were made. Of the 61 comparisons, 24 quoted prices were the same as purchase prices. Of the remaining 37 comparisons, 16 (43%) quotes were higher than prices paid and 21 (57%) quotes were lower than purchase prices.

Therefore, with a high correlation between price quotes and purchase prices, and a tendency for prescription quotes to exceed purchase prices almost as frequently as the opposite occurs, the index used in this study should provide an accurate basis for measuring the impact of advertising restrictions on prescription prices.

*Environmental Characteristics.* To account for exogeneous factors in the market potentially affecting costs and prices, variables representing the economic characteristics of the environment in which each pharmacy operates are included in the model. These variables are of two types: geographic and demographic. Geographic location potentially affects

prescription prices in two ways. First, distribution costs may be systematically related to geographic location. Second, variations in the level and composition of economic activity may vary significantly by geographic location. A variable representing geographic location included in the estimate acts as a surrogate for variables contributing to geographic differences in economic characteristics. Demographic variables included are the demand related variables of the income and population level of the city in which each establishment is located.

*Structural Characteristics.* Structural characteristics included in the model are of two types: pharmacy sales size and the proportion of total pharmacy sales accounted for by prescription drugs; pharmacy characteristics associated specifically with prescription drug dispensing. These characteristics have been shown in studies by Bass (1956), Berki (1971), and Cady (1975a) to be significantly related to pharmacy costs. Therefore these characteristics may be expected to be related to prescription prices, and must be controlled for in estimating the independent effect of advertising restrictions on prices.[3] Characteristics specific to drug dispensing may be similarly related to prescription prices. In this latter category the following are included:

1. Dummy variables representing the provision of delivery service, maintenance of family prescription records, emergency service, provision of a prescription waiting area, provision of a drug information library.[4]
2. Wage rate of employed pharmacists.
3. The proportion of prescriptions sold which are covered by private and public third party programs.
4. The proportion of prescriptions sold which are charged to customer accounts.

*Organizational Characteristics.* These are a subset of structural variables which are either explicitly associated with multiple establishment organization, or variables likely to be associated with organizational form.

1. Purchasing characteristics. There is a variety of channels of distribution for prescription drugs available to pharmacies. Each has certain advantages of cost or product availability. In general, drugs purchased directly from manufacturers are available at lower cost than the same drug purchased

3. Cady (1975a) has shown that the sales size distribution of pharmacies is not significantly related to advertising restrictions. The same study found no relationship between advertising restrictions and the composition of output between prescription and nonprescription products.

4. It might be argued that the provision of services might partly reflect the presence of advertising restrictions, since service provision might be an alternative to advertising. A study by Cady (1975b) found that the provision of services was, with one exception, unrelated to the presence of advertising restrictions.

through wholesalers. Local wholesalers, however, may provide fast delivery or services not available to pharmacies purchasing direct from manufacturers. Pharmacies belonging to chains are often able to obtain drugs from a warehouse which purchases centrally for all chain members. Independent pharmacies, in order to obtain any similar benefits from centralized purchasing sometimes form cooperatives for purposes of buying and inventory handling.

2. Chain membership (defined as four or more units under common ownership). This variable is included to account for any economies of coordination and management not reflected in economies of scale or purchasing practices.

*Regulation Characteristics.* The approach used to classify states as restrictive or unrestrictive toward advertising is similar to that used by Maurizi (1972) and Benham (1972). All states (with the exceptions of Alaska and Hawaii) and the District of Columbia were canvassed for the presence of regulations restricting prescription drug price advertising. Dummy variables were constructed such that each state received a "1" if it had a regulation restricting price advertising in 1970, and a "0" otherwise.[5]

A state was considered to be restrictive if it had either a state law or formal pharmacy board regulation which prohibited any of the following methods of disseminating prescription price information:

1. limitations on outdoor signs with information identifying the products and prices offered by the pharmacy.
2. prohibitions of implying that the pharmacy has "discount" or "cut rate" drug prices.
3. specific prohibitions of drug price advertising.
4. prohibitions of promotional schemes, such as senior citizen discount plans, which offer discount prices to specific segments of the market.[6]

The consideration of each of these regulations to be price advertising restrictions is based on the arguments presented by Fletcher and his regulatory classification framework (1967, pp. 272-273). His arguments are based on the wording of the restrictions on advertising

5. States with advertising restrictions in 1970 were: Arkansas, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nevada, New Jersey, New York, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Texas, Virginia, Washington, West Virginia and Wisconsin. The basic source for determining which states had formal restrictions was Fletcher (1967). His data were updated to 1970 using information collected by the National Association of Chain Drug Stores. For changes in restrictions since 1970 the reader should see the F.T.C. "Prescription Drugs: Retail Price Disclosures," (1975, pp. 33-44).

6. Specification tests in later sections of this paper examine the effects of alternative definitions of the advertising restrictions variable.

found in the various states, and on the practices for which pharmacists were charged for violating advertising restrictions. Support for this classification is also found in a 1968 American Pharmaceutical Association Judicial Board opinion which specifically included each of the above practices as a violation of the Association Code of Ethics relating to price advertising. Another source of support for this classification is found in recently published Federal Trade Commission Trade Regulation Rules, "Prescription Drugs: Retail Price Disclosure," (1975) designed to reduce barriers to consumer price information resulting from the regulation of each of these practices.

## IV. RESULTS

Table 1 presents the results of the estimation. Although our particular interest lies in the significance and interpretation of the advertising regulation variables, the discussion will proceed by variable grouping.

*Environmental Characteristics.* All environmental characteristics, geographic and demographic, are significantly related to the price index. All included census region dummy variables display significant negative coefficients. Thus, the census region omitted is systematically related to higher prescription drug prices.[7] This indicates, perhaps, higher transportation and delivery costs in this area reflected in higher prices, or a relationship to some other regional characteristic not measured directly by this study. The coefficients for population and income which are positive and highly significant indicate that, controlling for other factors, prescription drug prices are higher in high income metropolitan areas. The magnitude of these coefficients is small, slightly over one percent for each thousand dollars of per capita income, and much less for each thousand person increase in population.

*Structural Characteristics.* The coefficients of the sales size classification dummy variables indicate a significant relationship between establishment sales size and prescription drug prices. These coefficients display an expected result showing an inverse relationship between prescription prices and pharmacy sales size.

None of the output composition variables (prescription sales as a proportion of total sales) is significantly related to prescription prices independent of other structural characteristics. This suggests that the higher average costs associated with greater specialization in prescription drug sales found in previous studies are primarily due to prescription service costs and wages. These prescription operation characteristics all display coefficients of plausible magnitude (generally less than one percent of price) and are in the positive direction. Thus the coefficients of the

7. The excluded geographic area is Census Region IX (California, Oregon and Washington).

## TABLE 1

Estimate of Relationship Between Prescription Price, Structural, Environmental Characteristics and Advertising Restrictions

| Variable | Mean | Coefficient | Significance Level |
|---|---|---|---|
| ENVIRONMENTAL CHARACTERISTICS | | | |
| 1. Geographic Location | | | |
| Census Region I | .065 | −.101 | .001 |
| Census Region II | .142 | −.135 | .001 |
| Census Region III | .135 | −.123 | .001 |
| Census Region IV | .234 | −.131 | .001 |
| Census Region V | .061 | −.115 | .001 |
| Census Region VI | .102 | −.119 | .001 |
| Census Region VII | .090 | −.133 | .001 |
| Census Region VIII | .055 | −.085 | .001 |
| 2. Demographics | | | |
| Population (000) | 349.4 | $5.65 \times 10^{-4}$ | .020 |
| Income ($) | 3069 | $1.47 \times 10^{-4}$ | .003 |
| STRUCTURAL CHARACTERISTICS | | | |
| 1. Sales Volume | | | |
| < $100,000 | .165 | .084 | .001 |
| 100 - 199,999 | .367 | .071 | .001 |
| 200 - 299,999 | .220 | .070 | .001 |
| 300 - 499,999 | .125 | .047 | .001 |
| 500 - 999,999 | .079 | .017 | .264 |
| 2. Output Composition (Prescription Sales as a Proportion of Total Sales) | | | |
| < 25% | .147 | .009 | .368 |
| 25 - 49 | .461 | .012 | .147 |
| 50 - 74 | .258 | .001 | .814 |
| 3. Prescription Operations | | | |
| Pharmacist Wages | 5.78 | .008 | .001 |
| % Welfare Prescriptions | 13.1 | .001 | .001 |
| % Charged Prescriptions | 25.2 | .001 | .001 |
| % Prescriptions Covered by Private Insurance | 4.5 | .001 | .006 |
| Delivery Service | .69 | .033 | .001 |
| Family Prescription Records | .43 | .018 | .003 |
| Emergency Services | .63 | .002 | .816 |
| Prescription Waiting Area | .68 | .006 | .342 |
| Drug Information Library | .63 | .009 | .127 |
| 4. Organization Characteristics | | | |
| % Drugs purchased direct from manufacturers | 36.7 | −.0001 | .571 |
| % Drugs purchased through wholesalers | 53.2 | .0008 | .001 |
| % Drugs purchased cooperatively | 3.2 | .0006 | .054 |
| % Drugs purchased through central warehouse | 5.5 | −.0002 | .526 |
| Chain membership | .174 | −.0190 | .010 |
| ADVERTISING RESTRICTION | .746 | .029 | .001 |
| INTERCEPT | | .799 | .001 |
| $R^2 = .364$ | | | |
| $F_{35,1813} = 31.52$, $p < .001$ | | | |

service characteristics may be interpreted as the "implicit prices" for these services which are reflected in prescription drug prices. Three of the professional services, "emergency service," "prescription waiting area" and "drug information library" cannot be said to have any significant impact on prescription prices. That is, these services are provided free to customers in a real sense. On the other hand, the provision of delivery service is associated with a three percent increase in prescription drug prices; the maintenance of family prescription records is associated with almost a two percent increase in prescription prices.

Higher proportions of prescription drugs paid for by third party public and private repayment programs are also associated with higher prescription prices. This result hypothetically represents the costs of filing forms for repayment and long repayment periods. A similar argument may be made for the provision of credit services. Pharmacist wage rates also are significantly and positively related to prescription drug prices.

In sum, prior expectations that structural characteristics size, and characteristics associated with prescription drug sales are significantly related to prescription drug prices are reinforced. Prices are inversely related to sales volume; the provision of some nominally free services is reflected in higher prescription prices.

*Organizational Characteristics.* Only two of the variables representing purchasing patterns are significantly related to prescription prices. Higher proportions of drugs purchased through wholesalers are related to higher drug prices. Higher proportions of drugs purchased through cooperative purchasing, as noted above, is a strategy used by independents to achieve economies in purchasing. The magnitude of the coefficient indicates that the effect of this purchasing pattern on prescription prices is very small. Thus, either the savings in purchasing are small, or the savings are not passed on to consumers.

Membership in a chain organization of four or more units is significantly associated with lower prescription prices. The coefficient indicates that, controlling for all other structural characteristics, chain-owned pharmacies have prescription prices some 2 percent lower than non-chain pharmacies. This relationship may derive from quantity discounts in purchasing (regardless of source), economies of coordination and management or a "low" margin policy characteristic of chains.

*Advertising Regulation.* The advertising restrictions dummy variable coefficient indicates that in states restricting price advertising prescription drug prices are an average of 2.9% higher than in states not restricting price advertising.[8]

It may be argued that in this model the advertising restrictions variable serves as a surrogate measure for other regulations limiting

8 The ninety-five percent confidence interval for the advertising restriction variable is 1.5 — 4.3 percent.

competition. Such regulations might include restrictions on ownership, or methods of operation. Therefore, a second estimate was calculated including all other regulations enacted by states concerning retail pharmacy regulations (see Fletcher, 1967). This estimate provided results virtually identical to those presented in Table 1.[9] However, the magnitude of the advertising restriction variable increased to 4.3% ($p < .001$).[10]

In the sections to follow, this second estimate will be referred to as the Baseline Model, since it is preferred to the first estimate on theoretical grounds (other regulations are likely to affect prices) and statistical grounds (inclusion of the other regulations significantly reduces residual variance).

## V. SPECIFICATION AND STABILITY OF ADVERTISING RESTRICTION EFFECT ON PRICES

The implication drawn from the estimate derived above is that advertising restrictions are significantly and positively related to prescription drug prices.

Because these findings have potential meaning for regulators assessing the merits of advertising restrictions, the model presented above should be tested to determine how robust the results are concerning the relationship between advertising restrictions and prescription drug prices.

Five tests are carried out on the Baseline Model. The coefficient of the advertising restriction variable from each model tested in this section is presented in Table 2.

*Model II. Exclusion of Geographic Census Regions.* To the extent that advertising restrictions are also related to census regions, the results of the estimate of the Baseline Model, may understate or overstate the effect of the advertising restriction variable because the geographic region dummy variables would include part of the effect of advertising restrictions as well as characteristics such as transportation or delivery costs that may vary among regions.

The estimate of Model II shows that the coefficient of the advertising restriction variable is smaller than that found in the Baseline estimate. While the coefficient is positive and significant, the "t" value is considerably smaller than in the Baseline Model. The inclusion of the census regions in the model contributes to a significant reduction in

9. Presentation and discussion of the price effects of other regulations is beyond the scope of this paper. The interested reader should see Cady (1975a).

10. With the large number of independent variables in these estimates, multicollinearity is a potential problem. Intercorrelations, however, were generally low with the absolute value of 45% of the correlation coefficients between .00 and .05; 27% between .051 and .10; 14% between .101 and .15; 8% between .151 and .20; 4% between .201 and .25; the remaining 2% were greater than .25.

TABLE 2

Regressions of Price Index and Advertising Restrictions

| Model | Coefficient of Advertising Restriction | "t" | 95% Confidence Interval | Adjusted $R^2$ |
|---|---|---|---|---|
| Baseline | .0433 | 5.18 | .0269 — .0597 | .362 |
| II. | .0206 | 2.82 | .0063 — .0348 | .304 |
| III. | .0439 | 5.19 | .0273 — .0605 | .347 |
| IV. | .0294 | 3.36 | .0122 — .0467 | .356 |
| V. | .0208 | 2.49 | .0044 — .0371 | .364 |
| VI. | .0469 | 4.54 | .0266 — .0671 | .915 |

residual variance ($F = 21.68$, $p. < .01$). On statistical grounds the Baseline Model is therefore preferable to Model II. The census region variables do measure some variations among geographic areas that have an impact on prices.

*Model III. Exclusion of Sales Size Classifications.* As shown in the Baseline Model estimate, prices are inversely related to establishment sales size. Benham (1972, pp. 350-351) has suggested that the presence of advertising restrictions may affect the sales size distribution of establishments such that there would be relatively fewer establishments in large size classifications and relatively more in small size classifications. If this phenomenon is characteristic of the retail prescription drug market, then the Baseline Model estimate may reflect the presence of more large scale (low price) establishments in states where advertising is not restricted.[11]

The results in Table 2 show that the estimates are highly consistent with those of the Baseline Model, both in the magnitude of the coefficient and the magnitude of the "t" value. Model III is, however, inferior to the Baseline Model, since the inclusion of the sales size variables contribute to a significant reduction in residual variance ($F = 9.52$, $p. < .01$).

*Models IV and V. Specification of Advertising Restriction Variable.* As noted above, the advertising restriction variable was defined as any one of four types of restrictions. Although Fletcher (1967, pp. 224-241) argues that each of these restrictions represents a restriction on price dis-

11. Two previous studies of this market (Cady 1975a, 1975b) utilizing Census data have shown that the distribution of establishments across sales size classifications is unrelated to presence of advertising restrictions. In order to test the sensitivity of the relationship between advertising restrictions and prescription prices on this survey data, Model III, excluding the sales size variables, was estimated.

semination through advertising, it might be argued that the restriction on "promotional schemes" is different in nature from those prohibiting information by other means. Model IV is an estimate excluding "promotional schemes" from the definition of advertising restrictions.[12] Model V provides an estimate of a variable representing only the explicit prohibition of price advertising.

Two findings are especially noteworthy. First, the explicit prohibition of advertising has the greatest impact on prescription prices of the information restrictions considered. Second, restrictions on other forms of advertising (including "promotional schemes") have a similar positive relationship with prescription prices. The arguments put forth by Fletcher (1967) that each of these restrictions is likely to reduce price information and be associated with higher prices are supported by these estimates. Benham's study of the relationship between advertising restrictions and eyeglass prices reached a similar conclusion that, "[non-price] advertising may also be a close substitute for price advertising." ... "[the estimate presented] suggests that even 'non-price' advertising may lower prices." (Benham 1972, pp. 349-351).

The statistical and substantive findings reported above support the formulation of the Baseline Model as well suited to measure the effects of advertising restrictions on prescription drug prices.

*Model VI. Weighted Price Regression.* In the Baseline Model, each observation is weighted equally as "1," regardless of the sales volume of the establishment. Thus, the coefficient of the advertising restriction variable measures the difference in prices between states with and without advertising restrictions without taking into account the fact that the purchase of a prescription by a consumer is more likely to be made in a large scale pharmacy. Model VI weights the price of each establishment by the proportion of total sales accounted for by establishments in its sales size class. These weights may be thought of as the probabilities that a consumer with a prescription will purchase it in an establishment of a given sales size classification.

The result of the estimation of the relationship between weighted price and advertising restrictions is highly consistent with the unweighted Baseline Model providing additional evidence of the stability of the relationship between advertising restrictions and prescription prices.

*Individual Product Estimates.* As a further means of testing the stability of the advertising restriction-price relationship, the Baseline Model was used to estimate the effect of advertising restrictions on each

12. However, the correlation of the newly defined advertising restriction variable with the "promotional schemes" regulation suggests maintaining the original definition. The correlation of the newly defined restriction with restriction limiting the content of signs is .69; with restrictions implying discount prices .24; with restrictions on price advertising .31. All are significant at the .05 level.

of the ten prescription drug products in the development of the price index.

The principal reason for examining individual product prices is that the relationship between advertising restrictions and prescription prices may vary considerably among products. It has been argued by representatives of pharmacy organizations, for example, that if pharmacies are allowed to advertise, only selected prices (primarily on commonly purchased products) will be reduced. Other prices on less common products will be unchanged, or even raised. ("Prescription Drugs: Retail Price Disclosure," 1975, pp. 273-274).

As noted, the index used to estimate the impact of advertising restrictions on price consisted of ten products chosen to represent a cross section of all prescription drugs. It is desirable to estimate the relationship between advertising restrictions and each drug price to determine if only one, or a few drugs contribute to the results or if results are consistent across drugs. If advertising restrictions affect each of the ten drug prices similarly, then more confidence may be placed in the overall advertising restrictions-price relationship.

Table 3 presents the estimated coefficient of the advertising restriction variable for each of the ten products. All are positive and with one exception significant at the .05 level. With the exception of Product I the coefficients are of very similar magnitude.[13] These results suggest that advertising restrictions are associated with higher prices across all types of drugs.

## VI. THE MAGNITUDE OF PRICE EFFECTS OF ADVERTISING RESTRICTIONS

From the estimates presented above, an estimate of the magnitude of monopoly returns attributable to advertising restrictions may be derived. This may be accomplished by multiplying the Baseline Model coefficient of *Advertising Restrictions* by the volume of prescription sales in states having enacted such regulation.[14]

Unfortunately there are no available data as to prescription sales volume or the number of prescriptions dispensed for 1970 in any but aggregate form.

Therefore it is necessary to estimate prescription drug sales volume or unit volume by state from 1967 Census data. Both sales volume and

13. It is interesting to note that not only is the mean of the ten coefficients very close to the Baseline Model estimate, if the one insignificant coefficient and the outlying high coefficient of Product I are excluded, the range of the remaining coefficients corresponds almost exactly to the 95% confidence interval of the advertising restriction variable estimate in the Baseline Model.

14. The term "monopoly returns" is used here since it is argued that the coefficient of the advertising restrictions variable represents the magnitude by which pharmacies are able to raise prices above the competitive level found in unrestricted states while controlling for other factors.

TABLE 3

Regressions of Individual Product Prices and Advertising Restrictions (Baseline Model)

| Product | Coefficient of Advertising Restriction | 95% Confidence Interval | "t" |
|---|---|---|---|
| Product 1 | .0910 | .0579 — .1241 | 5.39 |
| Product 2 | .0400 | .0127 — .0673 | 2.87 |
| Product 3 | .0425 | .0244 — .0607 | 4.60 |
| Product 4 | .0367 | .0153 — .0581 | 3.37 |
| Product 5 | .0300 | .0078 — .0521 | 2.66 |
| Product 6 | .0504 | .0142 — .0867 | 2.73 |
| Product 7 | .0491 | .0254 — .0728 | 4.07 |
| Product 8 | .0243 | −.0057 — .0542 | 1.53 |
| Product 9 | .0552 | .0093 — .1010 | 2.36 |
| Product 10 | .0473 | .0247 — .0698 | 4.12 |

Mean coefficient estimate = .0467

unit volume by state are estimated for this study from aggregate data. The computation of both of these bases is undertaken primarily to determine how sensitive the estimates of monopoly returns are to the base used. Given that these bases are computed from different sources, the more similar the estimates of the returns attributable to advertising restrictions computed from these figures, the more confidence we might put in them. Table 4 presents the computed sales and unit volume figures for 1970.

The Social Security Administration estimated prescription expenditures of $4.4 billion for calendar 1970 and $4.2 billion for fiscal 1970 (Cooper and Worthington 1972). Thus the calculated $4.025 billion presented here as an estimate of prescription sales appears reasonably accurate. The estimate of the unit volume may be even more accurate since it is unlikely that the distribution of prescription unit volume among states would be subject to substantial change over the period 1967-1970.

The total returns attributable to restrictions on advertising, based on the prescription sales volume estimate, was derived by multiplying the regression coefficient of the advertising restrictions variable by the sales volume of states having enacted these restrictions, and summing. The estimate based on the number of prescriptions dispensed was derived in a similar manner after converting the regression coefficient from a percentage to a dollar figure.

The estimates computed from these two bases (dollar sales volume and

## TABLE 4

### Total Sales Volume, Estimated Prescription Sales Volume, Estimated Prescriptions Dispensed 1970 By State

| State | Total Sales Volume[1] (000) | Prescription Sales Volume[2] (000) | Prescriptions Dispensed[3] (000) |
|---|---|---|---|
| Alabama | $ 165,196 | $ 70,538.69 | $ 19,152.00 |
| Arizona | 149,930 | 34,184.04 | 9,156.48 |
| Arkansas | 96,528 | 42,465.57 | 14,823.04 |
| California | 1,642,562 | 446,487.61 | 111,993.60 |
| Colorado | 159,564 | 42,603.59 | 14,548.36 |
| Connecticut | 157,854 | 62,931.09 | 19,431.68 |
| Delaware | 28,634 | 8,876.54 | 2,492.80 |
| District of Columbia | 119,621 | 24,791.79 | 7,648.64 |
| Florida | 570,950 | 167,859.30 | 42,851.84 |
| Georgia | 264,490 | 99,183.75 | 26,071.04 |
| Idaho | 53,034 | 14,690.42 | 5,399.04 |
| Illinois | 852,987 | 215,805.71 | 75,975.68 |
| Indiana | 371,195 | 106,161.77 | 31,153.92 |
| Iowa | 174,408 | 53,543.26 | 15,662.08 |
| Kansas | 137,463 | 48,524.44 | 14,823.04 |
| Kentucky | 198,085 | 66,754.66 | 18,993.92 |
| Louisiana | 196,324 | 69,106.05 | 22,167.68 |
| Maine | 44,413 | 18,342.57 | 5,289.60 |
| Maryland | 307,650 | 69,836.55 | 20,721.44 |
| Massachusetts | 352,824 | 125,252.52 | 37,379.64 |
| Michigan | 596,971 | 164,764.00 | 49,865.44 |
| Minnesota | 221,304 | 64,842.07 | 21,936.64 |
| Mississippi | 96,269 | 38,988.95 | 13,607.04 |
| Missouri | 342,149 | 104,355.45 | 28,393.60 |
| Montana | 51,815 | 12,955.37 | 3,489.92 |
| Nebraska | 97,746 | 17,713.36 | 8,791.68 |
| Nevada | 53,034 | 11,720.51 | 2,213.12 |
| New Hampshire | 29,846 | 13,012.86 | 4,134.40 |
| New Jersey | 372,613 | 121,099.23 | 39,155.20 |
| New Mexico | 59,425 | 17,470.95 | 5,739.52 |
| New York | 980,684 | 311,857.51 | 97,046.96 |
| North Carolina | 278,509 | 119,480.36 | 39,157.36 |
| North Dakota | 40,822 | 12,164.96 | 3,818.24 |
| Ohio | 634,646 | 201,817.43 | 59,839.36 |
| Oklahoma | 142,184 | 60,286.02 | 14,750.08 |
| Oregon | 140,079 | 36,280.46 | 11,661.44 |
| Pennsylvania | 605,195 | 223,316.96 | 69,676.80 |
| Rhode Island | 60,382 | 22,462.10 | 8,736.64 |
| South Carolina | 128,824 | 50,499.01 | 17,571.20 |
| South Dakota | 50,048 | 13,312.77 | 3,550.72 |
| Tennessee | 227,676 | 80,369.63 | 26,876.00 |
| Texas | 664,772 | 253,942.90 | 77,994.24 |
| Utah | 101,320 | 18,642.88 | 5,654.40 |
| Vermont | 19,720 | 7,651.36 | 2,577.90 |
| Virginia | 303,597 | 82,605.56 | 28,369.28 |
| Washington | 241,957 | 65,812.23 | 17,656.32 |
| West Virginia | 84,900 | 33,875.10 | 11,284.48 |
| Wisconsin | 227,120 | 69,498.72 | 23,286.40 |
| Wyoming | 26,266 | 6,356.37 | 1,629.44 |
| TOTAL (000) | $12,963,465 | $ 4,025,125 | $ 1,214,067 |

1. Total Sales of Pharmacies from *Sales Management: The Marketing Magazine*, June 1971.
2. Total Prescription Sales derived by applying the ratio of prescription sales to total sales for each state (*Census of Business 1967—Retail Trade Reports*) to the 1970 total sales estimate.
3. Total Number of Prescriptions Dispensed by State was derived from taking the total number of prescriptions dispensed at retail (*Prescription Drug Data Summary 1972*, Department of Health, Education and Welfare # (SSA) 73-11900 U.S. Government Printing Office) and assuming the relative volume of each state in 1970 was the same as the relative volume in 1967.

unit volume) are of comparable magnitude. They indicate that prescription drug purchasers paid between $135 and $152 million in monopoly prices in 1970 in states restricting prescription drug advertising (Table 5).

**TABLE 5**

Estimates of the Price Effects of Advertising Restrictions (1970)

| Base | Estimate (000) | 95% Confidence Interval (000) |
|---|---|---|
| Dollar Sales Volume | $134,511 | $83,875 — $185,457 |
| Unit Prescription Volume | $152,409 | $95,029 — $210,181 |

## VII. ADVERTISING RESTRICTIONS AND PRESCRIPTION DRUG CONSUMPTION

A major controversy regarding the restriction of price advertising of prescription drugs involves the effect that such regulation has on prescription drug consumption. As noted above, an argument presented for maintaining advertising restrictions is that prescription drug price advertising stimulates the consumption of prescription drugs. Such consumption, stimulated by advertising is viewed as abusive.[15] This line of argument suggest that per capita prescription drug consumption is greater in states not regulating advertising. It is not an argument in accordance with earlier research suggesting that pharmacies individually or collectively could not increase aggregate demand for prescription drugs since demand is derived from the health status of individuals and subject to the discretionary behavior of prescribers.

The hypothesis that the absence of prescription price advertising regulation has no effect on consumption can be tested by estimating a function in the following form:

$$PERCAP = f\,(P, PCPI, R, MD)$$

15. It should be noted that should the absence of a regulation restricting advertising be positively associated with prescription drug consumption this may represent a socially beneficial effect. This would be the case if price information increased the propensity of individuals to fill a prescription once written for them. An examination of this issue could only be carried out by comparing the ratio of prescriptions written to prescriptions filled in states restricting price advertising and in unrestricted states. Unfortunately no figures exist allowing such a comparison.

where:

$PERCAP$ = State per capita prescription drug consumption in 1970

$P$ = Price index for each state derived from the 1970 NARD/NACDS Survey

$R$ = Advertising restrictions dummy variable ("1" if state has advertising restrictions, "0" otherwise)

$MD$ = The number of prescribers (physicians, dentists, osteopaths) per capita by state in 1970

Alternative functional forms included two additional variables: the proportion of state population over sixty-five and the number of pharmacies per capita. The proportion of state population over sixty-five was included due to the incidence of illness and resultant prescription drug usage experienced by this segment. This variable was never significant. The number of pharmacies per capita was included in one estimate and while the coefficient was positive and significantly related to per capita consumption, it was felt that the direction of causation was likely to be reversed, i.e., the number of pharmacies per capita is a function of the demand for prescription drugs rather than the other way around.

The highest $R^2$ obtained was *.121* ($F = .966$, $p. > .25$) and this was with all variables including the proportion of elderly population and pharmacies per capita. In terms of information regarding relationships among variables, however, the estimates were useful. Four findings are of particular interest:

1. Per capita income is positively and significantly related to per capita prescription consumption. Income elasticity ranged from *.11* to *.29* depending on the form of the equation.
2. Price is not significantly related to per capita prescription consumption. Elasticity estimates ranged from *−.29* to *−.41* depending on the form of the equation. However, the insignificance of price in the equation suggests elasticity may be very close to zero.
3. Price advertising restrictions are not significantly related to per capita prescription consumption regardless of the form of the equation. The coefficient of this variable was never significant at even the *.50* level.
4. No consistent relationship was found between the number of prescribers per capita and per capita prescription drug consumption. It is highly probable that the high correlation between this variable and per capita income contributed to instability.

In conclusion, the regulation of price advertising has no effect on per capita prescription drug consumption and demand appears to be highly price and income inelastic.

## VIII. SUMMARY

The purpose of this paper has been to examine the effects of restrictions on prescription drug price advertising on consumer drug prices and to estimate the cost to consumers resulting from price advertising restrictions. A model was formulated incorporating correlates of pharmacy costs, exogeneous market characteristics, organizational characteristics, and advertising restrictions. Restrictions on prescription drug advertising result in monopoly returns estimated at between $135 and $152 million as best estimates, (almost 4 percent of total prescription sales) in 1970. These returns take the form of an income transfer, in the form of higher prices, from drug purchasers to retail sellers.

These costs are not insignificant. Unless it can be demonstrated that benefits of health or safety accrue to prescription drug purchasers (or society in general) as a result of price advertising restrictions, there appears to be no reason for their maintenance.

## REFERENCES

Bass, Frank M., "Expense and Margin Functions in Drug Stores," *Journal of Marketing*, Vol. XX, 3, January 1956, 238-242.

Benham, Lee, "The Effect of Advertising on the Price of Eyeglasses," *Journal of Law and Economics*, 15, 2, October 1972, 337-352.

Berki, Sylvester, *Prescription Dispensing in Twenty Pharmacies, Utilizers, Services and Costs*. Ann Arbor, Michigan, 1971.

Cady, John F., *Drugs on the Market: The Impact of Public Policy on the Retail Market for Prescription Drugs*, Lexington, Massachusetts, 1975 (a).

________, "Restricted Advertising and Competition," American Enterprise Institute for Public Policy Research, Washington, D.C., 1976 (b).

Cooper, B. S. and Worthington, Nancy, *National Health Expenditures Calendar Years 1929-1970*. Washington, D.C., 1972.

Donnem, Roland, "Federal Antitrust Law Versus Anti-Competitive State Regulation," Paper delivered before the Sherman Act Committee, American Bar Association, St. Louis, Missouri, August 1970.

Engman, Lewis A., Untitled paper dealing with distributive trade regulation before Antitrust Law Section, American Bar Association Annual Meeting, Honolulu, Hawaii, August 1974.

Fletcher, F. Marion, *Market Restraints in the Retail Drug Industry*, Philadelphia, Pennsylvania, 1967.

Masson, Allison, "The Changing Legal Status of Prescription Drug Price Posting: Effects and Implications," unpublished paper, Federal Trade Commission, 1974.

Maurizi, Alex R., "The Effect of Laws Against Price Advertising: The Case of Retail Gasoline," *Western Economic Journal*, 10, 1972, pp. 321-329.

Rosenthal, Benjamin (Hon.), "Retail Prescription Drug Prices," U.S. Congress House Document, Washington, 1973.

Sweeney, F. L., "Prescription Drug Prices, Generic Name vs. Brand Name," unpublished paper, University of Chicago, 1974.

American Pharmaceutical Association, "Report of the Judicial Board," November 25, 1968, as cited in [15] pp. 70-71.

California Legislative Assembly Office of Research, "Prescription Drug Price Survey (Preliminary Survey)." Sacramento, California, April 1973.

Federal Trade Commission, "Prescription Drugs: Retail Price Disclosures," Washington, D.C., January 28, 1975.

Sales Management, "Survey of Buying Power, 1971," New York, 1971.

Steven R. Cox et al., *Consumer Information and the Pricing of Legal Services,* 30 J. INDUS. ECON. 305 (1982).

**Scope of Study:** The authors used a random survey of attorneys in Phoenix, stratified by firm size and location, to study the effect of advertising on price. For each of five services, the survey asked attorneys whether they would perform the service, how many hours it would take, how they would charge for their services (i.e., flat fee, contingency fee or hourly rate), and the amount of that fee or rate. Respondents were also asked about their age, sex, race, education, years of experience, size of firm, area of specialization, past advertising, future advertising plans, and general hourly rate.

**Conclusions:** The authors determined that attorneys who advertised, or planned to advertise, had lower average fees and also had less dispersion in their fees than attorneys who did not advertise.

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# CONSUMER INFORMATION AND THE PRICING OF LEGAL SERVICES

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In a classic article on the economics of information, George Stigler discussed the impact advertising could have on the dispersion of seller prices quoted in a marketplace.[1] As one source of price information, advertising reduces search costs for consumers wishing to obtain some product or service at its lowest possible price.[2] The more comparison shopping consumers do because of lower search costs, the better informed they will be about seller price differences and, hence, the less price dispersion the market will support.

Until recently, there has been little opportunity for Stigler's process to operate in the market for legal services. The first Canons of Ethics adopted by the American Bar Association in 1908 contained a prohibition against advertising by attorneys and within a few years that provision was adopted in every state, either by legislation, court rule, or court decision. Almost seventy years later, however, in June 1977, the U.S. Supreme Court held, in *Bates v. State Bar of Arizona* (433 U.S. 350), that attorneys had a first amendment right to advertise fees for routine legal services. The Court's decision was based in part on benefits to consumers that were assumed to follow from advertising—benefits such as the increased ability to shop for prices and, presumably, to obtain lower ones.

In 1978 a study was conducted on legal service pricing and advertising in Phoenix, Arizona. Its results provide some evidence on the informed nature of the consumer of routine legal services and the importance of consumer information in the pricing of such services. The purpose of this paper is to present those results. The paper is divided into three sections. In the first section, several factors influencing attorney pricing behavior are analyzed. Routine legal services are distinguished from other legal services in terms of three production function variables. In the second section, the methodology and empirical results of the 1978 Phoenix Area Survey of Private Practicing

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[1] See Stigler, [7].

[2] Search refers to the process, conducted prior to purchase, of gathering information by inspection or examination. See Nelson, [5] [6].

Attorneys are presented. In the third and final section of the paper, recommendations for further research and its direction are offered.

## I. THE MARKET FOR LEGAL SERVICES

### A. *The Role of the Attorney*

When a consumer purchases a legal service, he does not buy that service directly. He selects an attorney who diagnoses his legal problem and then recommends some service to solve that problem.[3] In most product or service markets, consumers choose the quantity and quality of output they are willing to pay for, and their output choices determine what input quantities will be used in producing that output. In the legal services market, however, producers rather than consumers often determine what is produced and how it is produced (i.e., what legal services are rendered each client and what combinations of skill and time are used in rendering those services).[4] This may seem logical and efficient given that the attorney knows best his own skill, and thus the productivity of his time; nevertheless, it also means that attorneys can exercise considerable discretion in the pricing of their services.

One source of attorneys' market power is their informational advantage vis-à-vis their clients. Another is service heterogeneity. Every attorney is an individual possessing some unique set of skills. Any given service he renders, therefore, differs theoretically from that rendered by another attorney. In one segment of the legal services market, however, service quality is not subject to variation, either across attorneys or across cases. Such services will be referred to as "routine" legal services.[5]

A purely routine legal service may be defined in terms of polar cases of three production function variables. Its essential characteristics are:

(1) The marginal productivity of legal skill is negligible. The skill variable in the production function consists merely of certification to practice law, familiarity with basic legal procedures, and clerical efficiency.
(2) The service may be broken down into a set of well-defined tasks so that the time required to perform it (i.e., the inverse of the production function) is estimable and the variance of the estimate is known.
(3) The quality of the service *per se* is not a significant variable either from the attorney's or client's perspective. Both recognize that certain

[3] For an excellent discussion of the opportunity for fraudulent behavior and of the inability of free competition to prevent seller fraud when diagnosis and service are jointly provided, see Darby and Karni [2].

[4] In providing a legal service, an attorney combines acquired skills ($S_i$) with his time ($t_i$) to produce a service of a given quality ($X_i$). The relationship between output quality and the inputs may be represented by a neoclassical production function, $X_i = X_i(S_i, t_i)$, subscripts denoting type of service. Skill and time are analogous to (human) capital and labor, with the former fixed and the latter variable in the short run.

[5] For convenience, all nonroutine legal services will be classified as "complex" services.

> details must receive attention before the service is complete. There are no degrees to which the service is performed.

Four of the five services priced in this study are generally regarded as routine and were purposely selected for that reason. With homogeneous market offerings, there are no obviously important product-related factors at work causing fees charged to vary substantially from one attorney to another. Different attorneys may, of course, quote different fees for performing exactly the same service because of differing opportunity costs of time,[6] but the prices consumers actually pay for a routine legal service will be roughly the same unless consumers are largely ignorant of available market alternatives.

### B. *The Supply Decision of the Attorney*

So long as a consumer's legal problem can be solved by some routine service, his informational needs are relatively modest. Knowledge that such a service is called for and information about the fee arrangements of alternative attorneys available to perform that service will enable the consumer to make optimal market choices. Consumers whose legal problem requires some complex service, on the other hand, should know: (1) what service is best suited to solving their particular legal problem, (2) the skill or expertise of alternative attorneys in matters relevant to that problem, (3) fee arrangements and the relationship between fees and expertise, and (4) the productivity of attorney skill and time in providing the output in which they are ultimately interested.

The costs of obtaining needed information, of transacting or agreeing on the time input and quality of service rendered, and of enforcing all implicit or explicit contracts made between attorney and client constitute three major sources of market imperfection. These information, transaction, and enforcement costs generally may be expected to increase with the complexity of the legal service involved. In turn, market constraints upon attorney pricing behavior become increasingly loose as these costs increase. The market environment in which an attorney finds himself, therefore, will depend on the type of service(s) he renders, and an attorney's supply decisions will be very much influenced by the market environment in which he operates.

What an attorney charges for any legal service he performs will always be constrained from above by the market value of that service to his client and from below by the opportunity cost of his time. In a perfectly competitive market, these constraints converge at the market equilibrium price. In an imperfectly competitive market, where consumer ignorance is widespread, seller price discretion can be substantial. The more complex the legal service

[6] Attorneys whose practice of law is highly specialized may elect not to perform routine services. Consequently, some attorneys whose opportunity cost of time is quite high may not quote any fee for performing such services.

involved, the more pricing discretion attorneys will enjoy, partly because of consumer information costs and partly because of the nature of the service rendered.

Of major importance to a survey of legal service fees is whether the fundamental unit making the supply decision is the individual attorney or the law firm with which he is associated. Each obviously plays a part in the decision-making process, but the attorney, we believe, is the ultimate decision-maker.[7] First, it is largely the individual attorney who determines, over the long run, what legal services he will and will not perform. Second, the price charged for any given legal service is a function of attorney skill and time, both of which are matters individual to an attorney and not to the firm with which he is associated. Third, even when part of a very large firm, an attorney has some input to the decision-making process of that firm. This is especially true for partners, but even in the case of associates, the income an individual attorney can demand in the market will influence significantly the fees charged for his services.

Given the individual attorney as the ultimate decision-making unit, his supply decision may be best described as a time allocation problem, though it is somewhat more complex than that typically discussed in the economics literature. In addition to the elementary choice between leisure and income facing any laborer, three other important choices face a lawyer. First, there is the choice of how to allocate work time itself. Some attorneys choose to concentrate their work efforts in one or a few areas of the law, while others select a general practice of law.

Second, there is the choice between quantity and quality of service provided, at least in complex legal cases. The quality of service an attorney provides in any particular complex legal case will depend upon both the amount of his relevant expertise and the amount of time and effort he expends on that case. The more time he spends on a case, the fewer cases of any kind he will be able to handle. At least two salient properties of the legal service production function merit noting here. One, while attorney skill is clearly multidimensional, different sets of skills will be required for different kinds of services. Scholars of constitutional law, for example, may best provide representation for Presidents accused of impeachable offenses, but they may be unable to perform, at least efficiently, rather routine services like writing simple wills or handling uncontested bankruptcies. Two, the more complex a legal service is, the less able an attorney (even a well-informed one) will be to estimate the time required to provide a given quality of that service.

[7] There is some question in the literature as to whether the fundamental supply decision-making unit is the individual attorney or the law firm. Jene Kwon [9] argues in his paper that the law firm, as opposed to the individual practice, requires a process of group decision-making. Our survey certainly indicated some centralization of decision-making, particularly in the very large firm, but for the reasons we are about to give, we believe that the individual attorney is the ultimate decision-maker. In any event, it is unlikely that transactions costs would be sufficiently high among firm members as to induce individual behavior which is irrational from the group's perspective.

Third, there is the choice of what fee to charge for services rendered. At any moment in time, an attorney, like all-producers, faces some tradeoff between fees charged and the quantity of cases handled. The degree of tradeoff depends on consumers' price elasticity of demand and the producer's market power. This classic two-dimensional static demand curve tradeoff, however, must be supplemented by qualitative and dynamic considerations as well. The number of clients demanding an attorney's services of any given type will be a function of price charged and quality of service rendered.[8] Furthermore, an attorney's fees and quality of service will likely attract (or, repel) clients in the future, through reputation and referrals, as well as in the present. Thus, an attorney can face some long-run tradeoff between present and future income.

In general, attorneys quote their fees in one of three ways: flat fee, hourly rates, or contingent fees (percentage of recovery). The manner in which attorneys quote their fees will depend on the risk of service outcome and the uncertainty of service time requirements. These phenomena, in turn, will depend on the type of legal service involved. For routine legal services, where there is no outcome uncertainty and time requirements can be estimated with negligible error, flat fees may be quoted. The attorney in this case assumes all time input risk. For complex legal services, where outcome risk may be substantial and time requirements highly uncertain, attorneys are more likely to charge either an hourly rate or a contingent fee. In the former case, the consumer bears all time input and outcome risk, except to the extent that winning or losing cases affects the attorney's reputation and long-run ability to attract clients and maintain or raise fees. Under a contingency arrangement, the attorney bears all of the time input risk and frequently that portion of outcome risk pertaining to out-of-pocket costs. Outcome risks pertaining to payoffs are shared between attorney and client in accordance with the contingency percentage. Whether a contingent fee or an hourly rate is quoted for a particular complex legal service will depend on the goal of the lawsuit and the means of the client. In plaintiff personal injury cases, for example, where some monetary recovery is the goal of the lawsuit, an attorney will often charge a contingent fee, especially when it is questionable whether a client has the means to pay for services rendered in the event the case is lost.

Besides determining how risk will be allocated, the manner in which attorneys quote their fees influences *when* actual legal service charges are determined. This, too, is of critical importance for a fee survey. If, as in cases where a contingent fee is charged, legal service prices are determined *ex post* (i.e., only after the service is rendered), survey fee data (i.e., *ex ante* fee estimates) will at best approximate actual charges. Even in cases where an hourly rate is quoted, survey fee measures of actual service prices will be only

[8] Even in the case of routine services, consumers may perceive quality differences from one attorney to another if they are not well-informed about the type of service which their legal problem requires. Whenever quality differences are perceived, of course, the individual attorney will have some degree of monopoly discretion over the price he charges for his services.

as good as time requirement estimates. Where flat fees are quoted, however, *ex ante* fee quotations and *ex post* charges will be the same. Thus, for routine legal services, survey measurement of actual attorney charges is possible.

### C. *Empirically Testable Hypotheses*

Two empirically testable hypotheses emerge from the foregoing discussion of attorney pricing behavior. The data needed to test each hypothesis were gathered via a fee survey of Phoenix area attorneys. Four of the five legal services priced were specially designed to be relatively routine in nature so that some indication of the importance of consumer information in the pricing of legal services could be obtained from the magnitude of fee dispersion observed.

The first hypothesis to be tested concerns the informed nature of the consumer of routine legal services. With routine as opposed to complex services, there is no obviously important supply side factor, like quality of legal input or output, at work causing market price dispersion. Consequently, variation in the prices which consumers pay for a routine legal service will be due largely to their lack of knowledge of available market alternatives. The less consumers know about the availability of alternative attorneys and the fees they charge to perform a routine service, the more fee dispersion the market will be able to support.

The second hypothesis to be tested concerns the manner in which attorneys quote their fees for performing routine legal services. Theory suggests that such services will be priced on a flat fee rather than contingent fee or hourly rate basis since there is no outcome uncertainty associated with routine services and the time required to perform them can be estimated with little, or no, error. The more routine a legal service is (i.e., the closer the variance estimate of the time input required to perform it is to zero), the more likely attorneys are to quote some flat fee for performing it. Flat fees may even be quoted for relatively routine services for which time input risk is significantly greater than zero, but they probably will include some premium for risk bearing.

## II. A SURVEY OF PRIVATE PRACTICING ATTORNEYS IN PHOENIX

### A. *Methodology*

A survey of attorneys in private practice in and around Phoenix, Arizona was designed and conducted in the Summer of 1978. Its ends were both immediate and remote: (1) to produce presently useful information on existing price patterns for certain (primarily routine) legal services; and (2) to provide a foundation for a subsequent study of the impact of lawyer advertising on the fees consumers pay for routine legal services. In order to compare the

productivity and cost-effectiveness of survey methods, two surveys were conducted: one by in-person interview and another by mail. For each survey, random samples of attorneys were taken from rosters of the State Bar of Arizona, stratified according to firm size and location. After exclusion of those who were not in private practice, 137 attorneys were included in the in-person survey sample and 134 in the mail sample.[9] The response rate for the in-person survey was 96 percent and the mail survey 84 percent. These response rates were more than adequate to produce reliable data.[10] The mail survey response rate, while lower, was still sufficiently high that this less-expensive survey method was judged more cost-effective.

The same questionnaire was used for the in-person interviews and the mail survey. With one exception, the questionnaire dealt with relatively routine legal services. The five services included were: (1) reciprocal simple wills for husband and wife, (2) reciprocal simple wills with an educational trust provision, (3) an uncontested nonbusiness bankruptcy for husband and wife, (4) an uncontested dissolution of marriage without a property settlement agreement, and (5) a plaintiff's personal injury claim.[11] In order to minimize misunderstandings with respect to the nature of the service in question, each service was spelled out in detail in the questionnaire.[12] This approach ensured that all attorneys priced the same service and that price variances were not due to different attorney perceptions of what service was required.

For all five services, the attorney was asked: (1) whether he would perform the service, (2) how many hours of his own time it would take, (3) whether he would charge a flat fee, an hourly rate, or a contingency fee, and (4) the amount of that fee or rate. The attorney was asked to assume throughout that

[9] A detailed description of sample selection, questionnaire design, statistical analysis and other methodological matters may be found in the authors' report, [1].

[10] These very high response rates may be due in considerable degree to the active support of the State Bar of Arizona. With the approval of the Board of Governors, the President of the State Bar wrote a letter urging attorneys to cooperate with the survey. That letter accompanied each request for interview and mailed questionnaire.

[11] We included a plaintiff personal injury case in our survey, despite the non-routine nature of the service called for in such a case, because lawyers usually charge a percentage contingent fee rather than a flat fee or hourly rate for handling this type of case. We ultimately want to learn how attorney advertising affects the percentage charged.

[12] For example, the reciprocal simple wills we priced were described in the questionnaire as follows:

> Husband is 35 years of age, and Wife is 33. They have two children ages 12 and 14. They have a modest estate and testamentary objectives that you have determined will be properly served by mutual wills containing the following provisions:
>
> 1. All personal effects to spouse if he or she survives testatrix/testator; otherwise to surviving children in equal shares.
> 2. All other property to spouse if he or she survives testatrix/testator by four (4) months; otherwise equally to children or issue of deceased children by representation.
> 3. If distribution is required to a minor, personal representative may retain and administer as trustee until minor reaches majority.
> 4. Representative named, to serve without bond.
> 5. Powers of representative set forth.
> 5. Guardian of persons of minor children named.

he had not served these clients before and did not expect to serve them again. Respondents were also asked their age, sex, race, education, years of practice generally and in Maricopa County, extent of specialization, size of firm, past advertising and present plans to advertise, and general hourly rates.[13]

B. *Results*

1. *Fee levels and dispersion*

Some variation in attorney fee quotations, even for exactly the same routine legal service, was expected, but the magnitude of fee variance we did find was unanticipated. (See Table I.) The variance estimates we found for price paid were even more surprising given the rather modest informational needs of consumers of routine services. It is difficult to imagine, in fact, that such fee dispersion could exist unless consumers were almost totally ignorant of available market alternatives.[14]

Despite the apparent widespread nature of consumer ignorance in this market, there is some indication that a few consumers have borne the cost of gathering some price information. All eight mean fee estimates for price paid were less than those for price offered, as Table I reveals, and four of the eight differences between means were statistically significant at the .10 level. Thus, those attorneys charging relatively high prices evidently are, to some extent, being passed over by at least a few consumers.

The better informed consumers become concerning available market alternatives, due perhaps to advertising, the less pricing discretion attorneys will enjoy in the routine legal services market and, hence, the lower the level and dispersion of fees charged for such services will be. It is still too early, of course, to determine what effect attorney advertising will in fact have on the price structure and delivery system for routine legal services. However, the 1978 Phoenix Survey provides some data which will be useful in a future resolution of that issue and some current information about the extent to which attorneys used advertising as well as the fees charged by advertisers one year after *Bates* in the city where this landmark case originated. (See Table II.)

The number of Phoenix area attorneys who said they had advertised sometime during the six months prior to our survey was not large. This was

[13] A copy of our survey questionnaire may be obtained by writing to Professor Steven R. Cox, Department of Economics, Arizona State University, Tempe, Arizona 85287.

[14] Coefficients of variation (i.e., the ratio of the standard deviation to the mean) even for flat fee quotations ranged from a high of .63 for the simple will with a trust provision (in-person survey estimates) to a low of .19 for the uncontested bankruptcy (mail survey estimates). By way of comparison, a similar range in coefficients of variation was obtained in a price survey of 12 different prescription drugs in New Orleans, Louisiana (.74 to .18), but in an eyeglass prescription survey, also conducted in New Orleans, the coefficients of variation obtained for 6 different eyeglass prescriptions ranged only from a high of .18 to a low of .09. At the time of each survey, price advertising of both prescription drugs and eyeglasses was prohibited. See Mackintosh and Frey, [4].

TABLE I
ROUTINE LEGAL SERVICE FEES

| Category | Simple Will In-Person | Simple Will Mail | Will with Trust In-Person | Will with Trust Mail | Uncontested Bankruptcy In-Person | Uncontested Bankruptcy Mail | Uncontested Divorce In-Person | Uncontested Divorce Mail |
|---|---|---|---|---|---|---|---|---|
| *Price Offered* | | | | | | | | |
| (1) by ALL | $94<br>($59)<br>103[1] | $86<br>($37)<br>82 | $169<br>($113)<br>96 | $148<br>($82)<br>03 | $399<br>($95)<br>61 | $395<br>($92)<br>44 | $315<br>($98)<br>86 | $331<br>($120)<br>67 |
| (2) by those quoting a flat fee | $82<br>($37)<br>92 | $87<br>($37)<br>78 | $143<br>($90)<br>78 | $133<br>($69)<br>69 | $402<br>($95)<br>56 | $384<br>($74)<br>42 | $323<br>($84)<br>70 | $343<br>($120)<br>56 |
| (3) by those charging an hourly rate | $193<br>($107)<br>11 | $113<br>($38)<br>4 | $281<br>($133)<br>18 | $220<br>($107)<br>14 | $356<br>($97)<br>5 | $615<br>($191)<br>2 | $281<br>($145)<br>16 | $289<br>($86)<br>11 |
| *Price Paid*[2] | $73[3]<br>($38)<br>92 | $79<br>($26)[4]<br>71 | $121[3]<br>($76)<br>85 | $115<br>($62)<br>73 | $379<br>($87)<br>54 | $332[3]<br>($97)<br>35 | $253[3]<br>($96)<br>77 | $314<br>($99)<br>56 |

[1] The three numbers in each cell include, in decending order, the mean, standard deviation (in parentheses), and number of observations in that cell.

[2] Price paid is a weighted average of fee quotations. The weight used is an estimate of the number of cases the attorney handles per week, derived from the attorney's responses to the number of his billable hours, percentage of time devoted to that service, and time needed to complete the service.

[3] In these four instances, the mean estimate for price paid differed significantly, at the .10, .05, or .01 level, from the mean estimate for price offered by those quoting a flat fee. In the other four cases, the mean differences were not statistically significant even at the .10 level.

[4] In this one case, the standard deviation estimate for price paid differed significantly, at the .01 level, from the standard deviation estimate for price offered by those quoting a flat fee. In all other instances, the standard deviation estimates for price paid did not differ significantly, even at the .05 level, from the standard estimates for price offered by those quoting a flat fee.

Table II
Advertising and Legal Service Fees

| | Simple Will | | Will with Trust | | Uncontested Bankruptcy | | Uncontested Divorce | |
|---|---|---|---|---|---|---|---|---|
| | *In-Person* | *Mail* | *In-Person* | *Mail* | *In-Person* | *Mail* | *In-Person* | *Mail* |
| Advertisers | $71[1] | $69[1] | $115[1] | $113[1] | $318[1] | $325[1] | $325 | $289 |
| | ($18)[1] | ($20) | ($21)[1] | ($43)[1] | ($69) | ($77) | ($94) | ($129) |
| vs. | 5 | 8 | 5 | 8 | 5 | 6 | 5 | 7 |
| Others | $95 | $90 | $171 | $152 | $406 | $405 | $315 | $336 |
| | ($61) | ($38) | ($115) | ($85) | ($94) | ($90) | ($99) | ($119) |
| | 98 | 74 | 91 | 75 | 56 | 30 | 81 | 60 |
| Will be Advertisers | $67[1] | $77 | $104[1] | $113[1] | $372 | $326[1] | $281 | $325 |
| | ($13)[1] | ($26) | ($39)[1] | ($57) | ($62) | ($66) | ($93) | ($190)[1,2] |
| vs. | 8 | 11 | 7 | 11 | 8 | 6 | 9 | 9 |
| Others | $97 | $90 | $174 | $153 | $403 | $410 | $319 | $332 |
| | ($61) | ($38) | ($115) | ($84) | ($99) | ($90) | ($99) | ($107) |
| | 95 | 71 | 89 | 72 | 53 | 36 | 77 | 58 |

[1] In these cases, those who have advertised or plan to differed significantly at the .05 level from the other attorneys sampled.
[2] One unusually high and one very low fee quotation account for this very high standard deviation estimate.

expected, inasmuch as the *Bates* decision was handed down only a year before the survey was conducted. Of the 243 lawyers responding either in person or by mail, 14 (or 6%) said they had advertised in the previous six months somewhere other than in the telephone Yellow Pages. A total of 23 (or 9%) said that they planned to advertise in the next six months. Of the 14 lawyers who said they had advertised, 3 said they had advertised fees; of the 23 who planned to advertise, 4 said they intended to advertise fees. Two of the 14 lawyers who had advertised said they had done so on radio or television and 4 of the 23 who planned to advertise said that they would do so on radio or television.

A pattern of less price dispersion and lower average fees among those attorneys who do advertise (or plan to) also emerges from our Phoenix survey results. In virtually every instance, the mean or standard deviation for those who had advertised or would advertise was significantly lower than that for the other attorneys surveyed. No inferences, however, concerning the likely effect of attorney advertising on routine legal service fees can be drawn from the differences these data show. Our findings provide a snapshot picture of the Phoenix routine legal service market at one point in time only. Thus, it is probable that the data capture the tendency for those seeking additional clients both to advertise and to charge lower fees.

### 2. *Flat fee and hourly rate quotations*

In addition to providing some evidence on the informed nature of the consumer of routine legal services, the Phoenix survey data also furnish some insight into the manner in which attorneys quote their fees for performing such services. The data, for example, support the hypothesis that routine legal services will tend to be priced on a flat fee rather than some other basis. For each of the four routine services priced, over 80 percent of those lawyers who said they would perform the service quoted a flat fee, whereas for the plaintiff personal injury claim, none quoted a flat fee. Most cited a contingent fee based on a percentage of the potential recovery. Moreover, in several interviews attorneys said that their final bill would be determined not only by the damages recovered but also by the time expended on the case. In other words, if the case were settled quickly and for a large sum, they would revise their contingent fee downward or charge the equivalent of their standard hourly rate times the number of hours spent on the case.

Within the category of routine legal services, there appear to be degrees of "routineness." The addition of one trust provision in the simple will case, for example, increased the variance estimate of the time input requirement from 1.4 to 4.4 hours. (The mean increased from 2.2 to 3.3 hours.) The mean fee quoted for writing the reciprocal wills with a trust provision was over 50 percent greater than that quoted for writing the reciprocal simple wills without a trust provision, and the dispersion in fee quotations for the former

service was virtually double that for the latter more "routine" service. The percentage of attorneys quoting an hourly rate as opposed to a flat fee also was ten points greater for the former than the latter service.

Reciprocal simple wills, with or without a trust provision, utilize well-standardized language and require no court appearances. Hence, these routine services involve virtually no time input risk for an attorney. Uncontested divorces and bankruptcies, on the other hand, not only require court appearances but they may also involve bargaining, either between spouses or among debtor and creditors. With these two routine legal services, therefore, time input risk may differ significantly from zero because of the costly time delays which scheduling problems often create. When attorneys' flat fee quotations were compared to the price they would have charged if their standard (or, typical) hourly rate were multiplied by the time they estimated it would take to perform each routine service, the flat fee quotations on average were less than the hourly rate charge for the two wills but greater for the uncontested bankruptcy and divorce cases. (See Table III.) The latter positive differences are consistent with theoretical expectations. The negative differences for the two wills might be attributed to a combination of two factors: (1) that attorneys price the writing of wills as loss leaders in hopes of attracting probate or other business at some future time; and (2) that, since wills can be written during slack time, the opportunity cost of time is lower for this service than for others.

TABLE III
A COMPARISON OF FLAT FEE QUOTATIONS TO HYPOTHETICAL HOURLY RATE DETERMINED CHARGES

| *Survey and Service* | *Mean Flat Fee Quoted* | *Mean Price*[1] | *Difference* |
|---|---|---|---|
| In-Person | | | |
| (1) Simple Will | $82[2] | $125 | $−43 |
| (2) Will with Trust | $143 | $175 | $−32 |
| (3) Uncontested Bankruptcy | $402[2] | $334 | $+68 |
| (4) Uncontested Divorce | $323[2] | $270 | $+53 |
| Mail | | | |
| (1) Simple Will | $87[2] | $127 | $−40 |
| (2) Will with Trust | $133[2] | $166 | $−33 |
| (3) Uncontested Bankruptcy | $384[2] | $338 | $+46 |
| (4) Uncontested Divorce | $343 | $304 | $+39 |

[1] Price = Estimated Hours to Complete Service × Standard Hourly Rate.

[2] In these cases, the mean flat fee quoted differed significantly, at the .05 level, from the mean price calculated from the hours estimated to perform each service times the attorney's standard (or typical) hourly rate charged for legal services.

## III. SUMMARY AND SUGGESTED DIRECTION FOR FUTURE RESEARCH

The empirical results presented in this paper show that the Phoenix market for routine legal services in 1978 was characterized by astonishing variation in fees charged for four relatively routine services, suggesting a high degree of consumer ignorance in the market. They also support the hypothesis that such services will tend to be priced on a flat fee basis, thereby making it possible to measure actual attorney charges for them via fee surveys.

With this initial study of legal service pricing and advertising in Phoenix the first step has been taken toward measuring the price effects of attorney advertising. Additional fee surveys of attorneys across a number of different geographical areas over time, of course, will be needed to determine ultimately what impact advertising has on both the level and dispersion of routine legal service fees. It should not be difficult to find geographical areas with greatly varying levels of advertising, partly because state regulations issued since the decision in *Bates* differ so widely. At the most permissive end of the spectrum are several states that now permit all kinds of lawyer advertising, in print or over the air, so long as it is not false or deceptive. At the other extreme are a few states that limit attorney advertising to print media only, and permit only the advertisement of a few routine legal services of the type involved in the *Bates* case.[15] With this varied pattern of regulation, significant differences in levels of advertising should arise, and as they do, advantage may be taken of that opportunity to make comparisons between several geographical markets.

While latitudinal comparisons may be useful in identifying market differences across areas with varying attorney advertising regulations and practices, longitudinal comparisons will be needed to determine the true long-run market effects of changes in attorney advertising regulations and practices. The 1978 study of the Phoenix routine legal services market can provide the data base needed for a longitudinal study of that area. To determine the market effects of attorney advertising nationally, however, will require an examination over time of changes that occur in regulations of attorney advertising, in actual advertising practices, and in the routine legal services market of multiple areas. With such research, a great deal more can be learned about the effect attorney advertising has on the price structure and delivery system for routine legal services.[16]

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[15] For a complete outline of the states' regulations of attorney advertising, see Cox, *et al.*, [1, Chapter 3].

[16] A six area study, funded again by the National Science Foundation, began April 1, 1980. Phoenix will be one of the six areas included in this second, follow-up study on the market effects of attorney advertising.

## REFERENCES

[1] Cox, Steven R., William C. Canby, Jr., and Allan C. Deserpa, *Legal Service Pricing and Advertising*, a final project report made to the National Science Foundation, Law and Public Policy Research Program, under Grant DAR 77-14156, April 1979, 110 pp.

[2] Darby, Michael R. and Edi Karni, "Free Competition and the Optimal Amount of Fraud," *Journal of Law and Economics*, 16, (April 1973), pp. 67–88.

[3] Kwon, Jene K., "A Model of the Law Firm," *Southern Economic Journal*, 45, (July 1978), pp. 63–74.

[4] Mackintosh, Douglas R. and Susan Frey, "The Prices of Prescription Eyeglasses Under Advertising Restraints," *The Journal of Consumer Affairs*, 12, (Winter 1978), pp. 323–32.

[5] Nelson, Phillip, "Advertising as Information," *Journal of Political Economy*, 82, (August 1974), pp. 729–54.

[6] Nelson, Phillip, "Information and Consumer Behavior," *Journal of Political Economy*, 78, (March 1970), pp. 311–29.

[7] Stigler, George, "The Economics of Information," *Journal of Political Economy*, 69, (June 1961), pp. 213–25.

Roger Feldman & James W. Begun, *The Welfare Cost of Quality Changes Due to Professional Regulation*, 34 J. INDUS. ECON. 17 (1985).

**Scope of Study:** Feldman and Begun exploited the variations among states in the rules governing optometrists, specifically with respect to regulations that banned price advertising, restricted the commercial employment of optometrists, and required continuing education of optometrists for licensing, to analyze the effects of these regulations. Using data gathered from a systematic sample of optometrists in 1976, Feldman and Begun analyzed price (measured by the optometrists report of price for a complete visual examination of a presbyopic patient) and quality (measured by the self-reported length of the examination in minutes and the self-reported number of procedures performed) to determine the effect of the regulations. The study then used regression analysis to determine the effect of these regulations on price and quality.

**Conclusions:** Feldman and Begun concluded that the total loss of consumer welfare from the studied regulations was approximately $156 million. In the market for vision examinations by optometrists, quality changes due to the three selected professional regulations resulted in economic profits for producers of approximately $140 million. When quantity effects were also included, the welfare loss increased by $16 million.

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# THE WELFARE COST OF QUALITY CHANGES DUE TO PROFESSIONAL REGULATION*

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We present a method for measuring the welfare cost of legislated restrictions on the activities of professionals in markets where consumers can substitute between brands of different quality. In the market for vision examinations by optometrists, quality changes due to three selected professional regulations result in economic profits for producers of some $140 million, and positive changes in quality due to the regulations are not valued by consumers at their marginal cost. A small annual welfare loss of about $8 million results from these professional regulations. When quantity effects are also included, the welfare loss increases to $16 million.

As is the case for other regulated markets, researchers have devoted much attention recently to the effects of legal restrictions in markets for professional services (see Cox *et al.* [1982], Leffler [1978], Rottenberg [1980] and Shepard [1978]). These restrictions, often largely promulgated by the professions themselves, include advertising bans, educational requirements and other barriers to entry, and restrictions on permissible employment settings.

Measuring the cost of monopoly or legislated restrictions is a standard tool of welfare economics (see Deyak and Smith [1976] and Harberger [1954]). However, the conventional method is not well suited to measuring costs which arise when consumers substitute between brands of different quality, or between different-quality providers of the same general professional service. In this paper, we first discuss a method for measuring the welfare cost of quality changes due to regulation. We then apply the method to vision examinations given by optometrists in markets governed to varying degrees by three different professional regulations.

## I. THEORY OF WELFARE COST WHEN QUALITY CHANGES

Suppose consumers purchase a "vision care index" $q$ which consists of one vision examination with varying quality. Let a consumer with income $y$ have a utility function $U = U(x, q)$ where $x$ is all other goods consumed. Setting the price of $x$ equal to one dollar and maximizing $U$ subject to $y = p(q)+x$, we have the usual solution that $U_q/U_x = p'(q)$.

Define expenditure functions $\theta = \theta(q; U, y)$ representing the consumer's

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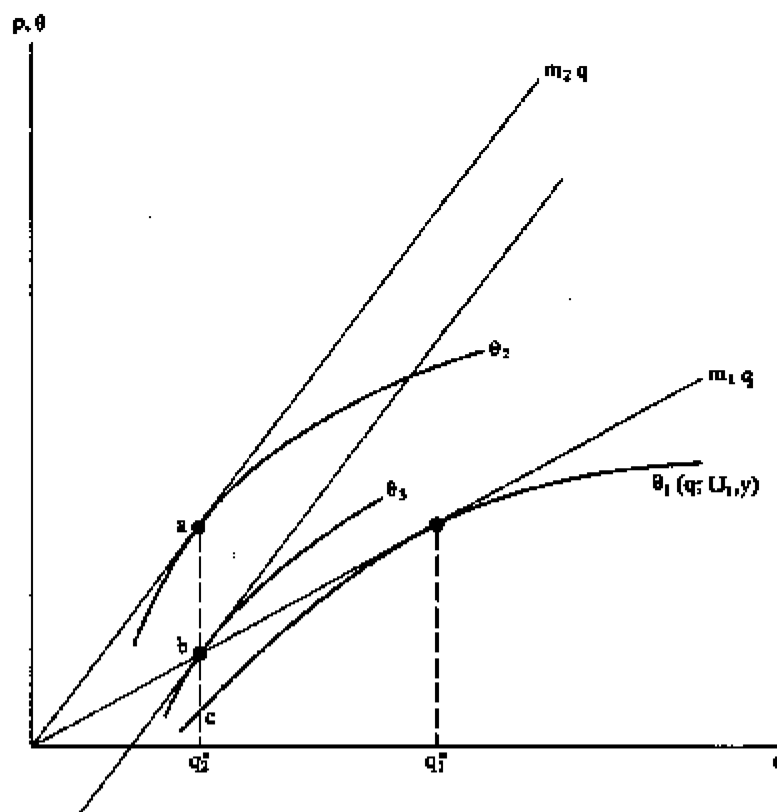


FIGURE 1
The Effect of Regulation on the Consumer's Choice of Optimal Product Quality.

willingness to pay for alternative qualities of vision care, given utility and income. Then $U = U(y-\theta, q)$ can be differentiated to obtain $\theta_q = U_q/U_x > 0$, the slope of an indifference curve between $q$ and the price of $q$. By further differentiation, $\theta_{qy} = (U_x U_{qx} - U_q U_{xx})/U_x^2$.[1] The numerator of this expression determines the sign of the income effect for good $q$ in standard theory. If $(U_x U_{qx} - U_q U_{xx}) = 0$, the family of expenditure functions is parallel, as shown in Figure 1.

The comparative statics of this model are ambiguous, due to the nonlinear budget constraint; therefore, for simplicity assume that $p(q) = mq$, where $m$ is a shift parameter that varies across markets. With this simplification, also shown in Figure 1, optimal $q$ clearly falls from $q_1^*$ to $q_2^*$ when $m$ increases.

How do differences in $m$ arise? Rosen [1974] has shown that $p(q)$ is determined, in the long run, by supply conditions. Competitive supply

[1] This expression is found (but with a typographical error) in Rosen [1974, p. 39].

implies that each quality is produced at minimum average cost by firms of optimal size. The social marginal cost of producing a higher quality good is thus $m_1$. Differences in $m$ could arise, then, if factor prices differ among separate competitive markets. Differences in $m$ could also be caused by local taxes on quality or monopolistic restrictions which raise the price of quality above its marginal cost.

In the latter case, the value of the restriction to the producer per unit of the good is given by distance *ab* in Figure 1.[2] If the consumer were compensated with *ab* income at the higher price of quality, he/she would willingly buy $q_2^*$ and enjoy $U_3$. But $U_3 < U_1$, that is, the income transfer of *ab*, is accompanied by a pure welfare cost whose monetary measure is *bc*.

In terms of derivatives, assuming there are no income effects, $\theta_q$ is the inverse of an income-compensated demand curve, and the situation is shown in Figure 2. Welfare cost is measured in the standard way by triangle *def*.[3]

Rosen [1974] has suggested a method by which market observations on price and quality can be used to estimate the demand curve for quality required to measure *def*. He suggests estimating the $p(q)$ function from data on price and quality. Denote the estimated function by $\hat{p}(q)$. Partial derivatives evaluated at the amounts of quality actually bought, $\partial\hat{p}/\partial(q)$, represent payments necessary to upgrade quality by a small amount, that is, the marginal prices of quality. Estimation of marginal prices plays the same role here as do direct observations on price in the standard theory.

In principle, data are available on exogenous variables $y_1$ and $y_2$ which influence consumers' and producers' choices of quality. These include income, age and insurance (for consumers), and factor prices or technological differences for producers. Thus, we have a set of simultaneous equations.

$$q = d(\partial\hat{p}/\partial q, y_1) \qquad \text{(demand)}$$
$$q = s(\partial\hat{p}/\partial q, y_2) \qquad \text{(supply)}$$

which can be estimated by appropriate regression techniques.

Unfortunately, Rosen's method has been extremely difficult to implement empirically. All the observations are envisioned as coming from a single national market. There are no truly exogenous shifters with which to identify the demand curve, so the job of identification depends on the appropriate functional form of $\hat{p}(q)$. The function must have sufficient curvatures to generate different slopes at different levels of quality corresponding to

[2] We thank an anonymous referee for noting that *ab* will overstate the unit value of regulations to the firm if the firm bears positive enforcement costs.

[3] We thank Sherwin Rosen for pointing out that, if there was an income effect, the demand curve would not be identified because the compensated demand curve through *f* would not pass through *d*—there would be two compensated demand curves, corresponding to two levels of utility, through *f* and *d*. But in this problem, income effects are likely to be small and can be ignored. This is because *x* accounts for most of the budget. If $p(q)$ were not linear, the marginal supply curves corresponding to $m_1$ and $m_2$ would not be linear, but the argument is otherwise unaffected.

marginal prices actually faced by consumers and producers at those qualities. A linear function, for example, is unacceptable because it forces $\partial\hat{p}/\partial q$ to be constant. In practice, selection of an appropriately sensitive functional form may simply overburden the data.

However, if the good is traded in separate local or regional markets, then the price function will be shifted by variables which affect price and differ between markets. As shown in Figure 2, these shift variables identify the demand curve. Markets for services such as vision care are local; therefore, they offer an opportunity to implement Rosen's method and measure the welfare cost of quality changes.

## II. THE DEMAND FOR QUALITY OF VISION EXAMINATIONS

We have discussed the market for vision care in more detail elsewhere [1981] and [1978]. Optometrists occupy one segment of the market, performing vision examinations and dispensing eyeglasses and contact lenses. Begun and Lippincott [1980] call optometry a "profession in process", as it has not yet achieved the status of professions like dentistry or medicine. Professional organization of optometrists is highly variable among the states, with the percentage of practitioners belonging to state affiliates of the American Optometric Association varying from 45 percent to 100 percent (Begun [1981]).

The professional segment of optometry has sought a variety of goals which require the approval of state political systems. The goals concern such matters as educational standards for licensure, the moral character of licensees, the employment settings in which practitioners can locate, and the definition of their work domain. Success in achieving these goals is highly variable among states. The degree of *professional regulation*, therefore, is an exogenous variable which differs among states.

Economists broadly agree that occupations acquire and operate the regulatory process for their own benefit (see Horowitz [1980] and Stigler [1971]). A review of the health occupations literature by Frech [1974] concludes that licensing of health occupation has restricted entry, reduced productivity and competition, and interfered with geographic mobility. More recently, we have shown [1978] and [1980] that vision examinations are more expensive in states where price advertising of optometrists' and opticians' services is banned, holding quality of service constant. Our hypothesis for the present study is that price advertising bans and other professional regulations shift the estimated $\hat{p}(q)$ function between states, identifying the demand curve for quality.

In this paper, we concentrate on professional regulations which ban price advertising, restrict the commercial employment of optometrists, and require continuing education for licensing of optometrists. The first two regulations have been central to the profession's attempt to shed its "commercial" image.

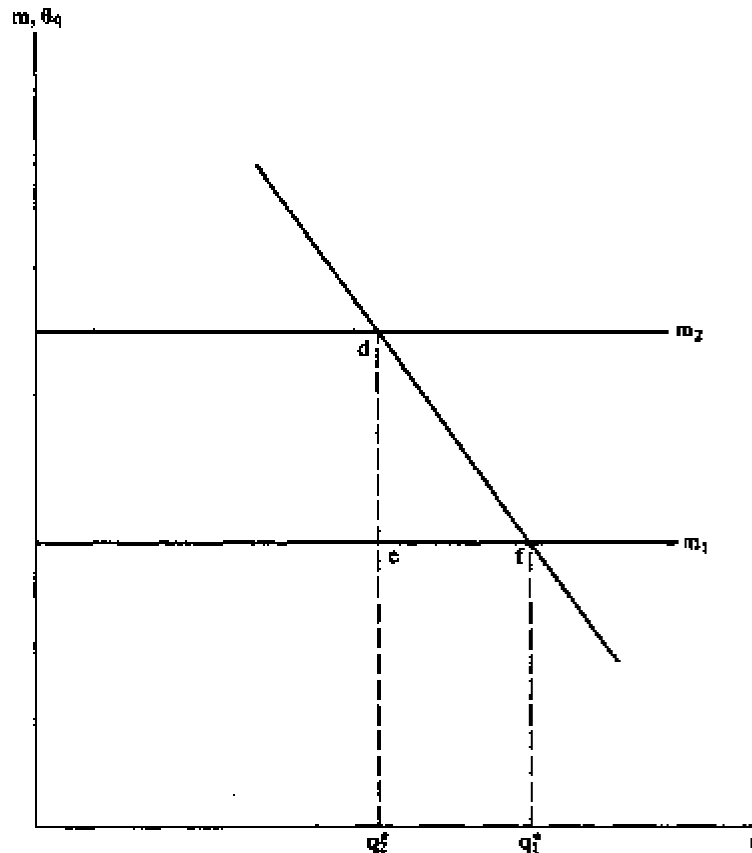


FIGURE 2
The Welfare Cost of Quality Changes.

They are more generally important because they reflect and reinforce the largely noncompetitive structure of the U.S. health services delivery system. Continuing education requirements for licensure have been used to justify the status of optometry as a profession; they also have proven to be a useful device for promoting optometry's boundary expansion into diagnostic and therapeutic drug use, fields typically reserved for physicians.

Regulations are coded by dummy variables which take the value of one if the regulation was present in 1976 and zero if it was not. Formally, the ADVERTISING BAN variable equals one if all price advertising by optometrists and opticians was banned by state law or licensing board regulation. These bans apply to both eyeglasses and vision examinations. EMPLOYMENT BAN is defined by state laws prohibiting the employment of optometrists by nonprofessional corporations or the location of practices in commercial settings, such as department stores. CONTINUING EDUCATION REQUIREMENTS, which

TABLE I
DESCRIPTION OF VARIABLES*

| *Label* | *Definition* | *Mean* | *Standard Deviation* |
|---|---|---|---|
| PRICE | Charge for complete examination of presbyopic patient in dollars | 24.353 | 7.200 |
| LENGTH | Length of presbyopic examination in minutes | 33.335 | 9.939 |
| PROCEDURES | Technical procedures performed during examination, 1–8 scale | 4.328 | 1.558 |
| ADVERTISING BAN | Optometrist and optician price advertising banned; 1 = yes | 0.308 | 0.462 |
| EMPLOYMENT BAN | Corporate employment or mercantile location of optometrist restricted; 1 = yes | 0.638 | 0.481 |
| CONTINUING EDUCATION REQUIREMENT | Continuing education required for optometrist relicensure; 1 = yes | 0.846 | 0.361 |
| WHITE % | Optometrist's estimate of percent of patients who are white | 83.585 | 19.861 |
| MEDICAID | Optometrist's estimate of percent of income from Medicaid | 7.328 | 12.156 |
| THIRD PARTY % | Optometrist's estimate of percent of income from other third party payers | 9.320 | 12.705 |
| INSURANCE | State mean of sample optometrists' estimate of percent of income from all third party payers | 11.317 | 13.533 |
| INCOME | Optometrist's estimate of income status of majority of patients; 3 = over $15,000, 2 = $10,000–$15,000, 1 = under $10,000 | 1.954 | 0.545 |
| PCTOLD | Percent of state population over 65 years old | 9.731 | 2.503 |
| PCTWHITE | Percent of state population white | 86.726 | 14.024 |
| STINCOME | State per-household income, in $1,000s | 12.312 | 1.638 |
| EXAMINATIONS PER CAPITA | (Sample optometrists' reported annual volume of examinations* Number of optometrists in state) ÷ state population | 0.169 | 0.049 |

* Number of observations for individual optometrist data is 1,182; for state data is 51.

ranged from 4 to 25 hours per year for relicensure, assumed a value of one in all states which required any continuing education for licensure. Means and standard deviations of the regulatory variables and all other variables used in the analyses below are reported in Table I.

Data for this study were collected by Begun [1981]. A 10 percent systematic sample ($N = 2{,}238$) of all optometrists in the U.S. was selected in late 1976, and 1,195 usable responses were received from a questionnaire survey. Price is measured by the individual optometrist's charge for a complete visual examination of a presbyopic patient (presbyopia is a deterioration in focusing ability usually associated with aging). Quality is measured by self-

reported examination length in minutes (*LENGTH*) and the number of procedures, on a 1–8 scale, performed during the examination (*PROCEDURES*). Examination length and procedures are both "input" or "process" measures of quality, and therefore they may not be correlated with vision examination "outcomes". That is, longer, more complex examinations may or may not lead to more accurate lens prescriptions or better visual health. We justify the use of these process measures on the basis of the unavailability of outcome measures, the likelihood that consumers of medical services use various dimensions of input and process to evaluate the quality of provider services (see Sloan and Lorant [1976]), and the possibility that some inputs may be desired by consumers *per se*. A common complaint about doctors, for example, is that they do not spend enough time with patients. Personal consultation and even handholding may be key attributes of their service. In addition, earlier studies of medical services have revealed significant positive relationships between visit length and visit price (Feldman [1979] and Reinhardt [1975, p. 156]). Clearly, however, similar studies to this one should be conducted using outcome measures of quality (for example, Bond *et al.* [1980]).[4]

A linear interactive price function is general enough to allow restrictions to affect the price of quality:

$$\hat{p} = \sum_{i=1}^{m} \alpha_i q_i + \sum_{k=1}^{n} \beta_k R_k + \sum_{i=1}^{m} \sum_{k=1}^{n} \delta_{ik} q_i R_k,$$

where the $q_i$ are quality variables and $R_k$ are professional regulations.[5] This equation is an accurate representation of Figure 2, because it shows that the price of $q_i$ is constant within a state and is shifted up by regulations $\left(\text{if } \sum_{k=1}^{n} \delta_{ik} R_k > 0\right)$.

An ordinary least squares regression estimate of this equation is shown in Table II.[6] A key result of Table II is that professional regulations *reduce* the

[4] Another issue surrounding the use of length as a measure of quality is the fact that individuals will value longer examinations differently depending on their time costs. We have no suitable measures of individual time costs in these data.

[5] We also considered the effects of factor costs (annual rent per room of office space, annual wage of office attendants) and the nominal price level (1975 state consumer price index) on the price of an optometric visit. Each additional variable plus its interactions with examination length and procedures was individually added to the price equation shown in Table II. Joint F-statistics for the added groups of variables were 0.727, 1.544, and 1.896, respectively. None of the added groups of variables were statistically significant at $\alpha = 0.05$ ($F \simeq 2.60$). Therefore, they were omitted from further consideration.

[6] For OLS to yield unbiased estimates of the parameters in the price function, the quality of services supplied must be independent of the marginal price of quality. Goldman and Grossman [1978], in their study of physicians' services, assume that quality is related to predetermined physician characteristics. They admit that some dimensions of quality are endogenous, but to estimate an instrumental variable for each endogenous dimension would inordinately "tax" the data. (Most of this discussion can be found in two preliminary drafts of Goldman and Grossman's 1978 article.) In the present paper, we assume that the marginal cost of quality is constant. Shifts in the demand function for quality trace out the relation between price and

TABLE II
LINEAR INTERACTIVE PRICE EQUATION

| *Variable* | *Including* PROCEDURES *Interactions* | *Excluding* PROCEDURES *Interactions* |
|---|---|---|
| | *Coefficient* (*T-Value*) | *Coefficient* (*T-Value*) |
| PRICE = *Dependent Variable* | | |
| LENGTH | 0.306 | 0.324 |
| | (5.33) | (6.11) |
| PROCEDURES | 1.393 | 1.031 |
| | (3.80) | (8.39) |
| ADVERTISING BAN | 2.571 | 1.945 |
| | (1.63) | (1.38) |
| EMPLOYMENT BAN | 3.287 | 3.622 |
| | (2.21) | (2.69) |
| CONTINUING EDUCATION REQUIREMENT | 6.091 | 5.036 |
| | (3.06) | (2.76) |
| LENGTH · ADVERTISING BAN | 0.0350 | 0.0247 |
| | (0.80) | (0.61) |
| LENGTH · EMPLOYMENT BAN | −0.0669 | −0.[illegible]799 |
| | (2.06) | (2.04) |
| LENGTH · CONTINUING EDUCATION REQUIREMENT | −0.0368 | −0.0602 |
| | (0.63) | (1.12) |
| PROCEDURES · ADVERTISING BAN | −0.222 | — |
| | (0.77) | — |
| PROCEDURES · EMPLOYMENT BAN | 0.134 | — |
| | (0.50) | — |
| PROCEDURES · CONTINUING EDUCATION REQUIREMENT | −0.446 | — |
| | (1.20) | — |
| CONSTANT | 4.243 | 5.104 |
| $\bar{R}^2$ | 0.285 | 0.285 |
| d.f. REGRESSION, RESIDUAL | 11,1170 | 8,1173 |
| MEAN SQUARE ERROR | 37.09 | 37.05 |

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quality along a perfectly elastic supply curve. In general, since this need not be true, OLS estimates of the price function will be biased.

Since we could not rule out the existence of simultaneous equations bias, we tried some 2SLS estimates of the price equation. Goldman and Grossman's warning that this will "tax" the data is immediately relevant: with eight endogenous explanatory variables (LENGTH, PROCEDURES, and six interaction terms) and only four excluded exogenous variables (WHITE %, THIRD PARTY %, MEDICAID %, and INCOME), the equation is clearly under-identified. Therefore, we drastically simplified the set of endogenous variables to three: LENGTH, PROCEDURES, and LENGTH · EMPLOYMENT BAN (the most significant interaction term). A 2SLS estimate of this equation is:

$$\begin{aligned} \text{PRICE} = {} & 0.785\ \text{LENGTH} + 5.333\ \text{PROCEDURES} - 1.49\ \text{LENGTH} \cdot \text{EMPLOYMENT BAN} \\ & (t = 1.83) \qquad (2.61) \qquad (1.77) \\ & + 4.267\ \text{ADVERTISING BAN} + 4.96\ \text{EMPLOYMENT BAN} \\ & (3.81) \qquad (1.77) \\ & + 0.724\ \text{CONTINUING EDUCATION REQUIREMENT} - 2.635. \\ & (0.537) \end{aligned}$$

This is not plausible, because it suggests that the marginal price of length is negative in restrictive states. The single interaction term is forced here to "reveal" too much information about the price-quality surface. We conclude that the 2SLS approach is theoretically valid but difficult to implement.

marginal prices of both length and procedures. For optometrists who practice in states without regulations, all $R$ variables are set equal to zero; $\partial\hat{p}/\partial$ LENGTH $= 0.306$ and $\partial\hat{p}/\partial$ PROCEDURES $= 1.393$. In states with regulations (all $R = 1$), $\partial\hat{p}/\partial$ LENGTH $= 0.306 + 0.0350 - 0.0669 - 0.0368 = 0.2373$ and $\partial\hat{p}/\partial$ PROCEDURES $= 1.393 - 0.222 + 0.134 - 0.446 = 0.859$. Therefore, extra quality is less expensive in states with regulations. We show below that the difference in the marginal price of length is statistically significant while the difference in the marginal price of procedures is not.

We interpret these results in the following way. Under pure competition, at a given level of quality, marginal price and marginal cost will be equal. Since professional regulations are a departure from the norm of pure competition, we infer that vision examination length is priced below marginal cost in regulated states. Survival of producers in these states is possible because regulations raise the price of vision examinations. The reduced price of length may be due to "quality" or "amenity" competition. Professional and legal sanctions largely prevent price competition; quality competition is much harder to detect and is used to attract customers. A similar interpretation is that producers in regulated states find price competition to be a less profitable strategy than "quality" competition. An analogy can be drawn to pre-deregulation airline competition in the U.S. on such dimensions as scheduling convenience, food quality, and storage space, rather than price.

To continue the welfare loss calculation, marginal prices of length and procedures computed from Table II are used to estimate linear demand curves for length and procedures shown in columns one and two of Table III.

TABLE III
DEMAND EQUATIONS FOR EYE EXAMINATION LENGTH AND PROCEDURES

| *Independent Variables* | *Dependent Variable* | | | |
|---|---|---|---|---|
| | LENGTH | PROCEDURES | LENGTH* | PROCEDURES* |
| | *Coefficient (T-Value)* | *Coefficient (T-Value)* | *Coefficient (T-Value)* | *Coefficient (T-Value)* |
| $\partial\hat{p}/\partial$ LENGTH (PRICE OF LENGTH) | −17.383 | −4.022 | −18.830 | −4.394 |
| | (2.80) | (4.18) | (3.13) | (4.71) |
| $\partial\hat{p}/\partial$ PROCEDURES (PRICE OF PROCEDURES) | −2.752 | −0.659 | — | — |
| | (1.75) | (2.43) | — | — |
| WHITE % | 0.0761 | 0.00826 | 0.0739 | 0.00771 |
| | (4.39) | (3.07) | (4.29) | (2.89) |
| THIRD PARTY % | 0.0371 | 0.0119 | 0.0375 | 0.0200 |
| | (1.61) | (3.33) | (1.63) | (3.36) |
| MEDICAID % | 0.0166 | 0.00999 | 0.0178 | 0.0103 |
| | (0.59) | (2.28) | (0.63) | (2.35) |
| INCOME | 0.718 | 0.304 | 0.777 | 0.319 |
| | (1.26) | (3.43) | (1.37) | (3.61) |
| CONSTANT | 31.964 | 4.481 | 29.515 | 3.900 |

* Based on price equation that excludes PROCEDURES interactions.

The regressions use Zellner's [1962] procedure for estimating seemingly unrelated regressions.[7] Table III shows that own-price elasticities of demand are negative, as predicted by economic theory. Evaluated at the mean, the elasticity of demand for length is −0.120 and for procedures is −0.157. The cross-price coefficients indicate that length and procedures are complementary goods. Other variables in the demand functions are individual optometrists' reports of the percent of their patients who are white (WHITE %), the percentage of practice income derived from Medicaid (MEDICAID %) and other third party payers (THIRD PARTY %), and an estimate of their patients' income category (INCOME). The WHITE % variable is included in the demand equations because it is positively related to the frequency of vision examinations and eyeglass purchases (Benham and Benham [1975] and Coate [1974]); we find that it increases the demand for quality, too. Enabling variables (represented by insurance and income) also increase the demand for quality; that is, better-insured and higher income consumers demand longer, more complex visits. The effects are statistically significant for procedures but not for length. Thus high income, well-insured consumers may be willing to pay for increased exam complexity, but may be less interested in buying long exams.

The price equation was also estimated under the constraint that interactions between PROCEDURES and professional regulations are jointly equal to zero, because the addition of these interactions to a basic group consisting of LENGTH, PROCEDURES, and regulations resulted in a reduction of the residual sum of squares of the price equation that was insignificant at conventional confidence levels (F = 1. 1455). This is equivalent to finding that difference in the marginal price of procedures between regulated and unregulated states is not statistically significant. Interactions between LENGTH and regulations were significant (F = 2.35 has probability of 0.07 at 3 and 1173 degrees of freedom), and, therefore, were not dropped. The estimated price equation excluding PROCEDURES interactions is shown in the second column of Table II.

The marginal price of length in the constrained price equation is lower in states with regulations (0.2086) than in states without regulations (0.324). These values were used to estimate demand curves for length and procedures shown in the third and fourth columns of Table III.[8] We see that the coefficients and t-values are similar to those obtained using marginal prices from the unconstrained price equation.

## III. MEASURING THE WELFARE COST OF QUALITY CHANGES IN OPTOMETRY

We use Table III's estimates to measure the welfare cost of professional regulations in optometry. Harberger [1964] has given a general formula for

[7] The demand functions for length and procedures may be affected by the same random factors, causing correlation between the disturbances in the equations. OLS estimates of the regression coefficients are inefficient in this case (Kmenta [1971, pp. 517–29]).

[8] Our assumption that PROCEDURES does not interact with professional regulations implies that the marginal price of procedures is constant. Therefore, $\partial p/\partial$ PROCEDURES is omitted from these regressions.

the welfare cost of taxes or subsidies in interrelated markets: welfare cost equals $-1/2\sum_{ij}\sum T_i T_j S_{ij}$, where $i$ and $j$ are indices of the goods, $T_i$ is the tax on good $i$, and $S_{ij}$ is the income-compensated substitution effect. Subsidies, in this formula, are defined as negative taxes.

We have the following values for $S_{ij}$ (let 1 = length and 2 = procedures):

$$S_{11} = -17.383$$
$$S_{22} = -0.659$$
$$S_{12} = -2.752 \text{ or } -4.022^{9}$$

The subsidies on the prices of length and procedures due to regulations were taken from Table II:

$$-T_1 = (\textit{ADVERTISING BAN}^* \; 0.0350) + (\textit{EMPLOYMENT BAN}^* \; -0.0669) + (\textit{CONTINUING EDUCATION REQUIREMENT}^* \; -0.0368)$$

$$-T_2 = (\textit{ADVERTISING BAN}^* \; -0.222) + (\textit{EMPLOYMENT BAN}^* \; 0.134) + (\textit{CONTINUING EDUCATION REQUIREMENT}^* \; -0.446).$$

These values were inserted into Harberger's formula and two calculations of welfare cost were made—one for each empirical value of $S_{12}$. The average welfare cost per examination in states with one or more regulations was $0.26 or $0.21, depending on which estimate of $S_{12}$ was used. We multiplied the welfare cost per visit times the number of vision examinations in each regulated state, to get total dollar values for welfare cost. Using the estimate of $0.26 per visit, we calculated that the total national welfare cost was $8,018,687 in 1976.

Our next calculation is an estimate of the economic profit for optometrics due to the regulations. This is easily done by multiplying the extra price per examination resulting from regulations (from Table II) times the annual number of examinations in regulated states. Results indicate that regulations raise the price of an examination by $4.11, on the average, in the 46 states with at least one regulation. The total annual value to optometrists is $139,530,000.

For comparison, we repeated these calculations using the price equation from Table II that excludes *PROCEDURES* interactions. The welfare loss of $3,685,965 was smaller than previously obtained, but the annual economic profit for optometrics, $142,359,000, was still quite large.

Our data are not ideal for measuring the welfare cost of *quantity* changes caused by professional regulations. The data were obtained from a survey of individual optometrists, who provided estimates of their weekly and annual examination volumes. In a competitive market,[10] each producer takes the

[9] Economic theory predicts that $S_{ij} = S_{ji}$ but, in practice, empirical estimates differ. We calculate a welfare cost for both estimates.

[10] Some evidence that local vision care markets are competitive is found in Begun's 1976 (Begun [1981]) survey, where responding optometrists indicated a median number of seven other optometrists in the market area, as well as three opticians and five ophthalmologists.

price of a given-quality good as constant and maximizes utility or profit. The optimal volume of services determined in this manner lies neither on the individual consumer's demand curve nor on the market demand curve. Therefore, disaggregated data from individual producers are not ideal for analyzing the welfare cost of quantity changes. They are suited, however, for the welfare analysis of quality changes because the average quality of examinations produced by an optometrist equals the average quality consumed by his/her patients.[11] This enables the estimation of demand curves for quality, and welfare analysis can be done, using those demand curves.

However, data from individual producers can be used to estimate the market demand curve for quantity if they are aggregated up to the market level. We aggregated the data by state and estimated a demand curve for quantity. The following results are tentative, since states may not be relevant markets for eye examinations.

Dependent variables in the state market demand equations are *LENGTH*, *PROCEDURES*, and *EXAMINATIONS PER CAPITA*. Exogenous variables are the percent of state population in 1970 over 65 years old (*PCTOLD*), the percent of state population in 1974 that was white (*PCTWHITE*), the state per-household income in 1974 (*STINCOME*), and the percent of state optometrists' revenue derived from all third-party payers in 1976 (*INSURANCE*). These variables are not identical to those used in Table III, due to the availability of different state and local data; thus, the state and local demand analyses are not directly comparable.

Endogenous explanatory variables are the state average price of an optometric exam for presbyopia in 1976 (*PRICE*) and the "shadow price" of quality (*QUALPRICE*). The latter variable represents the marginal change in expenditures necessary for a consumer to upgrade the quality of his/her examinations by one unit when the quantity of examinations may exceed one.[12] Instrumental variables were estimated for *PRICE* and *QUALPRICE*; to improve the efficiency of these estimates, the set of instruments included the percent of state population unionized, the percent male, and the percent living in urban areas. All variables were also weighted by the square root of the state sample size, to correct for heteroscedasticity.

Two stage least squares estimates of the state-level demand equations are shown in Table IV. The quantity of eye examinations demanded *per capita* falls as price increases (although the $t$-value of 1.35 is not statistically significant), with an elasticity at the mean of $-0.53$. Likewise, the relation between

[11] If the optometrist produces examinations of uniform quality, then this statement applies to all his/her examinations, as well as to the average examination. For example, if the optometrist produces only 30-minute examinations, then all his/her patients consume this quality. Thirty minutes, therefore, is one point on each consumer's demand curve for quality. For some arguments to support the one-quality assumption, see Feldman [1976].

[12] See Goldman and Grossman [1978] for a more complete discussion of the shadow price of quality. Computationally, *QUALPRICE* = *EXAMINATIONS PER CAPITA* · *PRICE OF LENGTH*. The price of length is computed from the price equation in Table II that excludes *PROCEDURES* interactions.

TABLE IV
STATE DEMAND EQUATIONS FOR EYE EXAMINATION LENGTH, PROCEDURES, AND QUANTITY PER CAPITA

| Independent Variables | Dependent Variable | | |
|---|---|---|---|
| | LENGTH | PROCEDURES | EXAMINATIONS PER CAPITA |
| | Coefficient (T-Value) | Coefficient (T-Value) | Coefficient (T-Value) |
| PRICE (endogenous) | 0.515 | 0.0394 | −0.00374 |
| | (3.31) | (1.64) | (1.35) |
| QUALPRICE* (endogenous) | −40.733 | −20.616 | −0.173 |
| | (0.81) | (2.67) | (0.19) |
| PCTOLD | 0.325 | 0.0491 | 0.000492 |
| | (2.45) | (2.40) | (0.21) |
| PCTWHITE | 0.127 | 0.0163 | 0.00227 |
| | (3.25) | (2.70) | (3.26) |
| STINCOME | 0.567 | 0.184 | 0.00690 |
| | (2.07) | (4.34) | (1.41) |
| INSURANCE | −0.0113 | −0.00313 | 0.00322 |
| | (0.19) | (0.34) | (0.30) |
| CONSTANT | 4.44 | −0.0275 | −0.0883 |

* Based on price equation that excludes PROCEDURES interactions.

LENGTH and QUALPRICE has the expected sign but it is not statistically significant. Our calculated price elasticity of −0.53 is similar to the −0.52 which Coate [1974] argues is the most plausible of several estimates from similar data. The elasticity is larger than most of the reported elasticities for hospital and physician services, as vision examinations are a more discretionary good.

Exogenous variables generally have the same effects on aggregate and local demand for quality. That is, consumers in high-income states with mainly white populations buy relatively long visits with many procedures (the same results that were found in Table III). PCTWHITE is also an important determinant of examinations *per capita*. Age is positively correlated with length and procedures but not significantly with examinations *per capita*.

We next use the results of Table IV and Harberger's formula to do a welfare-loss calculation. Let length = 1, procedures = 2, and quantity = 3; then $S_{11} = -40.733$, $S_{33} = -0.00374$, $S_{13} = 0.515$, and $S_{31} = -0.173$. Note that we have two choices for the cross-price effect—$S_{13}$, which is statistically significant, suggests that length and quantity are substitutes, whereas $S_{31}$, which is not statistically significant, suggests that they are complements. Note also that terms involving procedures do not enter into the welfare loss calculations, because we use the price equation that excludes procedures interactions; that is, we use the second column of Table II in which restrictions do not affect the marginal price of procedures.

Results suggest that the total annual welfare loss in 1976 was $15,968,080 if length and quantity are substitutes and $6,047,730 under the assumption of complementarity. Generally speaking, these are *larger* than our previous estimates of $3.7 to $8.0 million. This is because restrictions raise the price of a visit, thus lowering quantity and causing a welfare loss *in addition to* losses in the quality dimensions of the product.

The loss is greater when quality and quantity are assumed to be substitutes. This occurs because restrictions *reduce* the price of quality in our analysis. Thus consumers substitute away from quantity toward quality. Since they are already consuming "too little" quantity, there is an additional welfare loss caused by the substitution effect. When quantity and quality are complements, the reverse occurs—consumers tend to buy more quantity when the price of quality falls. This partially compensates for the monopolistic restriction in the market for quantity.

## IV. SUMMARY

In this paper we have measured the welfare cost of selected quality changes caused by professional regulations in optometry. A significant innovation of our work was the estimation of demand equations for vision examination length and procedures. We followed Rosen's method by estimating price as a function of quality and regulations and using computed marginal prices in demand functions for quality.

We discovered that professional regulations reduce the marginal prices of quality. Therefore, it is likely that deregulation[13] of the industry will raise marginal prices of quality and reduce the quality of vision examinations. Professional spokespersons may point to lower quality as evidence that deregulation leads to shoddy optometric practice. But we strongly suggest that such claims (if they are made) be disregarded. The extra quality engendered by regulations is not valued by consumers at its marginal cost. We found that the welfare cost for excess examination length and procedures was about $8 million annually. In addition, it appears that professional regulations, by raising the price of eye examinations, cause quantity demanded to fall below its competitive level. If this is the case, the $8 million welfare loss understates the total welfare cost of professional regulations in optometry.

We argue that reduced prices of length and procedures in regulated states are due to quality competition. The profession limits entry, mobility, and competition; consequently, the market is restricted and prices rise. Professional and legal sanctions prevent would-be price cutters from expanding

[13] Bans on advertising the price and availability of prescription eyeglasses, contact lenses and eye examinations have been invalidated by a unanimous decision of the Federal Trade Commission [1978] and by various court judgements, particularly *Virginia Board of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 422 U.S. 748 (1976) and *Bates v. State Bar of Arizona*, 433 U.S. 350 (1977).

their share of the market. But, cutting the price of quality is harder to detect and prevent; therefore, quality competition is used to attract customers in a monopolized profession. This explanation is consistent with high examination prices and low quality prices in the optometric profession.

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REFERENCES

BEGUN, J. W., 1981, *Professionalism and the Public Interest: Price and Quality in Optometry* (The MIT Press, Cambridge, Mass.).

BEGUN, J. W. and FELDMAN, R., 1981, *A Social and Economic Analysis of Professional Regulation in Optometry* (National Center for Health Services Research, USA), DHHS Publ. No. (PHS) 81-3295.

BEGUN, J. W. and LIPPINCOTT, R. C., 1980, 'The Politics of Professional Control: The Case of Optometry', in J. ROTH, ed., *Research in the Sociology of Health Care*, Vol. I (JAI Press, Greenwich, Conn.).

BENHAM, L. and BENHAM, A., 1975, 'Regulating Through the Professions: A Perspective on Information Control', *Journal of Law and Economics*, 18, 2 (October), pp. 421–47.

BOND, R. S., KWOKA, J. E. JR., PHELAN, J. J. and WHITTEN, I. T., 1980, *Staff Report on Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry* (U.S. Federal Trade Commission, Washington, D.C.).

COATE, D., 1974, *Studies in the Economics of the Profession of Optometry*, unpublished Ph.D. Dissertation, City University of New York.

COATE, D., 1974, 'The Market for Optometric Services in the United States', Working Paper No. 122, National Bureau of Economic Research, New York.

COX, S. R., DESERPA, A. C. and CANBY, W. C. JR., 1982, 'Consumer Information and the Pricing of Legal Services', *Journal of Industrial Economics*, 30, 3 (March), pp. 305–18.

DEYAK, T. A. and SMITH, V. K., 1976, 'The Economic Value of Statute Reform: The Case of Liberalized Abortion', *Journal of Political Economy*, 84, 1 (February), pp. 83–100.

FELDMAN, R., 1976, *The Supply and Demand for Physicians' Hospital and Office Visits*, unpublished Ph.D. Dissertation, University of Rochester.

FELDMAN, R., 1979, 'Price and Quality Differences in the Physicians' Services Market', *Southern Economic Journal*, 45, 3 (January), pp. 885–91.

FELDMAN, R. and BEGUN, J. W., 1978, 'The Effects of Advertising Restrictions: Lessons from Optometry', *Journal of Human Resources*, 13 (Supplement), pp. 248–62.

FELDMAN, R. and BEGUN, J. W., 1980, 'Does Advertising of Prices Reduce the Mean and Variance of Prices?', *Economic Inquiry*, 18, 3 (July), pp. 487–92.

FRECH, H. E., 1974, 'Occupational Licensure and Health Care Productivity: The Issues and the Literature', in J. RAFFERTY, ed., *Health Manpower and Productivity: The Literature and Required Future Research* (Lexington Books, Lexington, Mass.).

*FTC News Summary*, June 2, 1978, 2, No. 22 (U.S. Federal Trade Commission, Washington, D.C.).

GOLDMAN, F. and GROSSMAN, M., 1978, 'The Demand for Pediatric Care: An Hedonic Approach', *Journal of Political Economy*, 86, 2, Part 1 (April), pp. 259–80.

HARBERGER, A. C., 1954, 'Monopoly and Resource Allocation', *American Economic Review*, 44, 2 (May), pp. 77–87.

HARBERGER, A. C., 1964, 'The Measurement of Waste', *American Economic Review*, 54, 3 (May), pp. 58–76.

HOROWITZ, I., 1980, 'The Economic Foundations of Self-Regulation in the Professions', in R. D. BLAIR and S. RUBIN, eds., *Regulating the Professions* (D. C. Heath, Lexington, Mass.).

KMENTA, J., 1971, *Elements of Econometrics* (Macmillan, New York).

LEFFLER, K. B., 1978, 'Physician Licensure: Competition and Monopoly in American Medicine', *Journal of Law and Economics*, 21, 1 (April), pp. 165–86.

REINHARDT, U. E., 1975, *Physician Productivity and the Demand for Medical Manpower* (Ballinger, Cambridge, Mass.).

ROSEN, S., 1974, 'Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition', *Journal of Political Economy*, 82, 1 (January/February), pp. 34–55.

ROTTENBERG, S., ed., 1980, *Occupational Licensure and Regulation* (American Enterprise Institute for Public Policy Research, Washington, D.C.).

SHEPARD, L., 1978, 'Licensing Restrictions and the Cost of Dental Care', *Journal of Law and Economics*, 21, 1 (April), pp. 187–201.

SLOAN, F. A. and LORANT, J. M., 1976, 'The Allocation of Physicians' Services: Evidence on Length-of-Visit', *Quarterly Review of Economics and Business*, 16, 3 (Autumn), pp. 85–103.

STIGLER, G. J., 1971, 'The Theory of Economic Regulation', *Bell Journal of Economics and Management Science*, 2, 1 (Spring), pp. 3–21.

ZELLNER, A., 1962, 'An Efficient Method of Estimating Seemingly Unrelated Regression Equations and Tests for Aggregation Bias', *Journal of the American Statistical Association*, 57, 298 (June), pp. 348–68.

Roger D. Feldman & James W. Begun, *Does Advertising of Prices Reduce the Mean and Variance of Prices?*, 18 ECON. INQUIRY 487 (1980).

**Scope of Study:** Feldman and Begun re-analyzed their earlier data to expand their initial set of conclusions.[1] They considered both state optometric board restrictions and state law restrictions on advertising. The authors estimated the effect of advertising restrictions on the variance of, as well as the mean of, the price of optometric examinations.

**Conclusions:** Feldman and Begun concluded that strict advertising restrictions (a ban on advertising by both optometrists and opticians) increased prices by about 11 percent.

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[1] See Roger Feldman & James W. Begun, *The Effects of Advertising: Lessons from Optometry*, 13 J. HUM. RESOURCES 247 (1978).

## REFERENCES


Becker, Gary S., *The Economics of Discrimination*, Chicago: The University of Chicago Press, 1957 and 1971.

Bielby, W.T., R.M. Hauser, and D.C. Featherman, "Response Errors of Non Black Males in Models of the Stratification Process," in *Latent Variables in Socio-Economic Models*, edited by D. Aigner and A. Goldberger. Amsterdam: North Holland Publishing Company, 1977: 227-252.

Freeman, Richard B., "Labor Market Discrimination: Analysis, Findings, and Problems," in *Frontiers of Quantitative Economics*, Volume II, edited by M.D. Intriligator and D.A. Kendrick (North-Holland Publishing Co., 1974).

Friedman, Milton, *A Theory of the Consumption Function*, Princeton: The Princeton University Press, 1957.

Griliches, Zvi, "Sibling Models and Data in Economics: Beginning of a Survey," *Journal of Political Economy*, 87, 1979, S37-S64.

Loehlin, John C., Gardner Lindzey and J.N. Spuhler, *Race Differences in Intelligence*, San Francisco, W.H. Freeman and Company, 1975.

Madansky, Albert, "The Fitting of Straight Lines When Both Variables are Subject to Error," *American Statistical Association Journal* 54, 1954, 173-205.

Malinvaud, E., *Statistical Methods of Econometrics*, Amsterdam, North-Holland Publishing Company, 1970.

Mincer, Jacob, *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research, 1974.

Phelps, Edmund S., "The Statistical Theory of Racism and Sexism," *The American Economic Review* LXII, 1972, 659-661.

Rao, Potluri, "Some Notes on the Errors-in-Variables Model," *The American Statistician* 27, 1973, 217-18.

Welch, Finis, "Human Capital Theory: Education, Discrimination and Life Cycles," *The American Economic Review* LXV, 1975, 63-73.


# DOES ADVERTISING OF PRICES REDUCE THE MEAN AND VARIANCE OF PRICES?

ROGER D. FELDMAN and JAMES W. BEGUN*

In a seminal article on "The Economics of Information," Stigler (1961) argued that advertising of prices should reduce the mean and variance of prices. We test Stigler's hypotheses with a generalized least squares (GLS) regression analysis of price data from the optometric profession. Both the mean price of a vision examination and the variance of prices are found to be lower in states which permit price advertising.

Consumer search is the nexus between price advertising and its hypothesized effects. In markets where advertising is permitted, search is less costly, and consequently, buyers will shop around for low prices. Sellers posting high prices will lose a significant number of customers. But sellers in markets where advertising is prohibited can raise prices without losing many customers. The extent to which price can be raised depends on a number of factors, including the value of customers' time and sellers' marginal costs. Given that these factors are unequally distributed in the populations of customers and sellers, price dispersion should increase in prohibitive markets. The theory of price advertising, therefore, predicts that both the mean and variance of prices are lower in markets where price advertising is permitted.

Several studies have confirmed the first prediction. An early test by Maurizi (1972) using retail gasoline prices yielded inconclusive results, but in a later study with better data, Maurizi and Kelly (1978) concluded that posting of price information does reduce retail gasoline prices. Benham (1972) utilized a consumer survey and rough estimates of eyeglass price advertising restrictions to find that eyeglass prices are higher in states with more restrictive regulations. Cady (1976*) found that advertising restrictions increase the retail price of prescription drugs when cost-related structural and organizational factors are held constant. Recently, we have shown (Feldman and Begun, 1978) that state restrictions on price advertising by opticians and optometrists raise the price of examinations performed by optometrists. A merit of our study was that an attempt was made to control for the quality of service. Maurizi and Moore (1978) found that eyeglasses, contact lenses and component lenses are generally less expensive if the dispensing optician or optometrist provides price information by telephone and advertises outside the telephone book. An advantage of the Maurizi and Moore study was the use of behavioral measures of advertising, rather than the permission to advertise.

Most of these studies share a common method in which price ($P$) is regressed on advertising restrictions ($R$) and a vector of control variables ($X$). The content of $R$ and $X$ differs by study but, in general, the underlying model is

$$P = aX + bR + u, \tag{1}$$

where u is a random error term with zero mean.[1] A positive estimated value of coefficient $b$ indicates that advertising restrictions raise price.

In contrast to tests of the "mean price" hypothesis, studies of the "price variance" hypothesis use a different method — price variances in permissive and restrictive markets are computed and compared. Maurizi (1972) found that the retail price range (a proxy for variance) of gasoline was higher in cities that prohibit price posting. Marvel (1979), reexamining the same data with better information on the sample size in each city, showed that Maurizi's conclusion was valid only for premium gasoline. But in their later analysis, Maurizi and Kelly (1978) again found reduced gasoline price dispersion attributable to more frequent price posting. Finally, Cady (1976*) divided states into two groups based on their restrictions on prescription drug advertising and compared the price variance of ten prescription drugs in the two groups. In nine of ten cases, variance of prescription prices was higher in states with advertising restrictions.

In this study, we present an efficient method for sequentially analyzing the effects of advertising on the mean and variance of prices. If price is determined by equation (1), then price variance is

$$\operatorname{var}(P) = a^2 \operatorname{var}(X) + b^2 \operatorname{var}(R) + \operatorname{var}(u) + 2ab \operatorname{cov}(XR) + 2a \operatorname{cov}(Xu) + 2b \operatorname{cov}(Ru). \tag{2}$$

We will assume that cov ($Xu$) is zero. Equation (2) shows that advertising restrictions may affect var ($P$) in two ways: restrictions may be correlated with the $X$ variables,[2] and/or they may be correlated with the error term, $2b$ cov ($Ru$). The second source of covariance between advertising restrictions and price embodies Stigler's search-theoretic explanation of price variance. Costs of search are higher in restrictive states; for given benefits, less searching is done and, consequently, the residual variance of price is higher. Conceptually, this is a special case of the problem of heteroscedasticity, in which the variance of the error term, $\sigma^2$, is not constant across observations.[3]

The correct hypothesis-testing strategy for the effect of advertising restrictions on price variance has two steps. In step one we estimate separate price functions for restrictive ($R$) states and permissive ($N$) states by OLS regression. The mean square error of each regression, $\hat{\sigma}^2$, is an unbiased estimate of $\sigma^2$. We test $H_0$: $\sigma_R^2 = \sigma_N^2$ against $H_1$: $\sigma_R^2 > \sigma_N^2$ by forming the ratio $\hat{\sigma}_R^2/\hat{\sigma}_N^2$, which has an $F$-distribution with degrees of freedom ($df$ for residual $R$, $df$ for residual $N$). If $H_0$ is rejected, we conclude that advertising restrictions raise the variance of prices, and we proceed to step two — to normalize the data and estimate the GLS regression.

$$\frac{P}{\hat{\sigma}} = \frac{aX}{\hat{\sigma}} + \frac{bR}{\hat{\sigma}} + \frac{u}{\hat{\sigma}} \tag{3}$$

where $\hat{\sigma} = \hat{\sigma}_R$ for restrictive states and $\hat{\sigma} = \hat{\sigma}_N$ for permissive states. Normalization will ensure that $\sigma^2 = 1$ for all observations; therefore, the data will be homoscedastic, and parameter estimates efficient (Maddala, 1977, p. 267).

Our previous empirical work showed that the price of a vision examination performed by an optometrist depends on examination quality and advertising restrictions. Quality was measured by examination length, procedures, and office equipment. Bans on price advertising by either opticians or optometrists had an insignificant effect on price in most specifications; however, the presence of both bans significantly increased price. Price advertising restrictions, therefore, can be measured by two dummy variables: *MODERATE* (a ban on price advertising by either opticians or optometrists), and *STRICT* (a ban by both occupations).[4]

An OLS regression, using the entire sample of untransformed data ($N$ = 1182), is reported in the first column of Table 1. The natural logarithm of price is shown to depend positively on examination length,

1. Maurizi (1972) performed a simple t-test on price-cost margins between restrictive and permissive cities. But his criterion variable, $P - C$, can be written as $P - aX$, where $X$ are cost-related variables. If the price-cost margin depends on advertising restrictions (and a random error term), then $P - aX = bR + u$, which is equation (1).

2. We computed the value of $2ab$ cov ($XR$) for three variables — examination length, procedures, and equipment — argued by professional spokespersons to be important dimensions of vision examination quality. Altogether, interactions between these variables and advertising bans contribute only .001 units to the variance of ln$P$. Therefore, the terms $2ab$ cov ($XR$) are not quantitatively important.

3. Textbook discussions of heteroscedasticity (Johnston, 1972, pp. 214-221) usually assume that $\sigma^2$ is a continuous function of independent variables. In the advertising problem $\sigma^2$ is discretely larger in restrictive states.

4. A complete list of variable means and standard deviations is available from the authors.

TABLE 1

Price of an Optometric Examination as a Function of Quality

| Variable | Untransformed Data Coefficient | Untransformed Data T-Value | Transformed Data Coefficient | Transformed Data T-Value |
|---|---|---|---|---|
| Dependent variable = natural logarithm of price for complete examination of presbyopic patient | | | | |
| Length of presbyopic examination, in minutes | .00685 | 9.50 | .00679 | 8.23 |
| Office equipment, 0-6 scale | .0529 | 8.78 | .0497 | 8.30 |
| Examination procedures, 1-8 scale | .0210 | 3.75 | .0215 | 3.89 |
| Continuing education hours, 1976 | .00233 | 4.22 | .00241 | 4.37 |
| Journals received, 0-4 scale | .0173 | 2.26 | .0186 | 2.47 |
| Years practiced | .00830 | 4.23 | .00855 | 4.39 |
| Number of examinating rooms used by this optometrist per visit | 8.004 | 1.61 | 4.02 | .71 |
| Percent of time in specialty practice | .00115 | 2.52 | .00122 | 2.65 |
| Examinations per week | −.00321 | 7.29 | −.00329 | 7.39 |
| Annual patient care hours, in 1,000s | −.0706 | 3.74 | −.0735 | 3.89 |
| Square of years practiced | −.000205 | 4.86 | −.000206 | 4.92 |
| Optometric or optician price advertising banned by state law or board regulation, 1=yes (*MODERATE*) | .00577 | .30 | .00557 | .32 |
| Optometric and optician price advertising banned by state law or board regulation, 1=yes (*STRICT*) | .0885 | 5.52 | .0966 | 5.08 |
| Constant | 2.639 | | 2.653 | |
| $\bar{R}^2$ | .395 | | .597 | |



procedures, and office equipment. A *MODERATE* advertising ban has a negligible effect on price, but a *STRICT* ban raises price by about 11 percent.[5]

Next, we examine three subsamples of the data, representing states which permit price advertising by both optometrists and opticians, states banning price advertising by either optometrists or opticians, and states with both bans. The mean square errors in permissive, *MODERATE*, and *STRICT* states are .04413, .0539, and .06964, respectively. $F$-statistics comparing other states to the most permissive group are significant at $\alpha$ = .05 or less; therefore, the data support the hypothesis that bans on price advertising raise the variance of prices.[6]

Next, the values of $1/\hat{\sigma}$ are used to transform the data, and in column 2 of Table 1 the price function is reestimated with transformed data. The GLS estimates of the advertising ban effect again suggest that both bans raise price by 11 percent relative to permissive states. Although OLS and GLS yield similar estimates of the advertising ban effect in this case, the more efficient GLS method should be used in future research of this type.[7]

In conclusion, we find that advertising bans increase the price variance of vision examinations. This finding is based on the inequality of residual variances in price regressions using subsamples of data from permissive, moderately-restrictive, and restrictive states. When the data are transformed with a GLS analysis, we find that advertising bans also raise the level of prices by 11 percent. These results support Stigler's search-theoretical explanation of the effects of advertising.

5. In our previous empirical work (Feldman and Begun, 1978), optometric price advertising bans were defined by the presence of a prohibitive state law. However, state optometric boards are also empowered to regulate professional conduct (Federal Trade Commission, 1976, p. 14). Therefore, in this study an optometric price advertising ban is defined by state law or board prohibition. Our new definition increases the numbers of states said to moderately or strictly ban price advertising; thus, we expect differences between states related to price advertising bans, e.g., price differences, to decrease relative to our previous empirical work. This is, in fact, what we find: the effect of a strict price advertising ban falls from 16 percent (Feldman and Begun, 1978) to the 11 percent difference reported here.

6. Comparing *MODERATE* to permissive states, $F$ = 1.22 ($df$ = 590,200); for *STRICT* compared to permissive states, $F$ = 1.58 ($df$ = 347,200). Note that the mean square error in *STRICT* states is also significantly larger than in *MODERATE* states, $F$ = 1.29 ($df$ = 347,590).

7. T-values for 9 of 13 independent variables increase when we use GLS analysis. The gain in efficiency from using this method [illegible]

## REFERENCES

*Advertising of Ophthalmic Goods and Services*, Washington, D.C.: Federal Trade Commission, January, 1976.

Benham, Lee, "The Effect of Advertising on the Price of Eyeglasses," *The Journal of Law and Economics*, 15, 1972, pp. 337-352.

Cady, John F., "An Estimate of the Price Effects of Restrictions on Drug Price Advertising," *Economic Inquiry*, 14, 1976a, pp. 493-510.

———. "A Statement to the Federal Trade Commission Regarding the Proposed Rules Concerning Prescription Drug Price Disclosure," January, 1976b, Mimeograph, 75 pp.

Feldman, Roger, and Begun, James W., "The Effects of Advertising Restrictions — Lessons from Optometry," *Journal of Human Resources*, 13, 1978, pp. 247-262.

Johnston, J., *Econometric Methods*, 2nd Edition, New York: McGraw Hill, 1972.

Maddala, G.S., *Econometrics*; New York, NY. McGraw-Hill, 1977.

Marvel, Howard P., "Gasoline Price Signs and Price Behavior: Comment," *Economic Inquiry*, 17, 1979, pp. 146-148.

Maurizi, Alex R., "The Effect of Laws Against Retail Price Advertising: The Case of Retail Gasoline," *Western Economic Journal*, 10, 1972, pp. 321-329.

——— and Kelley, Thom, *Prices and Consumer Information*, Washington, D.C.: American Enterprise Institute for Public Policy Research, 1978.

——— and Moore, Ruth L., "Price Advertising of Eyewear: An Analysis of Legal Restraints in California," paper presented at the Western Economic Association annual meeting in Hawaii, June 20-26, 1979.

Stigler, George J., "The Economics of Information," *Journal of Political Economy*, 69, 1961, pp. 213-225.

# CORRELATES OF UNDERFUNDING OF PUBLIC SECTOR RETIREMENT SYSTEMS

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Knowledge of the extent to which public sector retirement systems are underfunded is important for at least three reasons. First, theory and empirical evidence suggest that individuals reduce their savings if they expect to receive pension benefits.[1] If public sector retirement systems are fully funded, asset accumulation by them will offset the decline in private savings of the individual members of the systems. However, if they are underfunded, total national savings and hence capital accumulation will be reduced. Estimates of the degree to which public sector retirement systems are currently underfunded can be used to calculate the increase in total savings and capital accumulation which would occur if these systems were shifted to a fully funded basis.[2]

Second, it has been argued that local government officials have been willing to grant public employees generous retirement benefits because the officials can "hide" the true costs of such deferred compensation by underfunding public sector pension funds, which reduces their need to increase current taxes and increases their probabilities of reelection. Unfortunately, underfunding may lead to substantial intergenerational transfers, with future generations of taxpayers bearing the burden of these liabilities. Estimates of the extent of underfunding of existing public sector retirement systems will prevent local officials from "hiding" the costs of pension benefits and make them more accountable for the positions they take in public sector labor negotiations.

The third reason derives from the proposition that if one were able to *control* for those factors which influence the level of total compensation for public employees in an area, one would expect to observe more generous pension benefits being associated with lower current wages.[3] The existence of such a "compensating" wage differential in the public sector has important policy implications as it renders statements of the type "it is the high pension costs of public employees which are bankrupting municipalities" meaningless. Rather, it suggests the need for quantitative information about the nature of this trade-off so that we can calculate the increase in public sector wage (if any) necessary to attract

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1. See Feldstein (1974, 1976) and Munnell (1974, 1976).

2. This is the focus of Munnell and Connolly's (1976) recent work.

Roger Feldman & James W. Begun, *The Effects of Advertising: Lessons from Optometry*, 13 J. HUM. RESOURCES 247 (1978).

**Scope of Study:** Feldman and Begun examined the effect of advertising bans on the price and quality of optometric examinations. The authors used survey data from a ten percent systematic sample of all optometrists in the United States (the response rate was 60 percent). Price was measured by the price of a complete visual examination of a presbyopic patient, while quality was measured in terms of examination length, procedures performed, and office equipment available. The authors then considered the effects of advertising restrictions using multiple regression analysis.

**Conclusions:** The regression results demonstrated that price is 16 percent higher in states that ban optometric and optician price advertising. At the same time, examination length, procedures, and office equipment were held constant. The two advertising bans work by interaction– both must be present to raise significantly the price of eye examinations.

# THE EFFECTS OF ADVERTISING LESSONS FROM OPTOMETRY*

ROGER FELDMAN
JAMES W. BEGUN

*ABSTRACT*

We examine the effect of advertising bans on the price of optometric examinations. Advertising is viewed as an information medium which enables consumers to search for lower prices, to the relative disadvantage of high-cost, low-volume sellers. Self-interest leads these sellers to support bans on advertising. An empirical section shows that price is 16 percent higher in states that ban optometric and optician price advertising, when examination length, procedures, and office equipment are held constant. The two advertising bans work by interaction—both must be present to raise significantly the price of eye examinations.[1]

There are good reasons for arguing that advertising may either raise or lower prices. On one hand, firms advertise to differentiate their products [5], and product differentiation creates barriers to entry that protect monopoly power [1]. On the other hand, advertising provides consumers with information about alternative products available in the market. Price advertising especially facilitates consumer search and should, therefore, decisively reduce the dispersion of prices [15].

With arguments on both sides of the theoretical issue, the relation between advertising and prices should be a fruitful subject for empirical research. Two significant economic studies have dealt with price advertising in the optometric profession. Benham [3] utilized a consumer survey and rough estimates of eyeglass price advertising restrictions to find that eyeglass prices are higher in states with more restrictive regulations. Benham and Benham [4] show that advertising restrictions on eyeglasses lead to lower utilization as well as higher prices.

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Benham's work dealt mainly with variation in the price of *eyeglasses* purchased from opticians, ophthalmologists, and optometrists as reported by consumers. This study explores another aspect of the vision-care market, the price of eye examinations performed by optometrists, as reported by optometrists. The data set is a systematically selected survey of 10 percent of all optometrists in the United States.

This study will also investigate a neglected topic in the literature on advertising, that is, the extent to which higher prices in states that ban price advertising may be due to higher quality. Optometrists claim that restrictions on advertising and other forms of "nonprofessional" behavior promote quality care, which justifies higher prices. The argument has been forcefully stated by Hirsch and Wick [10, p. 202]:

> This relationship between professionalism and quality of service is a very important one for professional optometrists to understand. It is the real justification for professionalism. Professions require education, governmental control and recognition, codes of conduct, and professional associations for only one reason: *it is in this way that the public may receive the highest quality of service*. . . .

We will show that advertising restrictions raise price when quality of service is held constant. The paper has two sections. In the first, we examine consumer choice of quality and quantity of optometric service, and we intuitively describe the market distribution of prices. The second section presents estimates of the effect of advertising restrictions on the price of an eye examination.

## *CONSUMER CHOICE AND MARKET PRICES*

Consider a single-period model in which rational consumers choose the quality and quantity of optometric examinations and the quantity of another good. We assume that the price of examinations is not known with certainty, but varies according to the number of searches which the consumer makes. Costs of search are exogenously determined by the availability of advertising information. In other words, we assume the "procompetitive" view of advertising and investigate the implications if this view is correct. The actual empirical consequences of advertising will be examined in the following section.

The motivation for this model, and the terminology used, are taken from Goldman and Grossman [9, p. 20]. They ask, rhetorically, "Why should quality-adjusted price vary in the cross-section?" and answer that price variation can be traced to imperfect information due to costs of search. Their answer implies that prices of optometric examinations should be systematically higher in states which ban advertising, if such bans raise the costs of search.

The consumer maximizes utility $U(Q,q,X)$ subject to full income

$$A + (\bar{T} + tS)w = X + fQ + p(S)qQ$$

where $Q$ = quantity of optometric examinations; $q$ = average quality of examinations; $X$ = quantity of good two; $A$ = asset income; $\bar{T}$ = fixed total time; $t$ = time per search; $S$ = number of searches; $w$ = wage rate; $p(S)$ = price per quality unit of examinations; and $f$ = fixed cost per examination. Price per quality unit of examinations, $p(S)$, depends on the number of searches made with $p' < 0$ and $p'' > 0$ (by definition, quantity price of examinations is $pq = P$). Price of the second good is normalized to one dollar. In the full income constraint, we assume for simplicity that each search takes constant $t$ units of time. All other costs of consumption accrue at the rate of $f$ dollars per examination.

The first-order conditions for the Lagrangian of this problem are

$$\partial L/\partial \lambda = A + \bar{T}w - tSw - X - (pq + f)Q = 0$$

$$\partial L/\partial X = U_X - \lambda = 0$$

$$\partial L/\partial Q = U_Q - \lambda(pq + f) = 0$$

$$\partial L/\partial q = U_q - \lambda pQ = 0$$

$$\partial L/\partial S = -\lambda(tw + p'qQ) = 0$$

These equations define the "shadow prices" of quality and quantity: $\pi_q = pQ$, and $\pi_Q = pq + f$. The total differential of the first-order conditions is

$$\begin{bmatrix} 0 & -1 & -\pi_Q & -\pi_q & 0 \\ -1 & U_{XX} & U_{XQ} & U_{Xq} & 0 \\ -\pi_Q & U_{QX} & U_{QQ} & (U_{Qq}-\lambda P) & -\lambda p'q \\ -\pi_q & U_{qX} & (U_{qQ}-\lambda p) & U_{qq} & +\lambda p'Q \\ 0 & 0 & -\lambda p'q & -\lambda p'Q & -\lambda p''Qq \end{bmatrix} \begin{bmatrix} d\lambda \\ dX \\ dQ \\ dq \\ dS \end{bmatrix} =$$

$$\begin{bmatrix} -1 & (-\bar{T}+tS) & Sw & Q \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & \lambda \\ 0 & 0 & 0 & 0 \\ 0 & \lambda t & \lambda w & 0 \end{bmatrix} \begin{bmatrix} dA \\ dw \\ dt \\ df \end{bmatrix}$$

Letting $[D]$ stand for the matrix of second partial derivatives of $L$, $[D]$ is negative definite if principal minors of determinant $|D|$ alternate in sign beginning with the positive third principal minor.

Suppose that a ban on price advertising raises $t$. What happens to the number of searches? The relevant comparative statics derivative is

$$dS/dt = (Sw|D_{15}| + \lambda w|D_{55}|)/|D|$$

where $|D_{ij}|$ is the cofactor of the element in the $i$th row and $j$th column of $|D|$. $\lambda w|D_{55}|/|D|$ is negative by the second-order conditions for utility maximization; therefore, if the income effect on $S$ of an increase in $A$, $-|D_{15}|/|D|$, is positive, then $dS/dt < 0$. However, we cannot assume that searching is a superior good, for it has no direct utility value. Instead, the demand for searching is derived from the demand for quality and quantity, so the income effect of searching is signed from the income effects of quality and quantity. By direct explanation, $-|D_{15}|/|D|$ is positive if quality and quantity are superior goods. Thus, we can sign $dS/dt < 0$, showing that the number of searches falls as time costs rise. Through the connection of fewer searches to higher prices, it follows that prices rise. This establishes the fundamental proposition that prices should be higher in states that ban advertising, if such bans raise the cost of search.

The effects of a change in search costs on optimal quality or quantity is not so straightforward. For example,

$$dq/dt = (Sw|D_{14}| + \lambda w|D_{54}|)/|D|$$

The income effect, $-Sw|D_{14}|/|D|$, is positive by assumption, but the substitution effect cannot be signed. Consider $|D_{54}|$. Partially expanding this determinant, we get

$$|D_{54}| = -\lambda p'q \begin{vmatrix} 0 & -1 & -\pi_Q \\ -1 & U_{XX} & U_{XQ} \\ -\pi_q & U_{qx} & U_{qQ}-\lambda p \end{vmatrix} + \lambda p'Q \begin{vmatrix} 0 & -1 & -\pi_Q \\ -1 & U_{XX} & U_{XQ} \\ -\pi_Q & U_{QX} & U_{QQ} \end{vmatrix}$$

The second term is the numerator of the usual substitution effect, multiplied by the effect of less searching on the shadow price of quality. This term is negative, but the first term is a cross-price effect which runs from an increase in $p$ to an increase in $\pi_Q$ to a change in quality. If quality and quantity are substitutes, then the first term is positive and, therefore, the sign of $dq/dt$ is indeterminate. The same goes for $dQ/dt$. Only if quality and quantity are complements can we predict the effect of an increase in search time, caused by an advertising ban, on quality and quantity.

The market distribution of prices, given to individual consumers and sellers, also depends on price advertising. To analyze this complicated

problem, we will consider a market where every consumer purchases one unit of a uniform-quality good. The consumer's only problem, therefore, is to minimize expected total cost in time and money of the good.

Begin with the sellers' side of the market and a representative profit-maximizing firm. Sales depend on the number of consumers searching the seller times the probability that the seller's price will be the lowest price discovered. A consumer who searches $S$ times will not normally investigate all $M$ sellers (unless $S = M$). The probability without replacement of being searched by a particular consumer who makes $S$ searches is $S/M$. We assume $N$ consumers, each of whom makes $S$ searches. Therefore, the representative seller can expect $NS/M$ potential customers. However, the number of customers who actually make a purchase depends on the seller's price. If the seller sets price $P_O$, the probability of a consumer finding price less than $P_O$ in one search is given the distribution function $F(P_O)$, where $F(P_O) = \int_{-\infty}^{P_O} f(P_O)$; the probability of price greater than $P_O$ is $1 - F(P_O)$. In $S$ searches ($S - 1$ elsewhere) the probability of minimum price greater than $P_O$ is $(1 - F(P_O))^{S-1}$. This is the probability of actually making the sale, because the consumer who does not find a lower price elsewhere will purchase from this seller.

Assume constant average cost, $c$, for a given seller among $M$ total sellers. Profits are $\pi(P) = (1 - F(P))^{S-1}NSP/M - c(1 - F(P))^{S-1}NS/M$. Profit maximization is achieved by setting $d\pi/dP = 0$. This implies some optimal $P^* = G(c)$. The number of firms charging $P < P^*$ is equal to the number of firms for which $c < G^{-1}(P^*)$. Assume a rectangular distribution of $c$: $h(c)dc = kdc$, $0 < c < c_{max}$. The number of firms charging $P < P^* = \int_0^{G^{-1}(P^*)} kdc$ and $F(P^*) = \int_0^{G^{-1}(P^*)} k/M\, dc = (kG^{-1}(P^*))/M$. The total number of firms is $M = \int_0^{c_{max}} kdc = kc_{max}$, so $F(P^*) = (kG^{-1}(P^*))/c_{max}$. Thus, a distribution of prices is established by profit-maximizing firms, given their selling costs and the number of times they will be searched.

The consumer attempts to minimize expected total cost, $E(P_{min} + Swt)$, where $P_{min}$ is the minimum price discovered after $S$ searches. We assume that consumers know the distribution of prices, from which they calculate $Pr(P_{min} < P_O) = 1 - (1 - F(P_O))^S$ and $Pr(P_{min} = P_O) = S(1 - F(P_O))^{S-1}F'(P_O) = f(P_O)$. Therefore, the expected total cost is $E(P_{min} + Swt) = E(P_{min}) + Swt =$

TABLE 1

| Searches | Selling Costs $c = 1/4$ | 1/2 | 3/4 |
|---|---|---|---|
| 2 | $\pi = 2.8125$ | 1.25 | .3135 |
| 4 | 1.33 | .26 | .016 |

three professions—optometry, ophthalmology, and opticianry—that provide vision care.

Optometrists perform eye examinations and most dispense eyeglasses and contact lenses. Ophthalmologists (physicians) perform eye examinations, but rarely dispense eyeglasses and contact lenses; patients of ophthalmologists usually purchase their eye glasses or contact lenses from opticians. The work of opticians is limited to dispensing eyeglasses and contact lenses. In general, the dispensing business is split between ophthalmologists and optometrists [16, p. 13]. Patients whose goal is improved vision, then, generally purchase that good from either an optometrist, who examines the eyes, writes a prescription, and fills that prescription; or from an ophthalmologist, who examines the eyes and writes a prescription, and an optician, who fills the prescription.

Advertising of prices by ophthalmologists is virtually nonexistent, and price advertising by optometrists is rare. Most price advertising in the vision-care market is done by opticians, and thus refers to the price of eyeglasses and contact lenses. We expect that price advertising restrictions on both opticians and optometrists will influence the price of eye examinations by optometrists. This hypothesis is plausible because consumers purchase eyeglasses and examinations jointly and in fact are often unable to separate examination price from eyeglass price [3, 4]. Also, there is evidence that eyeglass and eye examination prices are highly correlated. The simple correlation coefficient between the Benhams' [4] state average price for eyeglasses purchased from all sources and Begun's state average for optometric examination prices is .71 [2, p. 50]; for eyeglasses purchased from optometrists, the correlation is .76.[1]

Data for this study were collected by Begun [2]. A 10 percent systematic sample (N = 2,238) of all optometrists in the United States was selected in late 1976, and 1,195 usable responses were received from a questionnaire survey. The response rate, excluding known deceased, nonpatient care, and

1 In their 1975 study, Benham and Benham [4] compiled approximately one-fourth of their eyeglass price data on the assumption that eyeglass and examination prices are directly proportional.

returned-to-sender cases, was 60 percent. The respondents were predominantly self-employed in solo practice (65 percent) or in partnership or group practice (28 percent). Issues of nonresponse bias and survey reliability are addressed more fully by Begun [2], but in general respondents differed from nonrespondents in that they were more likely to be from smaller, more rural counties and to belong to the national professional association. Possible effects of nonresponse bias are discussed after the regression analysis which follows.

We measure price by the price of a complete visual examination of a presbyopic patient (presbyopia is a deterioration in focusing ability usually associated with aging). Quality is measured by examination length, procedures performed during the examination, and equipment available in the office. These "input" or "process" definitions of quality were used in lieu of unavailable visual outcome data. We also believe that consumers use the quality of inputs to evaluate the quality of an examination. There is consensus among noncommercial optometrists that examination length and procedures measure quality. In addition, length of visits and characteristics of providers have frequently been used to measure quality in studies of health services [7, 14, 9, 8]. As Sloan and Lorant [14, p. 1] state, "In the case of many if not most types of medical treatment, the patient is not likely to gauge the value of an encounter with a physician in terms of a direct measure of output. Rather, various dimensions of inputs provide the basis for this assessment . . . ."

In the first regression, reported in Table 3, the natural logarithm of price is regressed on quality and other characteristics of the optometrist and the optometrist's practice. Some additional quality-enhancing characteristics are hours of continuing education courses, number of journals received, a pharmacy course since graduation, and years practiced. Examin-

TABLE 2
VARIABLES IN REGRESSION 1

| Variable | Mean | Standard Deviation |
|---|---|---|
| Natural log of charge for complete examination of presbyopic patient (ln *PRICE*)[a] | 3.1523 | .3054 |
| Length of presbyopic examination in minutes (*LENGTH*) | 33.3713 | 9.8743 |
| Office equipment, 0–6 scale (*EQUIPMENT*) | 4.1052 | 1.3756 |
| Examination procedures, 1–8 scale (*PROCEDURES*) | 4.354 | 1.5405 |

TABLE 2 (*Continued*)

| Variable | Mean | Standard Deviatio |
|---|---|---|
| Continuing education hours, 1976 (*CONTINUING EDUCATION*) | 21.745 | 13.9087 |
| Journals received, 0–4 scale (*JOURNALS*) | 2.6147 | .9811 |
| Pharmacy course since graduation? 1 = yes (*PHARMACY COURSE*) | .335 | .471 |
| Years practiced (*YEARS PRACTICED*) | 20.9974 | 11.9584 |
| Number of examining rooms per visit used by this optometrist (*ROOMS*) | .0015 | .0017 |
| Percent of time in specialty practice (*SPECIALTY %*) | 20.0866 | 16.9964 |
| Percent of examinations resulting in prescriptions (*PRESCRIPTION %*) | 77.0105 | 15.054 |
| Percent of patients referred to physicians (*REFERRAL %*) | 5.6239 | 5.2976 |
| Number of aids per visit employed by this optometrist (*AIDS*) | .0011 | .0028 |
| This optometrist an employee in the practice? 1 = yes (*EMPLOYEE*) | .0689 | .253 |
| Examinations per week (*EXAMS/WEEK*) | 33.9824 | 18.5569 |
| Annual patient care hours (*ANNUAL HOURS*) | 1856.4431 | 393.2241 |
| Square of years practiced (*YEARS PRACTICED*²) | 586.2381 | 550.9571 |
| Annual rent per room of office space $1,000s (*ROOMRENT*) | 4.901 | 4.5429 |
| Population of community 1 = under 10,000 2 = 10,000–24,999 3 = 25,000–99,999 4 = 100,000–499,999 5 = over 500,000 (*POPULATION*) | 2.9047 | 1.3247 |
| Optometric price advertising banned by state law? 1 = yes (*O.D. ADVERTISING BAN*) | .6743 | .4688 |
| Optician price advertising banned by state law or board regulation? 1 = yes (*OPTICIAN ADV. BAN*) | .3223 | .4676 |

a Number of observations on dependent variable = 1166. Missing values of independent variables were set at the mean.

TABLE 3
REGRESSION I: PRICE OF AN OPTOMETRIC EXAMINATION*
AS A FUNCTION OF QUALITY

| Variable | Coefficient | Standard Error | F[a] |
|---|---|---|---|
| ln *PRICE* = dependent variable | | | |
| *LENGTH* | .0064 | .00084 | 57.955 |
| *EQUIPMENT* | .05018 | .00628 | 63.759 |
| *PROCEDURES* | .02044 | .00561 | 13.296 |
| *CONTINUING EDUCATION* | .00222 | .00057 | 15.351 |
| *JOURNALS* | .02019 | .00767 | 6.929 |
| *PHARMACY COURSE* | .01262 | .01586 | .633 |
| *YEARS PRACTICED* | .00729 | .00201 | 13.13 |
| *ROOMS* | 12.16081 | 6.36004 | 3.656 |
| *SPECIALTY %* | .00124 | .00047 | 6.925 |
| *PRESCRIPTION %* | .00045 | .00048 | .865 |
| *REFERRAL %* | −.00203 | .00134 | 2.287 |
| *AIDS* | −3.92855 | 3.38354 | 1.348 |
| *EMPLOYEE* | −.0472 | .03012 | 2.456 |
| *EXAMS/WEEK* | −.00299 | .00045 | 43.755 |
| *ANNUAL HOURS* | −.00007 | .00002 | 13.955 |
| *YEARS PRACTICED*$^2$ | −.00019 | .00004 | 18.366 |
| *ROOMRENT* | .0006 | .00167 | .127 |
| *POPULATION* | −.0355 | .00573 | .383 |
| *O.D. ADVERTISING BAN* | .051 | .01516 | 11.305 |
| *OPTICIAN ADV. BAN* | .09386 | .01526 | 37.819 |
| Constant | 2.61201 | | |
| Adj. $R^2$ = .3918 | | | |

a F > 3.84 is significant at $\alpha$ = .025 in a one-tailed test; F > 2.71 is significant at $\alpha$ = .05 in a one-tailed test.

ing rooms per visit used by the optometrist and the percent of time in specialty practice may indicate a complex practice and, therefore, be associated with higher prices. On the other hand, some characteristics may have an ambiguous or negative effect on quality, or may indicate a less complex style of practice. These are the percent of patients referred to physicians, the percent of examinations resulting in prescriptions, the number of aids per visit employed by the optometrist, whether or not the optometrist is an employee in the practice, the number of examinations performed per week, annual hours of patient care, and the square of the optometrist's years practiced.

The relation between price and quality may be affected by local market conditions. Higher input prices, measured by the annual rent per room of

office space, should raise the quality-controlled price of examinations. Local area population is also included as a proxy for unmeasured variations in factor prices.[2]

Advertising restrictions are measured by two dummy variables. A dummy variable is set to one if the optometrist practices in a state where price advertising of services was banned by state law in 1976. Another dummy is similarly set for states where price advertising by opticians was banned by state law or board regulations.

The .051 coefficient of *O.D. ADVERTISING BAN* shows that, ceteris paribus, price is 5 percent higher in states which ban optometric price advertising. Banning optician price advertising has an even larger effect—about 10 percent. Thus, reducing consumers' access to price information for both eye examinations and eyeglasses significantly increases the price of examinations.

Quality, measured by *LENGTH, EQUIPMENT,* and *PROCEDURES,* is positively related to price; likewise, other quality characteristics increase price, and most of the effects are statistically significant. The number of rooms per visit raises price, but delegation of tasks to aids reduces it. The positive effect of years practiced and the negative coefficient of experience-squared imply an "inverted-U" profile of age and earnings. Signifiantly, optometrists who see more patients per week and work longer annual hours in patient care charge lower prices.

The overall effect of advertising regulations on price is probably not biased by the survey nonresponse reported earlier. Regression I was estimated on split samples of American Optometric Association members and nonmembers, optometrists in low-population (under 250,000) and high-population areas, and optometrists in low-urbanization (under 80 percent) and high-urbanization areas. AOA membership had virtually no effect on the advertising ban coefficients. For prices in areas of low population and low urbanization, the optician advertising ban effect was stronger (16 and 13 percent) and the optometrist advertising ban effect was weaker (0 and 3 percent) than coefficients shown in Regression I. Hence, the survey nonresponse may underestimate the optometrists' advertising ban effect and overestimate the effect of the opticians' ban.

Although Regression I shows that advertising bans raise price, it restricts the advertising effect to a shift in the regression line. Interactions between advertising laws and other variables are not allowed to affect price. The translog function proposed by Christensen, Jorgenson, and Lau [6] does not impose this restriction; instead, price is allowed to vary with all possible interactions of the independent variables. Due to the large number of

2 The sign of the coefficient of this variable is ambiguous. Some factors may be more expensive in populous areas, but others, such as skilled labor, may be cheaper. The authors

**TABLE 4**

TRANSLOG PRICE FUNCTION FOR AN OPTOMETRIC EXAMINATION

| Variable | Coefficient | Standard Error | F[a] |
|---|---|---|---|
| ln *PRICE* = dependent variable | | | |
| $\ln X_1$ | .86722 | .42096 | 4.244 |
| $\ln X_2$ | −.19766 | .23288 | .72 |
| $\ln X_3$ | .52119 | .20542 | 6.437 |
| $X_4$ | .20085 | .17769 | 1.278 |
| $X_5$ | −.30111 | .17548 | 2.944 |
| $(\ln X_1)^2$ | −.06242 | .06861 | .828 |
| $\ln X_1 \cdot \ln X_2$ | .07195 | .0737 | .953 |
| $\ln X_1 \cdot \ln X_3$ | −.15854 | .06546 | 5.866 |
| $\ln X_1 \cdot X_4$ | −.07499 | .05571 | 1.812 |
| $\ln X_1 \cdot X_5$ | .06252 | .05526 | 1.28 |
| $(\ln X_2)^2$ | .02965 | .04011 | .546 |
| $\ln X_2 \cdot \ln X_3$ | −.01475 | .05219 | .001 |
| $\ln X_2 \cdot X_4$ | −.01331 | .04867 | .075 |
| $\ln X_2 \cdot X_5$ | −.07963 | .04863 | 2.891 |
| $(\ln X_3)^2$ | .06231 | .0339 | 3.379 |
| $\ln X_3 \cdot X_4$ | .04108 | .04176 | .968 |
| $\ln X_3 \cdot X_5$ | .087 | .04175 | 4.272 |
| $X_4 \cdot X_5$ | .2522 | .03583 | 49.547 |
| Constant | .6717 | | |
| Adj. $R^2$ = .364 | | | |

a F > 3.84 is significant at $\alpha$ = .025 in a one-tailed test; F > 2.71 is significant at $\alpha$ = .05 in a one-tailed test.

possible interactions, attention is focused on three measures of examination quality and advertising restrictions:

$$\ln PRICE = \beta_0 + \Sigma_{i=1}^{3}\beta_i \ln X_i + \Sigma_{i=4}^{5}\beta_i \cdot X_i \cdot + 1/2\, \Sigma_{i=1}^{3} \Sigma_{j=1}^{3} \ln X_i \ln X_j + \Sigma_{i=1}^{3} \Sigma_{j=4}^{5}\beta_{ij} \ln X_i X_j + \beta_{45} X_4 X_5$$

$X_1$ = *LENGTH*; $X_2$ = *PROCEDURES*; $X_3$ = *EQUIPMENT*; $X_4$ = *O.D. ADVERTISING BAN*; and $X_5$ = *OPTICIAN ADV. BAN.*[3]

The estimated translog equation is reported in Table 4. The coefficients of $X_4$, $X_5$, and $X_{45}$ show that price is 16 percent higher in states which strictly

3 [illegible]

TABLE 5

TESTS FOR SIGNIFICANCE OF GROUPS OF VARIABLES IN THE TRANSLOG PRICE FUNCTION

| Group | F-Statistic |
|---|---|
| *LENGTH* | |
| ($\ln X_1$, $\ln X_1^2$, $\ln X_1 \ln X_2$, $\ln X_1 \ln X_3$, $\ln X_1 X_4$, $\ln X_1 X_5$) | 25.89* |
| *LENGTH* interactions only | 2.73** |
| *PROCEDURES* | |
| ($\ln X_2$, $\ln X_2^2$, $\ln X_2 \ln X_1$, $\ln X_2 \ln X_3$, $\ln X_2 X_4$, $\ln X_2 X_5$) | 3.63* |
| *PROCEDURES* interactions only | 1.15 |
| *EQUIPMENT* | |
| ($\ln X_3$, $\ln X_3^2$, $\ln X_3 \ln X_1$, $\ln X_3 \ln X_2$, $\ln X_3 X_4$, $\ln X_3 X_5$) | 14.9[illegible]* |
| *EQUIPMENT* interactions only | 2.50[illegible] |
| *O.D. ADVERTISING BAN* | |
| ($X_4$, $X_4 \ln X_1$, $X_4 \ln X_2$, $X_4 \ln X_3$, $X_4 X_5$) | 12.35** |
| *O.D. ADVERTISING BAN* interactions only | 13.37*** |
| *OPTICIAN ADV. BAN* | |
| ($X_5$, $X_5 \ln X_1$, $X_5 \ln X_2$, $X_5 \ln X_3$, $X_5 X_4$) | 20.98** |
| *OPTICIAN ADV. BAN* interactions only | 15.35*** |

* $F > 2.10$ is significant at $\alpha = .05$ with 6 and 1147 degrees of freedom.

* $F > 2.10$ is significant at $\alpha = .05$ with 6 and 1147 degrees of freedom.

** $F > 2.21$ is significant at $\alpha = .05$ with 5 and 1147 degrees of freedom.

*** $F > 2.37$ is significant at $\alpha = .05$ with 4 and 1147 degrees of freedom.

prohibit price advertising.[4] But, due to collinearity between variables, many coefficients are statistically insignificant. To deal with this problem, we consider the joint effect of groups of variables. The appropriate test of significance is an F-statistic based on the increase in the residual sum of squares when the group is excluded from the regression. We compute this statistic from groups consisting of each independent variable and all interactions in which it appears. Results in Table 5 show that every independent group is statistically significant. Also, all the interaction terms are significant except for the *PROCEDURES* interactions.

The economic policy consequences of regulatory reform can be simulated from the coefficients of Table 4. This is our final exercise, in which we predict the prices of different-quality visits in different states. Confidence

4 The overall 16 percent price increase is found by exponentiating the coefficients of $X_4$, $X_5$, and $X_{45}$ and adding their effects. The joint F-statistic on $X_4$, $X_5$, and $X_{45}$ is statistically significant at $\alpha = .001$ ($F = 18.78$ with 3 and 1147 degrees of freedom).

TABLE 6
PREDICTED PRICE OF AN AVERAGE-QUALITY VISIT
IN PERMISSIVE AND RESTRICTIVE STATES

| | Predicted ln Price | Predicted Price | .05 Confidence Interval on Predicted ln Price |
|---|---|---|---|
| State permits both O.D. and optician price advertising | 3.113 | $22.49 | ±.116 |
| State bans only O.D. price advertising | 3.098 | 22.14 | ±.116 |
| State bans only optician price advertising | 3.034 | 20.78 | ±.117 |
| State bans both O.D. and optician price advertising | 3.271 | 26.33 | ±.116 |

intervals around the prediction [12, pp. 152–55] test for significant price differences between states which do or do not allow price advertising.

The simulation reveals no significant price differences (over the observed range of quality) between states which allow price advertising of both optometric services and eyeglasses, and those which ban only optometric price advertising. A ban on opticianry price advertising alone is also generally insignificant. However, predicted prices are significantly higher in states where both bans are present. A summary example of this finding is shown in Table 6, for an average-quality visit,[5] produced in four typical states which vary according to their treatment of price advertising. Price in the most restricitve states, with both bans, is $3.84 (17 percent) higher than in the most permissive states.

An important implication of Table 6 is that a few sources of information may be sufficient to reduce average examination prices. This finding support Benham's [3] analysis in which he found that only a ban on all advertising significantly raised eyeglass prices. Thus, there are several remedies to the high prices caused by lack of information in the optometric examination market.

## *SUMMARY AND FUTURE RESEARCH*

We treat price advertising as an information medium which enables consumers to search effectively in the market. Advertisng should theo-

5 Length of 30 minutes, four pieces of office equipment, and four procedures.

retically lead to more searches and the discovery of lower prices. An equilibrium price distribution is established which depends on consumers' opportunity wages and sellers' cost functions. In a simple one-quality example, advertising bans compress the price distribution, to the relative benefit of high-cost sellers.

We use a national survey of more than 1,000 optometrists to disentangle the price-quality-advertising connection. Price is found to be 5 percent higher in states which ban optometric advertising, when quality is held constant. A ban on optician price advertising raises price 10 percent. A translog price function reveals that the two effects are not independent, but work by interaction. Examination price is significantly higher in states where both types of price advertising are banned, compared to states which have more permissive laws.

Future research on advertising should use ordinal measures of restrictions rather than the simple dummy variables used here. Such measures are especially important if the restriction-price relation is not monotonic. In addition, actual market behavior in response to restrictions may be more revealing than measurement of the restrictions themselves. Little is known about the process by which restrictions result in higher prices.

Finally, the advertising restrictions investigated here are only two among many regulations commonly found in the health services market. Future research should investigate the independent and interactive effects of all regulations. In optometry, these include restrictions on commercial employment and on branch-office location, and restrictions on other providers of eyeglasses and eye services. Regulation of closely related markets, such as the markets for eye examinations and for eyeglasses, and of closely related occupations, such as opticianry, optometry, and ophthalmology, can be expected to influence behavior in all of the related markets and occupations.

## REFERENCES

1. Joe S. Bain, *Barriers to New Competition*. Cambridge, Mass.: Harvard University Press, 1956.
2. James W. Begun, "Professionalism and the Public Interest: Price and Quality in Optometry." Ph.D. dissertation, University of North Carolina, 1977.
3. Lee Benham, "The Effect of Advertising on the Price of Eyeglasses." *Journal of Law and Economics* 15 (October 1972): 337-52.
4. Lee Benham and Alexandra Benham, "Regulating Through the Professions: A Perspective on Information Control." *Journal of Law and Economics*

5. Neil H. Borden. "Findings of the Harvard Study on the Economic Effects of Advertising." *Journal of Marketing* 6 (1941–42): 89–99.
6. L. R. Christensen, D. W. Jorgenson, and L. J. Lau. "Conjugate Duality and the Transcendental Logarithmic Production Function." *Econometrica* 39 (July 1971): 255-56.
7. P. Enterline. "The Distribution of Medical Services Before and After 'Free' Medical Care—The Quebec Experience." *New England Journal of Medicine* 289 (May 31, 1973): 1174–78.
8. Roger Feldman. "Price and Quality Differences in the Physicians' Services Market." Paper presented at the American Economic Association meeting, December 29, 1975.
9. Fred Goldman and Michael Grossman. "The Demand for Pediatric Care: An Hedonic Approach." Paper presented at the Western Economic Association meeting, June 25–28, 1975.
10. Monroe J. Hirsch and Ralph E. Wick. *The Optometric Profession.* Philadelphia: Chilton, 1968.
11. Norman L. Johnson and Samuel Kotz. *Continuous Univariate Distributions.* Vol. 2. New York: Houghton-Mifflin, 1970.
12. J. Johnston. *Econometric Methods.* 2nd ed. New York: McGraw-Hill, 1972.
13. Loren L. Pace. "Dr. Pace on Dr. Benham." Letter to the editor of the *American Optometric Association News* 14 (December 15, 1975): 4.
14. Frank A. Sloan and John H. Lorant. "The Allocation of Physicians' Services: Evidence on Length-of-Visit." Mimeo, 1975.
15. George J. Stigler. "The Economics of Information." *Journal of Political Economy* 69 (June 1961): 213-25.
16. Gordon R. Trapnell. *The Impact of National Health Insurance on the Use and Spending for Sight Correction Services.* Falls Church, Va.: Gordon R. Trapnell Consulting Actuaries, 1976.

Amihai Glazer, *Advertising, Information and Prices – A Case Study,* 19 ECON. INQUIRY 661 (1981).

**Scope of Study:** Glazer analyzed the impact of the 1979 New York City newspaper strike on grocery prices. The strike, which lasted from August 9, 1979 through October 5, 1979, reduced sales of newspapers in Queens by 95 percent; however, because its largest paper was not affected by the strike, sales of newspapers in neighboring Nassau County decreased by only 45 percent. These newspapers often contained advertisements for groceries at food stores. Many of these advertisements included price quotations. Immediately before, during, and immediately after the strike, Glazer collected price data from 31 food stores (20 in Queens, 11 in Nassau County) for six products.

**Conclusions:** Running a series of regression analyses, Glazer concluded that in the first week of the strike, supermarket prices increased by 3.4 percent more in Queens (where advertising was not available) than in Nassau (where advertising was more available). By contrast, when the strike ended, supermarket prices in Queens (where advertising was available for the first time in weeks) increased by 8.8 percent less than those in Nassau (where some advertising had been available all along). Glazer also analyzed the differences in price among Queens non-supermarket grocery stores, which generally did not advertise in newspapers, and concluded that the strike did not affect the prices charged by small Queens grocery stores that do not advertise.

# ADVERTISING, INFORMATION, AND PRICES — A CASE STUDY

AMIHAI GLAZER*

## I. INTRODUCTION

Both economists and laymen are interested in the effects of advertising on product prices. Although many social critics think advertising is socially useless, if not worse, some economists (see especially Nelson, 1974) argue that advertisements convey information to consumers, heighten competition between firms, and thereby pull prices down.

Several authors have examined the relationship between the extent of advertising and prices of goods. In his seminal article Benham (1972) compared retail prices of eyeglasses across states which imposed differing restrictions on the advertisement of eyeglass prices. He found that, other things being equal, advertising prohibitions raised the average retail price by almost $7.50; comparing the extreme cases of Washington, D.C. *(laissez-faire)* and North Carolina (severe restrictions on eyeglass advertising), Benham estimated that eliminating all advertising restrictions in North Carolina would lower the average price of eyeglasses in that state by almost nineteen dollars.

Cady (1976) conducted a similar study of drug advertising regulation and found that prescription prices were 5.2% lower on average in states permitting advertising of prescription prices than in states prohibiting such advertising.

All these studies find that price-advertising serves to lower retail prices. Yet these studies suffer from a major difficulty: they compare prices in states with different regulatory rules, but they do not explain what caused these differences. Suppose, for example, that a well organized local optician's trade association convinced the state government to prohibit advertising. Prices in this state may be high not because of the lack of advertisements, but because the trade association is powerful enough to enforce collusive agreements among firms; prices would have been high in this state even if advertising were permitted. A proper controlled experiment must have some exogenous rather than endogenous factor determine the different advertising possibilities in different markets.

We note in addition that these studies examined only the long-run effects of advertising restrictions; that is, they compared prices after entry and exit and other adjustments occurred in the industry. It is also important, however, to determine how quickly firms and consumers adjust to changes in advertising possibilities, and whether the lifting of advertising restrictions causes prices to decline by the same amount as the initial imposition of restrictions caused prices to increase.

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The 1978 strike of daily newspapers in New York City provided the elements of just such an experiment. This strike greatly diminished the availability of advertisements concerning food prices in New York City. Newspapers in neighboring Nassau County, however, continued publishing, so that the quantity of information available to consumers decreased less there than in New York City. We thus find a situation in which the volume of advertising in two areas differed because of exogenous factors (the decision of the newspapers and of the unions) rather than because of endogenous factors (the structure of the food industry or the decisions of food sellers).

Conceptually, the impact of the strike could be estimated by running a regression that explains the level of food prices in New York City, with a dummy variable representing the occurrence of the newspaper strike. Such a regression would have to include as explanatory variables the major factors that affect food prices — wholesale prices (which unfortunately, are affected by retail prices, which is what we would wish to explain), transportation costs, changes in seasonal demands, and a host of other variables for which reliable data are simply not readily available.

Due, however, to the differential impact of the strike on New York City and on Nassau many of these problems disappear. And since these communities lie in the same metropolitan region, we expect most variables to affect food prices to a similar degree in the two areas. Thus, we can determine the effects of the New York City strike by simply comparing changes in the level of prices in Nassau County and in New York City.

A chronology of events connected with the newspaper strike may prove useful.

August 9, 1979: Day before the strike begins; the usual Wednesday food advertisements appear in all newspapers.

August 10: Strike begins and the *New York Times*, *New York Post*, and *Daily News* suspend publication.

August 16: Radio newscast reports that machinists, in addition to the striking pressmen, will join the strike.

August 17: Radio station WCBS reports that "outlook gloomy" for end of strike.

August 20: Interim newspaper *City News* appears with food advertisements by three supermarkets. Two new interim newspapers are scheduled to appear on August 21: *Metro* with an anticipated circulation of 400,000 and the *Press* with an anticipated circulation of 250,000. No contract talks with the striking unions are scheduled.

August 23: Newspaper talks are stalemated.

October 5: Strike ends at the *New York Post*, which resumes publication with a circulation of 900,000.

The data given in this paper refer to food prices in Queens (one of the boroughs of New York City) and in neighboring Nassau County. Circulation data show that the strike reduced the availability of newspapers more in Queens County than in Nassau County. Before the strike the average

daily circulation of newspapers in Queens was 280,000 for the *Daily News*, 65,000 for the *Times*, and 45,000 for the *Post*. In Nassau the corresponding figures were 126,000 for the *Daily News*, 62,000 for the *Times*, and close to none for the *Post*. These newspapers did not appear during the strike.

The strike did not affect *Newsday*, a suburban newspaper published in Nassau. *Newsday* had a circulation of 239,000 in Nassau, but only 21,000 in Queens, both before and during the strike. It should be noted that during this period *Newsday* published a weekly food supplement which contained about twenty pages of food advertisements; these were quite widely available to Nassau but not to Queens residents during the strike.

We see that the strike initially reduced sales of daily newspapers by about ninety-five percent in Queens, but only by forty-five percent in Nassau. Thus, during the strike, Nassau residents could more easily obtain information about food prices than could Queens residents. It should be noted, however, that food advertisements in Queens County did not completely disappear during the strike; as the strike continued firms placed advertisements in other media:

1. Interim newspapers appeared in New York City beginning on August 20. On August 24 these interim newspapers (in all of New York City and not only in Queens) had sales of approximately one million copies. By September 22 these newspaper's daily circulation in New York City was about half the normal circulation of 3.3 million for the strikebound newspapers. The number of advertisements appearing in these newspapers, however, was far lower than that appearing in *Newsday*.

2. Some food stores advertised on radio. It appears, however, that such advertisements are far less useful to consumers than are advertisements that appear in newspapers, both because of the ephemeral nature of radio messages and because of the limited number of prices (typically less than three or five) quoted on radio commercials; these factors make it difficult for consumers who must rely on radio commercials to compare prices at various stores. Moreover, since such commercials were heard by Nassau residents as well, they had a smaller effect on the difference in information available to Nassau and Queens residents than on the absolute level of information available.

3. Some food stores in Queens issued brochures stating various prices. It appears, however, that consumers received few brochures (two brochures delivered during a one month period in the experience of the author). Moreover, since any one brochure lists prices for only one store, a consumer could not as easily compare prices by reading brochures as he could by reading newspapers in which many firms advertise.

Thus, in spite of the existence of alternative advertising media, information about food prices was less readily available in Queens than in Nassau. What were the effects of this restriction in advertising on the prices charged in Queens? In the balance of this paper we examine empirical data which bear on the question.

## II. THE DATA

During the course of the strike, we collected price data four times at each of 31 food stores (20 stores in Queens and 11 in Nassau), for six products (peaches, grapes, lettuce, watermelon, chicken and ground beef). These particular products were selected for two reasons. Firstly, these products are normally advertised in newspapers. Secondly, stores either frequently mark the prices of these goods (as with meat products in which new shipments arrive several times a week), or they can easily alter them when desired (as with fruits and vegetables, in which case the price is usually posted on the counter, so that prices can be changed without remarking each good). This situation can be contrasted with canned goods, in which the price of each individual item must be altered, or with products on which the manufacturer stamps a suggested retail price. Thus firms could have changed the prices of the products listed at relatively low cost.

The price data were collected on the following dates: August 12, August 14, August 18, August 23, and October 6.[1] Recall that the strike began on Thursday August 10; the usual newspaper food supplements containing advertisements appeared on the previous day, Wednesday, August 9. Most of these advertisements specified that the food prices were valid through Saturday or the following Wednesday. Therefore, the data collected on Saturday, August 12 and on Monday, August 14 should represent the prices that would have been charged even if there had been no strike. The data collected on August 18 give prices charged when Queens consumers could find little newspaper advertising. By August 23, consumers in Queens could find some additional price information in alternate advertising media. Finally, on October 6 food advertisements were widespread both because the interim newspapers had a large circulation and because the *Post* had resumed publication.

## III. HYPOTHESES

What are the expected effects of the newspaper strike on food prices? Examination of newspaper advertisements placed by supermarkets reveals that most of them consist of price quotations. We would suppose, therefore, that the absence of such price information increases consumer's costs of comparison shopping, decreases the degree of price competition among stores, and therefore causes an increase in the average price level. Thus, we expect that after the strike began prices in Queens County rose relative to prices in Nassau; that after the interim newspapers appeared and supermarkets advertised by means of radio or home-delivered flyers price increases in Queens County moderated somewhat; and that after the

1. Only incomplete data were available for August 12 and August 14. The data for these two dates were therefore combined, and are treated as prices for August 14.

re-appearance of the *New York Post*, and the expected re-appearance of the other dailies, prices in Queens declined relative to prices in Nassau.

The situation should differ, however, with respect to stores that do not normally advertise. In particular, about half of the stores in Queens County included in our sample were relatively small stores which sold only fruits and vegetables, and which did not advertise in newspapers. In the absence of advertising by these stores, consumers presumably decide which store to visit on the basis of non-price factors, such as the store's location or the quality of its goods, or on the basis of direct comparison shopping.

The lack of such advertising therefore does not mean that consumers are insensitive to prices charged at the fruit-and-vegetable stores; we would expect, for example, that the higher the prices that are charged by supermarkets, the higher, *ceteris paribus*, the prices that would be charged by these smaller shops. Nevertheless, we expect the newspaper strike to have had less effect on the prices charged by fruit-and-vegetable stores, which never advertised in the daily newspapers in any case, than on the prices charged by supermarkets which did normally use newspapers to convey price information.

## IV. RESULTS

A series of regressions were run to ascertain the effects of the newspaper strike on Queens food prices. The dependent variable in each regression is $\Delta P_{i,j}$, which represents the proportional change in price of a particular product at a particular store, or

$$\Delta P_{i,j} = \frac{\text{price at time } j - \text{price at time } i}{\text{price at time } i}$$

The dependent variables are described below:

$QS$ = dummy variable, equal to 1 if store is a supermarket in Queens County
$QG$ = dummy variable, equal to 1 if store is a grocery store in Queens County
$GRAPE$ = dummy variable, equal to 1 if good is grapes
$LETTUCE$ = dummy variable, equal to 1 if good is lettuce
$WATERMELON$ = dummy variable, equal to 1 if good is watermelon
$CHICKEN$ = dummy variable, equal to 1 if good is chicken
$BEEF$ = dummy variable, equal to 1 if good is beef

The coefficient that most interests us is that of the variable $QS$. If over some period food prices increased more in Queens than in Nassau, then

this coefficient should be positive. We would expect this coefficient to be positive over the period August 14 to August 18 (immediately following the onset of the strike); that it be roughly zero, or perhaps negative over the period August 18-August 23 (when the major dailies were still on strike but alternative advertising media were used); and that it be negative over the period August 23-October 6 (following the resumption of publication by the *New York Post.*)

The results of the regressions are given in table 1. We first examine equations (1)-(3) which show the differential in price increases between Nassau and Queens supermarkets. Examining the coefficients of *QS* we find the data to be consistent with our hypotheses. Over the period August 14-18, the first week of the strike, prices in Queens supermarkets increased by 3.4% more than in Nassau County (see equation (1)); this coefficient is statistically greater than zero at the 12% confidence level.[2]

During the period August 18-August 23 food advertisements appeared in alternative media in Queens, and therefore we expect Queens price increases to be less than or equal to those in Nassau. Indeed, we find in equation (2) that the coefficient of *QS* (–0.024) is slightly negative, but not significantly different from zero.

Finally, by October 6 the *New York Post* resumed publication and we find from the coefficient of *QS* in equation (3) that Queens prices increased by about 8.8% *less* than in Nassau; as expected the reappearance of newspapers in Queens caused a decline in Queens prices.

To test the null hypothesis of no effect we must examine, however, not only the statistical significance of the coefficient on *QS* for each equation, but also the *pattern* of price changes.

In particular, we wish to test the hypothesis that prices rose in Queens at the beginning of the strike (over the period August 14-August 18), that prices fell in Queens at the end of the strike (over the period August 23-October 6) and that the increase in prices in the former period was equal to the fall in prices in the latter period.

This hypothesis is tested by running a regression in which such a restriction is imposed. The variables used are described below:

$\Delta P$ = proportional change in price of a particular good at a particular store over the period August 14 - August 18, or over the period August 23 - October 6.

*PERIOD* = dummy variable, equal to 1 if observation is for the period August 14-August 18, and equal to 0 for the period August 23-October 6.

*GRAPE1* = dummy variable, equal to 1 if observation is for grapes for the period August 14-August 18.

*GRAPE2* = dummy variable, equal to 1 if observation is for grapes for the period August 23-October 6.

2. The t-statistic for each coefficient in table 1 is shown in parentheses.

TABLE 1

| | Dependent Variable | Constant | QS | QG | GRAPE | LETTUCE | WATER-MELON | CHICKEN | BEEF | $\bar{R}^2$ | NUMBER OF OBSERVATIONS: At Queens Super-markets | At Queens Groceries | At Nassau Super-markets | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | $P$ [illegible] | 0.021 | 0.034 (1.2) | X | 0.008 (0.2) | −0.028 (0.7) | −0.067 (1.4) | −0.036 (0.8) | −0.079 (1.5) | 0.08 | 42 | X | 51 | 93 |
| 2 | $P$ [illegible] | 0.113 | −0.024 (0.8) | X | −0.172 (3.3) | −0.200 (3.9) | −0.182 (3.4) | −0.090 (0.16) | −0.139 (2.6) | 0.120 | 50 | X | 58 | 108 |
| 3 | $P$ [illegible] | 0.389 | −0.088 (1.6) | X | 0.127 (1.4) | −0.208 (2.4) | 0.144 (0.6) | −0.392 (4.5) | −0.333 (3.8) | 0.407 | 32 | X | 48 | 80 |
| 4 | $P$ [illegible] | 0.005 | X | −0.003 (0.1) | −0.020 (0.5) | −0.018 (0.5) | −0.034 (0.9) | X | X | 0.000 | X | 30 | 51 | 81 |
| 5 | $P$ [illegible] | 0.039 | X | 0.035 (0.6) | −0.078 (1.4) | −0.146 (2.6) | −0.107 (1.8) | X | X | 0.041 | X | 32 | 58 | 90 |
| 6 | $P$ [illegible] | 0.173 | X | 0.072 (0.8) | 0.183 (0.17) | 0.066 (0.8) | 0.154 (0.6) | X | X | 0.009 | X | 26 | 48 | 74 |
| 7 | $P$ [illegible] | 0.011 | 0.054 (1.6) | X | 0.009 (0.2) | −0.028 (0.6) | −0.065 (1.3) | X | X | 0.014 | 34 | X | 37 | 71 |
| 8 | $P$ [illegible] | 0.112 | −0.022 (0.6) | X | −0.171 (3.3) | −0.200 (3.9) | −0.162 (3.4) | X | X | 0.176 | 34 | X | 39 | 73 |
| 9 | $P$ [illegible] | 0.406 | −0.132 (1.7) | X | 0.125 (1.3) | −0.202 (2.2) | 0.127 (0.5) | X | X | 0.244 | 20 | X | 28 | 48 |

Similar definitions apply for the variables *LETTUCE*, *WATERMELON*, *CHICKEN* and *BEEF*.

*QUEENS* = 1 if observation is for a store in Queens during the period August 14-August 18.
= -1 if observation is for a store in Queens during the period August 23-October 6.

We run a regression using the same data that were used in equations (1) and (3) described above. Observe that the definition of the variable *QUEENS* constrains the strike to have effects of equal magnitudes but opposite signs in the periods August 14-August 18 and August 23-October 6. The results of the regression are:

$$(10)\quad \Delta P = \underset{}{0.378} - \underset{(5.2)}{0.370}\ PERIOD + \underset{(0.2)}{0.010}\ GRAPE1 - \underset{(0.5)}{0.028}\ LETTUCE1$$

$$- \underset{(1.0)}{0.065}\ WATERMELON1 - \underset{(0.5)}{0.033}\ CHICKEN1 - \underset{(1.1)}{0.076}\ BEEF1$$

$$+ \underset{(1.8)}{0.129}\ GRAPE2 - \underset{(3.1)}{0.209}\ LETTUCE2 + \underset{(0.6)}{0.155}\ WATERMELON2$$

$$- \underset{(5.7)}{0.392}\ CHICKEN2 - \underset{(4.7)}{0.334}\ BEEF2 + \underset{(2.0)}{0.058}\ QUEENS$$

$$n = 173,\ \bar{R}^2 = 0.418$$

We see that the coefficient on *QUEENS* has the predicted sign (such that prices rose in Queens at the beginning of the strike and declined at its end), and that with a value of 0.058 it is significant at the 5% level.

Although equation (10) explains the data quite well, we must yet determine whether the null hypothesis of symmetric effects of the strike can be rejected. Observe that equation (10) represents a combination of equations (1) and (3) in which the coefficient on *QS* in equation (1) is constrained to have equal magnitude but opposite sign to the coefficient on *QS* in equation (3). We can thus use an F-test to test the hypothesis that such a constraint does not hold. The sum of squared residuals in equation (10) is 5.560, and the sums of squared residuals in equations (1) and (3) are 1.544 and 3.997 respectively, for a sum of 5.541. The value of the F-statistic is then (5.560 – 5.541)/(5.541/159) = 0.545 with (1,159) degrees of freedom. This statistic is significant at only the 46% level, so that the null hypothesis cannot be rejected. Our results are thus consistent with the proposition that the strike caused prices in Queens to rise relative to prices in Nassau, but that at the end of the strike prices in Queens returned to their normal levels.

Recall that we also expected the strike to have relatively little effect on the prices charged in Queens grocery stores. To test this hypothesis, regressions were run explaining the proportional change in prices in Queens groceries compared to the change in Nassau stores. These regressions are identical to the ones described above, except that the sample on which the regressions were run do not include any supermarkets in Queens, and that data on the prices of chicken and ground beef (not sold in fruit-and-vegetable stores) are not included.

The results of these regressions are shown in equations (4)-(6). Observe that none of the coefficients of $QG$ is statistically significant, and that none has the predicted sign. Thus, the price changes at Queens' fruit-and-vegetable stores were not significantly different from the price changes in neighboring Nassau County; it appears that although the strike led supermarkets in Queens to raise their prices, the strike had no effect on the prices charged by those stores that do not normally advertise.[3]

Further confidence in our results is gained by using a non-parametric statistical test. For each date we find the mean price charged for each good in Nassau County. We can then determine whether a particular price at a Queens supermarket was above or below the mean price of that good at that date in Nassau County. If over some period prices in Queens rose relative to prices in Nassau County, there should be an increased probability that a price quotation in Queens is above the mean price of that good in Nassau.

To conduct a statistical test based on this notion, for each date we find the number of prices in Queens that were greater than or equal to the mean price of the corresponding good in Nassau (we denote this variable by $x$). The relevant data are given in table 2. Recall that we expect that as a result of the strike prices increased in Queens over the period August 14-August 18, that price changes in Queens were roughly the same as in Nassau over the period August 18-August 23, and that prices declined in Queens relative to their level in Nassau after the *Post* resumed publication on October 5. In terms of our data this means that we expect the ratio ($x$/total number of observations in Queens) to be higher on August 18 than on August 14, to remain roughly constant between August 18 and August 23, and to have approximately the same values on October 6 (when the strike was almost over) and on August 14 (when the strike began). As we can see from table 2, all these hypotheses are borne out by the data.

The statistical significance of these results is easily checked. Let a success denote the event that a price in Queens is greater than the mean price for the corresponding good in Nassau. If the price level in Queens did not

3. The critical reader may object that these results are spurious, resulting from the omission of data on chicken and ground beef prices in regressions (4-6). To examine this objection, regressions (7)-(9) were run on a sample consisting only of supermarkets with the omission of data on chicken and beef prices. The coefficients of $QS$ are found to differ greatly from those of $QG$ in equations (4)-(6). Indeed the coefficients of $QS$ in equations (1)-(3) and (7)-(9) respectively are quite similar; the omission of data on meat prices cannot explain the results obtained concerning fruit-and-vegetable stores.

TABLE 2

| | August 14 | August 18 | August 23 | October 6 |
|---|---|---|---|---|
| $x$ = number of price observations in Queens above mean price in Nassau | 14 | 30 | 22 | 10 |
| $T$ = total number of observations at Queens supermarkets | 43 | 55 | 55 | 26 |
| $x \div T$ | 0.33 | 0.55 | 0.40 | 0.26 |
| probability given $pr$(success = 14/43) | — | $pr(x \geq 30)$ = 0.0006 | $pr(x \geq 22)$ = 0.15 | $pr(x \leq 10)$ = 0.33 |

change relative to that in Nassau, then the probability of a success should remain constant over time. From table 2 we know that on August 14 the probability of a success is 14/43. One of our null hypotheses is that this probability was the same on August 18. As shown in table 2, however, on August 18 there were 30 successes out of 55 observations; direct application of the binomial distribution shows that the probability of so many successes given that $pr$(success = 14/43) is only 0.0006. Similar calculations are shown in table 2 for the dates August 23 and October 6. It is readily seen that these results support the conclusions reached on the basis of the regression analyses discussed above.

It thus appears that the newspaper strike caused an increase in the level of food prices in Queens County; less than a week after the strike began, food prices in Queens supermarkets were about three percent higher than we would expect them to have been in the absence of the strike. On the other hand, the strike appears to have had no effect on the prices charged at stores that do not normally advertise.

But perhaps more surprising is that price increases in Queens moderated as the strike continued. Either because of increased search by consumers, or because of the appearance of advertising in the interim newspapers, radio broadcasts, and home-delivered flyers, price competition between supermarkets reappeared. Advertising may play an important role in promoting price competition; but it may take only a small fraction of the normal level of advertising in the market to ensure a fair degree of competition.

REFERENCES

Benham, Lee, "The Effect of Advertising on the Price of Eyeglasses," *Journal of Law and Economics*, October 1972, 337-352.

Cady, John F., *Restricted Advertising and Competition: The Case of Retail Drugs*, Washington, D.C.: American Enterprise Institute, 1976.

Nelson, Phillip, "Advertising as Information," *Journal of Political Economy*, July/August 1974, 729-754.

Deborah Haas-Wilson, *The Effect of Commercial Practice Restrictions: The Case of Optometry*, 29 J.L. & ECON. 165 (1986).

**Scope of Study:** The author re-examined the effect of restrictions on commercial practices on the price and quality of eye examinations and eyeglasses. Haas-Wilson used the same data that was used in the R. Bond et. al. (1980) study. However, instead of classifying states based on their level of restriction, she estimated the effect of specific commercial practice restrictions. One of these restrictions related to the use of trade names, which is a limitation on the effectiveness of advertising.

**Conclusions:** Haas-Wilson concluded that commercial practice restrictions led to an increase in quality-adjusted price. States that had the most stringent regulations had prices that were 5.5 percent higher than those in unregulated ones. Further, Haas-Wilson demonstrated that, in each of her regressions, media advertising was associated with lower price, controlling for quality. In markets where advertising actually occurred, prices were 26 to 33 percent lower. Haas-Wilson also concluded that the stricter regulations did not increase quality of service.

# THE EFFECT OF COMMERCIAL PRACTICE RESTRICTIONS: THE CASE OF OPTOMETRY*

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## I. Introduction

Current regulatory policy toward the business practices of optometrists is based on the assumption that the market fails because (1) consumers are faced with the dilemma of selecting an optometrist without the benefit of full information on the quality of goods and services provided by available optometrists and (2) some optometrists exploit this asymmetric information between consumers and sellers by lowering quality. This assumption has led to the inference that regulation of optometrists' production and information dissemination processes is necessary to protect consumers from their own purchase decisions and from unfair seller behavior. Examples of current commercial practice regulations include state restrictions on (1) the employment of optometrists by nonprofessional corporations,[1] (2) the permissible locations of optometrists' offices, (3) the operation of multiple offices by optometrists, and (4) the use of trade names by optometrists employed by nonprofessional corporations.

Although there is theoretical support for the argument that asymmetric consumer information about product quality will result in market failure,[2]

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[1] Professional corporations differ from nonprofessional corporations in that professional corporation law requires each stockholder of a professional corporation to be a licensed member of the profession for which the corporation is organized to practice. See generally, Seymour L. Coelens, Optometry and the Law (1976).

[2] For example, George A. Akerlof, The Market for "Lemons": Quality Uncertainty and the Market Mechanism, 84 Q. J. Econ. 488 (1970); Hayne E. Leland, Quacks, Lemons, and Licensing: A Theory of Minimum Quality Standards, 87 J. Pol. Econ. 1328 (1979); Richard

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the commercial practice restrictions imposed on optometrists are increasingly being perceived as a means to serve some optometrists' self-interests rather than the "public interest." The Federal Trade Commission (FTC) has argued that state restrictions on employment, location, branch offices, and trade names serve some optometrists' self-interests by restricting the growth of high-volume, chain vision-care outlets.[3] Further restrictions on optometrists' advertising have been shown to increase the price of ophthalmic goods and services[4] and to increase price without increasing quality.[5]

While a large body of empirical evidence exists on the effect of advertising restrictions, little empirical evidence exists on the effects of other commercial practice restrictions, such as the employment, location, branch office, and trade name restrictions. Benham and Benham and the FTC estimated the effect of the degree of professional control;[6] however, neither study measured professional control on the basis of the extent of state commercial practice restrictions. Benham and Benham measured professional control as (1) the proportion of optometrists within each state belonging to the American Optometric Association (AOA), (2) the market share of large chain optical firms, and (3) the assessment of five representatives of large chain optical firms of the "difficulty which a commercial firm has entering and operating in a state for reasons other than competition with existing commercial firms."[7] The FTC measured professional control as the presence or absence of chain optical firms employing optometrists and as the type of media advertising observed in the area.[8]

Both the Benhams' and the FTC's studies are subject to the problem of

Schmalensee, A Model of Advertising and Product Quality, 86 J. Pol. Econ. 485 (1978); Dennis E. Smallwood & John Conlisk, Product Quality in Markets Where Consumers Are Imperfectly Informed, 93 Q. J. Econ. 1 (1979); and Charles Stuart, Consumer Protection in Markets with Informationally Weak Buyers, 12 Bell J. Econ. 562 (1981).

[3] Federal Trade Commission, State Restrictions on Vision Care Providers: The Effects on Consumers ("Eyeglasses II") (July 1980).

[4] For example, Lee Benham, The Effect of Advertising on the Price of Eyeglasses, 15 J. Law & Econ. 337 (1972).

[5] For example, Federal Trade Commission, Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry (September 1980); Roger Feldman & James W. Begun, The Effects of Advertising: Lessons from Optometry, 13 J. Hum. Resources 247 (Suppl. 1978); and John E. Kwoka, Advertising and the Price and Quality of Optometric Services, 74 Am. Econ. Rev. 211 (1984).

[6] Lee Benham & Alexandra Benham, Regulating through the Professions: A Perspective on Information Control, 18 J. Law & Econ. 421 (1975); and Federal Trade Commission, *supra* note 5.

[7] Benham & Benham, *supra* note 6, at 426–27.

[8] Federal Trade Commission, *supra* note 5, at 2.



TABLE 1

CLASSIFICATION PROBLEMS IN EARLIER STUDIES

| Standard Metropolitan Statistical Areas | FTC Classification of Restrictiveness[a] | Benham & Benham Classification[b] | Number of Pearle Vision Center Texas State Optical Stores, by State, 1980 |
|---|---|---|---|
| Knoxville, Tenn. | Most | Restrictive | 27 |
| Little Rock, Ark. | Most | Restrictive | 13 |
| Providence, R.I. | Most | Not included | 9 |
| Columbia, S.C. | Next most | Restrictive | 15 |
| Greensboro, N.C. | Next most | Restrictive | 18 |
| Milwaukee | Next most | Other | 11 |
| Portland, Or. | Next least | Other | 15 |
| Columbus, Ohio | Next least | Nonrestrictive | 24 |
| Baltimore | Least | Nonrestrictive | 34 |
| Washington, D.C. | Least | Nonrestrictive | 1 |
| Seattle | Least | Other | 5 |
| Minneapolis | Least | Nonrestrictive | 20 |

SOURCES.—Federal Trade Commission, Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry 41, table 2-1 (September 1980); Lee Benham & Alexandra Benham, Regulating through the Professions: A Perspective on Information Control, 18 J. Law & Econ. 421, 426–27 & 14 (1975); Pearle Health Services, Inc., Prospectus 12 (November 15, 1982).

[a] A Standard Metropolitan Statistical Area (SMSA) was classified as "most restrictive" if chain firms and advertising were not observed, as "next most restrictive" if nonprice advertising of eyeglasses was observed, as "next least restrictive" if nonprice advertising of eyeglasses and exams and chain firms were observed, and as "least restrictive" if price advertising of eyeglasses and chain firms were observed.

[b] A state was classified as "restrictive" if at least one representative of the commercial firms surveyed included it among the most difficult states and as "nonrestrictive" if at least one respondent included it among the least difficult states. The remaining states were designated as "other."

errors in variables. Certain states that are classified laissez-faire may actually be restrictive, and certain states classified as highly restrictive may be less restrictive.[9] Table 1 shows that states included by the Benhams in the most restrictive category are not included in the FTC's most restrictive category. And each study classifies states as least restrictive that the other study does not.[10] Further, there is a weak relationship between both the Benhams' and the FTC's classifications of markets by

[9] For example, the FTC classified Seattle as least restrictive, yet optometrists in Washington State are subject to three commercial practice restrictions, namely, the employment restriction by court order, the location restriction by state board regulation, and the trade name restriction by statute. Little Rock, Arkansas, was classified as most restrictive, yet optometrists in Arkansas are subject to only the employment restriction. Benham & Benham, *supra* note 6, at 426.

[10] The Benhams mention in a footnote that even the five representatives of the large commercial firms did not always agree on which states should be included in the restrictive and nonrestrictive categories. Benham & Benham, *supra* note 6, at 426.

restrictiveness and the presence of commercial optical firms, measured as the number of retail optical stores operated or franchised by Pearle Health Services, the largest retailer of ophthalmic goods and services in the United States.[11]

This study does not attempt to classify states by restrictiveness and, as a result, is not plagued by a similar errors-in-variables problem. This paper estimates the effect of the presence of specific commercial practice restrictions. The restriction is present in a state if it is imposed by state statute, board of optometry regulation, court decision, or attorney general opinion.[12] The effects of the restrictions will depend on enforcement, but measurement of the presence of restrictions by state does not.[13]

Accordingly, after a brief description of the market for ophthalmic goods and services and an analysis of the commercial practice restrictions, this paper presents an econometric study of the economic effect of the employment, location, branch office, and trade name restrictions. In particular, the effects of these restrictions on the price and quality of eye examinations and eyeglasses provided by optometrists are analyzed in markets characterized by different levels of consumer information and entry barriers. Further, this research provides a preliminary test of a recent amendment to the economic theory of regulation—that the regulatory process can be used as a strategic weapon by subgroups of firms within an industry against other subgroups within that industry.

## II. The Market for Ophthalmic Goods and Services

Most optometrists are self-employed; however, the market share of lay-employed optometrists (optometrists employed by drug and department stores and other nonprofessional optical firms) is increasing. In 1977, 80 percent of all optometrists were self-employed, 4 percent were employed by professional corporations, 2 percent by nonprofessional corporations, and 14 percent by the government, other optometrists, or ophthalmologists.[14] Between 1973 and 1981 the market share of optical chain firms increased from 3 to 15 percent in the market for eye examinations and from 7 to 20 percent in the market for eye wear.[15]

Many self-employed optometrists and optometrists employed by professional corporations oppose the provision of ophthalmic services by nonprofessional optical firms. Lay employed optometrists, opponents argue, may employ a variety of cost-cutting techniques, such as providing brief and inadequate eye examinations, in order to increase profits. Further, lay-employed optometrists practicing under a trade name lack personal accountability and the need to maintain a personal reputation for high-quality service. Opponents also argue that the management of nonprofessional optical firms may interfere in the doctor-patient relationship and with professional judgments concerning patient welfare. Thus opponents argue that commercial practice restrictions are necessary to prevent lay-employed optometrists from increasing their market share by selling services at lower prices and substituting low- for high-quality care without consumer recognition of this change in quality.[16]

## III. Commercial Practice Restrictions in Optometry

Optometric jurisprudence is state oriented. All states and the District of Columbia require the licensure of optometrists. The state licensing statutes define the functions of the optometric profession and limit the performance of these functions to licensed persons. The state licensing statutes also provide for the establishment of state boards of examiners in optometry to perform licensing and regulatory functions. The state boards are authorized to issue rules and regulations, to define requirements for licensure, and to discipline persons who have violated the licensing statutes. Where state laws do not delineate specific grounds for license suspension or revocation, the state boards are usually empowered to define "unprofessional" or "unethical" conduct, which is grounds for license suspension or revocation in most states.

This state-by-state self-regulation has resulted in wide cross-sectional variation in the type of commercial practice restrictions placed on op-

[11] This is due in part to the difference between the FTC's classification criteria, the presence of optical firms employing optometrists, and Pearle Health Service's marketing strategy. "The Companies' marketing strategy is premised upon the availability of optometric services at or near the location of the retail optical store . . . . In nine states of the United States, the Company employs optometrists to provide eye examinations and related services. In most other jurisdictions in which the Company operates stores, the Company leases space adjacent to the retail optical store to an optometrist who provides these services." Pearle Health Services, Inc., Prospectus, 11–13 (September 16, 1983).

[12] Certain state optometric associations' rules of practice and codes of ethics also suggest ways to establish and maintain one's practice; however, the private association's only enforcement mechanism is expulsion from membership. Many optometrists choose not to belong in the first place.

[13] The commercial practice restriction data were obtained from the July 1980 FTC report ("Eyeglasses II") and then cross-checked with the state optometry laws listed in the 1978 Blue Book of Optometrists. A further check was made by writing to each state board of optometry and state optometric association.

[14] U.S. Dep't of Health, Education & Welfare, Bureau of Health Management, Supply of Optometrists in the United States, Current and Future 16 (October 1978).

[15] Pearle Health Services, Inc., Annual Report 4 (1981).

[16] See Federal Trade Commission, *supra* note 7, at 29–35.

tometrists. Table 2 shows that, in 1980, state laws, regulations, attorney general opinions, and court decisions existed in thirty-seven states concerning the employment of optometrists by nonprofessional firms, in twenty-eight states concerning the permissible locations of optometrists' offices, in twenty-two states concerning the number of branch offices an optometrist may operate, and in forty-one states concerning the ability of optometrists employed by nonprofessional firms to practice under a trade name.

The employment restrictions usually provide that it is unprofessional conduct or an illegal practice for an optometrist to accept employment from an unlicensed person or firm. For example, the provision in the North Carolina statute reads: "[A]nd it shall be likewise unlawful for any corporation, lay body, organization, group, or lay individual to engage, or undertake to engage, in the practice of optometry through means of engaging the services, upon a salary or commission basis, of one licensed to practice optometry or medicine in any of its branches in this State. Likewise, it shall be unlawful for any optometrist licensed under the provisions of this Article to undertake to engage in the practices of optometry as a salaried or commissioned employee of any corporation, lay body, organization, group, or lay individual."[17]

Restrictions on location usually provide that it is unprofessional conduct or an illegal practice to work in an office not devoted exclusively to the practice of optometry or some other health care profession or in which materials are displayed pertaining to a commercial undertaking not related to the practice of optometry. For example, the provision in the South Carolina statute reads: "Any person registered as provided for in this chapter may have his certificate of registration revoked or suspended by the board for . . . [f]ailure to have their offices for the practice of optometry, . . . in offices separate and distinct from any business organization, with doors leading directly to the street, or public halls leading directly to the street. They shall not practice or operate in or on premises where any material other than those necessary to render their services are dispensed to the public."[18]

Branch office restrictions usually set a maximum number of branch offices an optometrist may operate or require the optometrist to be in personal attendance a certain proportion of the time the office is open to the public. The California statute reads: "Nothing in this chapter shall prevent an optometrist from owning, maintaining or operating more than one branch office if he is in personal attendance at each of his offices fifty

[17] N.C. Admin. Code § 90-125.
[18] S.C. Code Ann. No. 56-1077.

TABLE 2

COMMERCIAL PRACTICE RESTRICTIONS BY STATE, 1980

| State | Employment Restriction | Location Restriction | Branch Office Restriction | Trade Name Restriction |
|---|---|---|---|---|
| Alabama | S* | ... | S | S |
| Alaska | R | R | S, R | R |
| Arizona | R | ... | R | R, S* |
| Arkansas | S | ... | ... | |
| California | S | ... | S | R, S* |
| Colorado | S | R | ... | R |
| Connecticut | S | S | R | ... |
| Delaware | S, R | S, R | ... | R |
| District of Columbia | ... | ... | ... | ... |
| Florida | S, R | R | R | S, R |
| Georgia | ... | R | R, C | R |
| Hawaii | S | S | ... | S |
| Idaho | S, R | R | R | R, S* |
| Illinois | | ... | ... | S |
| Indiana | S | ... | ... | R |
| Iowa | C | | ... | S* |
| Kansas | S, R, C | ... | ... | S, R |
| Kentucky | R, C | ... | S, R | S |
| Louisiana | C | ... | | ... |
| Maine | S | S | S | S |
| Maryland | S* | ... | ... | ... |
| Massachusetts | S | R | R, A | S, R |
| Michigan | S* | ... | | R |
| Minnesota | A, S* | ... | ... | ... |
| Mississippi | R, C, A | R | R | R |
| Missouri | ... | R | | S |
| Montana | S | R | ... | R, S* |
| Nebraska | ... | | ... | |
| Nevada | S | S, R | ... | R |
| New Hampshire | S | R | ... | ... |
| New Jersey | S, R | S | C | S |
| New Mexico | S* | ... | ... | S |
| New York | C | ... | ... | R |
| North Carolina | S | R | R | S |
| North Dakota | S | ... | | R |
| Ohio | R, C | ... | A | R |
| Oklahoma | S | S, R | R | S |
| Oregon | ... | ... | R | S* |
| Pennsylvania | R | R | R, S* | R |
| Rhode Island | S | S | ... | S, R |
| South Carolina | ... | S, R | R | S, R |
| South Dakota | S, S* | R | ... | S, R |
| Tennessee | S | S | S | S |
| Texas | S* | S | S | S |
| Utah | C | R | ... | S |
| Vermont | A | ... | S | R, S* |
| Virginia | S, R | S | ... | S, R |
| Washington | C | R | ... | S* |
| West Virginia | R, A | S | ... | S, R |
| Wisconsin | S* | | ... | |
| Wyoming | S* | ... | ... | |

SOURCE.—Federal Trade Commission, State Restrictions on Vision Care Providers: The Effects on Consumers ("Eyeglasses II") 28 (July 1980).

NOTE.—C = court decision, S = statutory restriction, S* = ambiguous statute, A = attorney general opinion, and R = state board regulation.

percent (50%) of the time during which such office is open for the practice of optometry."[19]

Trade name restrictions usually provide that an optometrist's license to practice may be revoked or suspended for practicing under a name other than his or her own name or under a false or assumed name. However, trade name restrictions

> generally do *not* prevent an optometrist from working for another optometrist and holding him or herself out under the name of the professional corporation. Thus, these restrictions have a distinct discriminatory impact on non-professional corporations. (The discriminatory impact here is not that a professional corporation is able to use a traditional trade name but rather that an individual optometrist can hold him or herself out under a firm name which does not contain his or her individual name so long as that firm is a professional corporation or the name of a licensed optometrist who employs that individual optometrist.)[20]

The existence of commercial practice restrictions in the market for ophthalmic services is consistent with the economic theory of regulation and with recent literature on strategic use of the regulatory process by subgroups of firms within an industry. According to the economic theory of regulation, regulation can be used as a device for transferring income from groups with less political power to groups with more, usually from consumers to the politically powerful regulated industry.[21] Firms in the regulated industry are assumed to be homogeneous and therefore equally benefited by the regulation and equally interested in promoting the regulation.

Recently, the economic theory of regulation has been extended to include heterogeneous firms and thus the idea that regulations impose different benefits and costs on firms within the industry.[22] Assuming that heterogeneous firms form subgroups,[23] regulation can be viewed as a

[19] Cal. [Bus. & Prof.] Code § 3087(f) (Deering).

[20] Federal Trade Commission, *supra* note 1, at 21–24.

[21] See Sam Peltzman, Toward a More General Theory of Regulation, 19 J. Law & Econ. 211 (1976); Richard A. Posner, Theories of Economic Regulation, 5 Bell J. Econ. & Mgmt. Sci. 335 (1974); and George J. Stigler, The Theory of Economic Regulation, 2 Bell J. Econ. & Mgmt. Sci. 3 (1971).

[22] See Michael T. Maloney & Robert E. McCormick, A Positive Theory of Environmental Quality Regulation, 25 J. Law & Econ. 99 (1982); Sharon Oster, The Strategic Use of Regulatory Investment by Industry Sub-groups, 20 Econ. Inquiry 604 (1982); and Steven C. Salop & David T. Scheffman, Raising Rivals' Costs, 73 Am. Econ. Rev. 267 (1983).

[23] See Richard E. Caves & Michael E. Porter, From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition, 91 Q. J. Econ. 421 (1977); Howard H. Newman, Strategic Groups and the Structure-Performance Relationship, 60 Rev. Econ. & Stat. 417 (1978); and Michael E. Porter, The Structure within Industries and Companies' Performance, 61 Rev. Econ. & Stat. 214 (1979).



device for transferring income from subgroups of firms with less political power to those with more. Politically powerful firms can use the regulatory process as a strategic weapon against other groups of firms within the industry. Oster wrote, "As long as there is some initial difference among firms in an industry, different firms in that industry may push for regulations which increase the relative rate of return to their peculiar characteristics. . . . [T]he firm may even encourage a regulation which lowers its short-term profits if that regulation simultaneously reduces the ability of its rival to compete effectively."[24]

Salop and Scheffman make a more general argument and mention regulation as one way to increase rivals' costs: "It is better to compete against high-cost firms than low-cost ones. Thus, raising rivals' costs can be profitable even if the rival does not exit from the market. . . . A higher-cost rival quickly reduces output, allowing the predator to immediately raise price or market share."[25]

Strategic use of the regulatory process is quite possible in the ophthalmic industry. Optometrists regulate themselves,[26] and the optometrists appointed to the state regulatory boards are not appointed at random. Board members in forty-six states are appointed by the governor from lists of optometrists who have practiced optometry in the state for a specified number of years. In sixteen states, the optometry statutes designate membership in the state optometric association as a prerequisite for appointment, or they require the governor to make appointments from lists submitted by the state optometric association.[27] Further, the industry consists of differentiated subgroups of firms. Size, marketing strategy, and level of vertical integration differentiate self-employed optometrists from lay-employed optometrists.

## IV. The Economic Effect of Commercial Practice Restrictions

The employment restriction prevents nonprofessional optical firms from employing optometrists and therefore from selling eye examinations and eyeglass prescriptions (that is, offering the one-stop service of dis-

[24] Oster, *supra* note 22, at 606.

[25] Salop & Scheffman, *supra* note 22, at 267.

[26] The state optometric boards are composed entirely of optometrists in twenty-six states and the District of Columbia; twelve states require only one lay member, eleven states require only two lay members, and California requires three lay members on the board. Council of State Governments, Health Licensure Boards: Public Membership (1979), at table 1.

[27] Federal Trade Commission, Staff Report on Advertising of Ophthalmic Goods and Services and Proposed Trade Regulation Rule (16 CFR Part 456) 34–35 (May 1977).

pensing optometrists). To the extent that there are economies of scope in the joint production of eye examinations and eyeglasses, the employment restriction forces nonprofessional optical firms to incur the higher cost of producing eyeglasses alone. Thus the employment restriction may deter entry by potential nonprofessional optical firms. However, the employment restriction does not prevent the nonprofessional firm from locating close to an optometrist.

The trade name restriction prevents lay-employed optometrists from including trade names in their advertising. Since consumers can use trade names as a substitute for search or as an aid in processing information about different sellers, the trade name restriction decreases the effectiveness of advertising by nonprofessional optical firms. This may reduce the ability of nonprofessional optical firms to attract new customers and realize scale economies. Like the employment restriction, the trade name restriction may also deter entry by potential nonprofessional optical firms.

The location restriction prevents self-employed and lay-employed optometrists from locating in high-traffic, high visibility areas such as shopping centers and department stores. This reduces the ability of all optometrists to develop high-volume practices and realize economies of scale. Lay-employed optometrists, however, tend to rely more heavily than self-employed optometrists on convenient locations to attract customers.[28] Therefore, lay-employed optometrists are more likely to be constrained by the location restriction.

The branch office restriction prevents self-employed and lay-employed optometrists from expanding their practices by opening new offices. To the extent the branch office regulation is binding, optometrists are prevented from utilizing the cost-minimizing combination of inputs. With data from the dental industry, DeVany, Gramm, Saving, and Smithson[29] show that input regulation increases the ratio of unrestricted to restricted inputs.

The preceding discussion focuses on the commercial practice restrictions' effects on self- and lay employed optometrists' production costs. Two of the four restrictions, the employment and trade name restrictions, may increase the costs of production for lay-employed optometrists. The

[28] Support for this suggestion is found in the Prospectus of Pearle Health Services, Inc. "They [retail stores] are generally located in high traffic areas convenient to customers, typically in shopping malls, strip shopping centers or freestanding buildings in major shopping areas." Pearle Health Services, Inc., supra note 11 at 11.

[29] Arthur S. DeVany, Wendy L. Gramm, Thomas R. Saving, & Charles W. Smithson, The Impact of Input Regulation: The Case of the U.S. Dental Industry, 25 J. Law & Econ. 367 (1982).



location and branch office restrictions may increase the costs of production for self-employed and lay-employed optometrists; however, it can be argued that the location and branch office restrictions differentially damage lay employed optometrists. In addition, the analysis suggests that the restrictions may deter entry by nonprofessional optical firms.[30] The expected result, if this is true, is higher prices.

The hypothesis to be tested, then, is that the commercial practice restrictions have tended to increase eye examination and eyeglass prices. However, the major justification for the restrictions is elimination of low-quality services. Accordingly, the empirical analysis also examines the effect of the restrictions on quality. A hedonic regression is estimated to test the effects of the restrictions on quality-adjusted price. The quality-adjusted price is defined as the price of an eye examination and pair of eyeglasses of a given quality and is revealed to consumers from observed prices of eye examinations and eyeglasses and the level of quality associated with them.

## V. The Model

When information is costly, the relevant market structure is monopolistic competition rather than perfect competition.[31] Accordingly, the ophthalmic industry is modeled as a monopolistically competitive industry.[32]

Assuming optometrists choose price and quality jointly, the quality-adjusted price, $QUALP_j$, charged by optometrist $j$ is a function of optometrist $j$'s marginal cost, $MC_j$, and price elasticity of demand, $e_j$:

$$QUALP_j = f[MC_j(INPUT, R\text{-}EMPLOY, R\text{-}LOCATE, R\text{-}BRANCH, R\text{-}TN), e_j(A_j, AD, OPTOM)], \quad (1)$$

where INPUT is the price of inputs, R-EMPLOY is the employment restriction, R-LOCATE is the location restriction, R-BRANCH is the branch office restriction, R-TN is the trade name restriction, $A_j$ is the

[30] Support for this suggestion is found in the Prospectus of Pearle Health Services, Inc. "Management believes that these efforts [Federal Trade Commission proceedings that may result in rules that would preempt restrictions], if successful, would facilitate increased market penetration by the Company in those jurisdictions." Pearle Health Services, Inc., supra note 11, at 16.

[31] See Steven Salop, Information and Monopolistic Competition, 66 Am. Econ. Rev. 240 (1976).

[32] See also Mark V. Pauly & Mark A. Satterthwaite, The Pricing of Primary Care Physicians' Services: A Test of the Role of Consumer Information, 12 Bell J. Econ. 488 (1981). Pauly and Satterthwaite classify the market for primary medical care as monopolistically competitive "because physicians are price setters and metropolitan areas contain sufficient numbers of competitive physicians to eliminate oligopolistic interactions." Id. at 489.

level of advertising chosen by optometrist $j$, AD is competitors' advertising expenditures, and OPTOM is the number of optometrists in the market area. As discussed earlier, R-EMPLOY and R-TN may increase costs for lay-employed optometrists, and R-LOCATE and R-BRANCH may increase costs for self- and lay-employed optometrists. The price elasticity of demand depends on the number of sellers[33] and the level of advertising.[34] Further, it is expected that $\delta QUALP_j/\delta MC_j > 0$, $\delta QUALP_j/\delta e_j < 0$, and $\delta MC_j/\delta INPUT > 0$.

Not all optometrists decide to advertise. The advertising choice of optometrist $j$ is assumed to be a function of $QUALP_j$,[35] competitors' advertising expenditures,[36] and the trade name restriction:

$$A_j = g(QUALP_j, AD, R\text{-}TN). \quad (2)$$

The signs of all three variables are ambiguous. For example, R-TN makes advertising by lay-employed optometrists less effective. As a result, the lay-employed optometrist may decide to advertise less or may decide to advertise more to compensate for less-effective advertising messages.

Professionals' location decisions depend on demand for their services, measured as per capita income,[37] state licensure requirements,[38] the supply of competing professionals,[39] and the regulatory environment.[40] Accordingly, it is assumed that the number of self- and lay-employed optometrists is a function of per capita income, $Y$, the difficulty of the state licensing examination, EXAM, the supply of opticians, OPTIC, and the four commercial practice restrictions:

$$OPTOM = h(Y, EXAM, OPTIC, R\text{-}EMPLOY, R\text{-}LOCATE, R\text{-}BRANCH, R\text{-}TN) \quad (3)$$

[33] Pauly & Satterthwaite, supra note 32.

[34] See, for example, Phillip Nelson, Advertising as Information, 81 J. Pol. Econ. 729 (1974).

[35] See, for example, Richard E. Kihlstrom & Michael H. Riordan, Advertising as a Signal, 92 J. Pol. Econ. 427 (1984); and Nelson, supra note 34.

[36] See Michael Waterson, Economic Theory of Industry 131 (1984).

[37] See, for example, L. Benham, A. Maurizi, & M. W. Reder, Migration, Location and Remuneration of Medical Personnel: Physicians and Dentists, 50 Rev. Econ. & Stat. 332 (1968); and Alfred Meltzer, Kathryn Langwell, Michael Keane, & Shelly Nelson, Report on the Geographic Distribution of Vision Care Providers (unpublished report, Applied Management Sciences, Inc., 1983).

[38] See, for example, Benham, Maurizi, & Reder, supra note 37; and D. E. Trech III, Occupational Licensure and Health Care Productivity: The Issues and the Literature, in Health Manpower and Productivity: The Literature and Required Future Research (John Rafferty ed. 1974).

[39] See, for example, Meltzer, Langwell, Keane, & Nelson, supra note 37.

[40] See, for example, id.



It is expected that $\delta OPTOM/\delta Y > 0$, $\delta OPTOM/\delta OPTIC < 0$, and $\delta OPTOM/\delta EXAM < 0$. As discussed earlier, R-EMPLOY and R-TN may deter entry by lay-employed optometrists, and R-LOCATE and R-BRANCH may deter entry by self- and lay-employed optometrists.

From equations (1), (2) and (3), quality-adjusted price, advertising, and number of optometrists are simultaneously determined by AD and eight exogenous variables.[41] Competitors' advertising expenditures are endogenous, so an instrumental variable, the presence or absence of media advertising by optometrists in the market, ADVERT, is used in the estimation of equation (4). The state commercial practice restrictions may affect the level of optometrists' advertising expenditures but not whether optometrists choose to advertise in that state. The 1977 Supreme Court ruling in *Bates v. State Bar of Arizona* allows professionals, regardless of their state's statutes, to advertise.[42] Accordingly, the effects of the commercial practice restrictions on quality-adjusted price are estimated using the following equation:

$$QUALP_j = k(ADVERT, R\text{-}EMPLOY, R\text{-}LOCATE, R\text{-}BRANCH, R\text{-}TN, EXAM, OPTIC, Y, INPUT). \quad (4)$$

## VI. The Data

The data sources and the means and standard deviations of the variables are listed in Table 3. Data on the price, quality, and advertising of ophthalmic goods and services were derived from an FTC data set, which includes data on the price and quality of eye examinations and eyeglasses purchased from 280 optometrists in twelve Standard Metropolitan Statistical Areas (SMSAs).[43] To collect the data the FTC trained nineteen professional survey interviewers to identify the procedures and equipment used in eye examinations[44] and then sent the interviewers to optometrists'

[41] The state commercial practice restrictions may also be endogenous. For a detailed discussion, see F. Begun, E. Crowe, & R. Feldman, Occupational Regulation in the States: A Causal Model, 6 J. Health Pol., Pol'y, & L. 229 (1981). Endogeneity of the restrictions, however, will entail only a small bias in the ordinary least squares estimators if the variance of the errors is small relative to the variance of the regulatory variables. See, for example, G. S. Maddala, Econometrics 153 (1977).

[42] Bates v. State Bar of Arizona, 433 U.S. 350 (1977).

[43] Baltimore; Columbia, South Carolina; Columbus, Ohio; Greensboro–Highpoint–Winston-Salem, North Carolina; Knoxville, Tennessee; Little Rock, Arkansas; Milwaukee; Minneapolis–St. Paul; Portland, Oregon; Providence, Rhode Island; Seattle; and Washington, D.C.

[44] During the training period, the interviewers were also given eye examinations so there would be independent opinions regarding the corrective lenses each subject required for proper vision.

TABLE 3

MEANS AND STANDARD DEVIATIONS OF VARIABLES

| Variable | Definition | Mean | Standard Deviation |
|---|---|---|---|
| PRICE | Price of exam and glasses | 79.58 | 13.51 |
| THOROUGH | Thoroughness of exam | 51.56 | 30.96 |
| ACPRESC | Accuracy of prescription | .85 | .37 |
| ADVERT | Media advertising observed | .78 | .41 |
| R-TN | Trade name restriction | .52 | .50 |
| R-LOCATE | Location restriction | .48 | .48 |
| R-BRANCH | Branch office restriction | .77 | .45 |
| R-EMPLOY | Employment restriction | .52 | .50 |
| EXAM | Subjects in licensing exam | 10.53 | 4.05 |
| OPTIC | Optician/population ratio | 7.12 | 4.42 |
| Y | Per capita income | 8408.78 | 992.25 |
| INPUT | Hourly wage rate—manufacturing | 4.06 | .64 |

SOURCES.—P, THOROUGH, ACPRESC, and ADVERT computed from data provided by Federal Trade Commission, Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry (September 1980); R-TN, R-LOCATE, R-BRANCH, and R-EMPLOY compiled from data in Federal Trade Commission, State Restrictions on Vision Care Providers: The Effects on Consumers ("Eyeglasses II") 28 (July 1980); EXAM compiled from data in U.S. Department of Health, Education, and Welfare, Report to the Congress: Reimbursement under Part B of Medicare for Certain Services Provided by Optometrists (July 1976); OPTIC from U.S. Department of Health, Education, and Welfare, Opticians Employed in the Health Services, U.S., 1968 (1968); Y from U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business (April 1981); and INPUT from U.S. Department of Commerce, Bureau of the Census, State and Metropolitan Area Data Book (1979).

offices to purchase examinations and eyeglasses in November and December 1977. The interviewers purchased the eye examinations and eyeglasses from 189 self employed optometrists and ninety-one optometrists employed by drug and department stores and other nonprofessional optical firms.

Local newspapers were scanned from May 1977 to December 1977 to determine the extent of media advertising of eye examinations and eyeglasses in the twelve SMSAs.[25] Media advertising was observed in nine of the twelve SMSAs. Optometrists were observed advertising on site with either large signs or window displays in all twelve SMSAs.

Price is measured as the sum of the price of an eye examination and the price of a pair of eyeglasses. The joint price is used because, when the

[25] There was no media advertising observed in Knoxville, Tennessee, Little Rock, Arkansas, and Providence, Rhode Island.



exam and glasses are purchased as a package, it is possible that the itemization of charges is arbitrary.

Quality is measured as the thoroughness of eye examination, THOROUGH, and as the accuracy of the eyeglass prescription, ACPRESC. Thoroughness of the eye examination is an index that measures inputs (procedures performed in the examination) rather than outputs (the optometrist's ability to discover all relevant information about the consumer's eye health). The index, developed by Dr. Kenneth Myers (Director of the Optometric Service, Department of Medicine and Surgery, U.S. Veterans Administration), was constructed by weighting each test or procedure by a value proportional to its importance in the examination.

Accuracy of the prescription is a measure of the clinical judgment of consultants at the State University of New York, College of Optometry, and at the Pennsylvania College of Optometry as to the appropriateness of the prescriptions. The consultants compared their opinions regarding the corrective lenses each subject required for proper vision with the written prescriptions from optometrists and then evaluated the prescriptions for the adequacy with which subjects' visual needs were met.

With respect to the other independent variables, EXAM is measured as the number of subject areas that must be included in the state licensing examination. INPUT is measured as the average SMSA wage rate of production workers in the manufacturing sector, and OPTIC is measured as the ratio of opticians to 100,000 population in the state.

## VII. THE EMPIRICAL RESULTS

Equation (4) is estimated in double log form using two specifications and two dependent variables. The results of regressions on price are reported in Table 4, while the results of regressions on quality are reported in Table 5. In the first specification the four commercial practice restrictions are included as dummy variables that equal one if the restriction is present in the state and zero otherwise. In the second specification the restrictions are included as dummy variables, and as index of the degree of state regulation of optometry, REG, is interacted with quality and media advertising. The variable REG is constructed by summing the dummy commercial practice restriction variables by state. This summated scale assigns equal weight to each restriction and ranges from zero to four. Thus the potential interaction between quality choice and the restrictions and the interaction between media advertising and regulatory effect are included in the second specification.[26]

[26] Advertising may permit the realization of production scale economies that might otherwise be unobtainable because of market imperfections or regulation.

TABLE 4

REGRESSIONS ON PRICE, HOLDING QUALITY CONSTANT

| Independent Variable | A* | B† | C‡ | D* | E‡ |
|---|---|---|---|---|---|
| CONSTANT | −1.4413 | −.9728 | 13.8[illegible] | −1.4419 | 14.1398 |
| | (.98) | (.62) | (3.45) | (.98) | (3.51) |
| INPUT | .8082 | .9557 | .7107 | .8115 | .7191 |
| | (2.51) | (2.79) | (2.23) | (2.52) | (2.25) |
| Y | .4988 | .4123 | 1.8319 | .4767 | 1.8453 |
| | (2.98) | (2.26) | (4.16) | (2.60) | (4.21) |
| OPTIC | −.1878 | .1844 | −.5065 | −.1865 | .5115 |
| | (6.02) | (5.34) | (5.02) | (5.96) | (5.06) |
| EXAM | .1805 | .1719 | .3617 | .1812 | .3659 |
| | (4.80) | (4.21) | (5.48) | (4.80) | (5.54) |
| ADVERT | −.3058 | .2505 | .3883 | −.3046 | .4023 |
| | (2.59) | (2.55) | (3.64) | (2.59) | (1.68) |
| R-TN | .0607 | .0182 | .4367 | .1187 | .5159 |
| | (.48) | (.14) | (2.59) | (.83) | (2.82) |
| R-LOCATE | −.0015 | .0277 | .0660 | .0526 | .1561 |
| | (.01) | (.24) | (.80) | (.41) | (1.25) |
| R-BRANCH | .1545 | .2177 | .5567 | .2081 | .6621 |
| | (1.13) | (1.50) | (3.14) | (1.49) | (3.73) |
| R-EMPLOY | −.1592 | −.1330 | .1624 | .1072 | .2317 |
| | (4.89) | (3.62) | (1.59) | (1.59) | (1.94) |
| THOROUGH | .1310 | .1163 | .1084 | .1358 | .1591 |
| | (4.59) | (4.40) | (4.47) | (3.67) | (5.70) |
| ACPRESC | ... | .0070 | ... | ... | ... |
| | | (.24) | | | |
| REG × ADVERT | ... | ... | −.3930 | ... | −.5912 |
| | | | (2.21) | | (1.30) |
| REG × THOROUGH | ... | ... | ... | −.0139 | −.0172 |
| | | | | (.84) | (.10) |

NOTE.—t-statistics are in parentheses.
* $N = 380$, $R^2 = .21$.
† $N = 355$, $R^2 = .23$.
‡ $N = 380$, $R^2 = .26$.

Because of the collinearity among the commercial practice restrictions,[47] the individual coefficients cannot be estimated precisely; however, the sum of the coefficients on the regulatory variables can be estimated with considerable accuracy. This sum provides a reliable estimate of the regulatory effect.[48]

[47] High zero-order correlations are a sufficient but not a necessary condition for the existence of multicollinearity. The trade name restriction is highly correlated with the location, the branch office, and the employment restrictions ($r$ = 0.83, 0.52, and 0.34, respectively).

[48] See Maddala, *supra* note 41, at 189.



TABLE 5

REGRESSIONS ON QUALITY

| Independent Variable | (1)* | (2)† |
|---|---|---|
| CONSTANT | 2.9616 | 7.3147 |
| | (.90) | (.83) |
| INPUT | .1084 | −.0017 |
| | (.24) | (.01) |
| Y | .1401 | 1.2572 |
| | (.38) | (1.30) |
| OPTIC | −.3125 | −.3848 |
| | (1.93) | (1.81) |
| EXAM | .0515 | .2099 |
| | (.65) | (1.39) |
| ADVERT | −.2702 | .2565 |
| | (1.26) | (.58) |
| R-TN | −.1656 | .1684 |
| | (.67) | (.46) |
| R-LOCATE | .0599 | .0031 |
| | (.25) | (.01) |
| R-BRANCH | .0640 | .5980 |
| | (.25) | (1.08) |
| R-EMPLOY | .0734 | .2142 |
| | (.29) | (1.06) |
| REG × ADVERT | ... | −.8056 |
| | | (1.25) |

NOTE.—t-statistics are in parentheses.
* $N = 414$, $R^2 = .05$.

Results of ordinary least squares regressions that test the effects of the restrictions on price, controlling for differences in quality, are reported in Table 4. The coefficients on the dummy variables can be interpreted as percentage changes and those on the other variables as elasticities. Regression A and regressions C–E include one measure of quality, THOROUGH, while regression B includes two quality measures, THOROUGH and ACPRESC. Further, regression C allows for an interaction between the degree of state regulation of optometry and media advertising by optometrists; regression D allows for an interaction between the degree of state regulation of optometry and optometrists' quality decisions; and regression E allows for both interactions.

The results are consistent with the hypothesis that state commercial practice restrictions increase the price of ophthalmic goods and services, holding quality constant. The sum of the coefficients on the regulatory variables in regression A suggests a positive 5.5 percent difference in the price of an eye examination and pair of eyeglasses in fully regulated versus nonregulated states. Similarly, the summed coefficients for regres-

sions B–E resulted in positive 13.1, 7.3, 5.1, and 7.0 percent differences, respectively, in fully regulated states. In all five regressions the hypothesis that the effect of the commercial practice regulations is equal to zero can be rejected at the 1 percent level of significance ($F$ = 8.14, 7.52, 11.18, 8.33, and 11.50, respectively).

With respect to the relationship between price and quality, the price of an eye examination and a pair of eyeglasses increases with the thoroughness of the eye examination but not with the accuracy of the eyeglass prescription. A 1 percent increase in the thoroughness of the eye examination results in a 0.11–0.12 percent increase in the price of an eye examination and pair of eyeglasses. The coefficient on ACPRESC, however, is not significantly different from zero. This suggests that prices convey information on one aspect of product quality, thoroughness of the examination, but prices do not convey information on a second aspect of quality, prescription accuracy. A possible explanation of this is that consumers can assess thoroughness but not prescription accuracy.

In all five regressions media advertising by optometrists is associated with lower prices, controlling for quality differences. Prices are approximately 26.3–33.1 percent lower in markets in which price or nonprice media advertising by optometrists is observed. This is consistent with the FTC's finding that the average price charged for eyeglasses and eye examinations is $23.74 lower in markets in which price advertising and chain optical firms are observed.[49] The coefficient on the optician-to-population ratio is also negative and statistically significant in all regressions. Further, in all five regressions more rigorous licensing examinations, higher per capita income, and higher input costs are associated with higher prices, controlling for quality differences. For example, a 1 percent increase in the number of subject areas that must be covered in the state licensing examination results in a 0.17–0.37 percent increase in price.

Table 5 reports the results of ordinary least squares regressions that test the effects of the commercial practice restrictions on quality, measured as the thoroughness of the eye examination. The results suggest that quality is not affected by the presence of the commercial practice restrictions. In the first quality regression the sum of the coefficients of the commercial practice restrictions is −17.8 percent, which is not significantly different from zero at the 1 percent level ($F$ = 2.04). The summed coefficients of the commercial practice restrictions in the second quality regression equal −14.6 percent, again not statistically significant at the 1 percent level ($F$ = 2.29). The results do not support the argument made by proponents of the commercial practice restrictions that the restrictions will increase the quality of ophthalmic services.

[49] Federal Trade Commission, supra note 5, at 4.



## VIII. Conclusions

In 1977 the four commercial practice restrictions appear to have increased the price of an eye examination and pair of eyeglasses by at least 5–13 percent, holding quality constant, measured as the thoroughness of the eye examination and accuracy of the eyeglass prescription. And to reiterate, the commercial practice restrictions did not appear to increase the quality of ophthalmic services. These results provide support for the economic theory of regulation and for a recent extension of the economic theory of regulation, that subgroups of firms within an industry will use the regulatory process to increase their rivals' costs and, therefore, their own market power.

Consumers paid at least $4.7 million more for eye examinations and eyeglasses in 1977 because of the four commercial practice restrictions.[50] Further, part of this $4.7 million is a social cost rather than an income transfer. Regulation-induced inefficiencies in production account for some of the price increase. The four commercial practice restrictions may inhibit optometrists' potential to realize economies of scale, the employment restriction may inhibit nonprofessional optical firms' potential to realize economies of scope, and the branch office restriction may prevent optometrists from employing the cost-minimizing combination of inputs. Also the opportunity costs of resources used by optometrists to influence the political process to attain market power through commercial practice laws and regulations are social costs.[51]

This paper suggests that commercial practice restrictions in the ophthalmic market are not protecting the consumer. The commercial practice restrictions increase price and have a statistically insignificant effect on quality. Intervention strategies should correct the market failure without causing serious distortions that lead to even greater consumer injury.

[50] This estimate is based on the four restrictions increasing price by $19, each optometrist providing 1,422 eye examinations and pairs of eyeglasses a year. American Optometric Association News, August 1, 1981, 18,569 optometrists practicing in states with trade name restrictions, 10,844 optometrists practicing in states with branch office restrictions, 8,613 optometrists practicing in states with location restrictions, and 14,750 optometrists practicing in states with employment restrictions, letter from Farrell Assn, Director of Statistical Research, American Optometric Association, September 15, 1982.

[51] See Richard A. Posner, The Social Costs of Monopoly and Regulation, 83 J. Pol. Econ. 807 (1975).

## Bibliography


Akerlof, George A. "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics* 84 (August 1970): 488–500.

Begun, James W. *Professionalism and the Public Interest: Price and Quality in Optometry*. Cambridge, Mass.: MIT Press, 1980.

Begun, J.; Crowe, E.; and Feldman, R. "Occupational Regulation in the States: A Causal Model." *Journal of Health, Politics, Policy and Law* 6 (Summer 1981): 229–54.

Benham, Lee. "The Effect of Advertising on the Price of Eyeglasses." *Journal of Law and Economics* 15 (October 1972): 337–52.

Benham, L., and Benham, A. "Regulating through the Professions: A Perspective on Information Control." *Journal of Law and Economics* 18 (October 1975): 421–47.

Benham, L.; Maurizi, A.; and Reder, M. W. "Migration, Location and Remuneration of Medical Personnel: Physicians and Dentists." *Review of Economics and Statistics* 50 (August 1968): 332–47.

*Blue Book of Optometrists*. Chicago: Professional Press, Inc., 1978.

Caves, R. E., and Porter, M. E. "From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition." *Quarterly Journal of Economics* 91 (May 1977): 421–41.

Cobleus, Seymour L. *Optometry and the Law*. St. Louis: American Optometry Association, 1976.

Council of State Governments. *Health Licensure Boards: Public Membership*. Lexington, Ky.: Council of State Governments, June 1981.

DeVany, Arthur S.; Gramm, Wendy L.; Saving, Thomas R.; and Smithson, Charles W. "The Impact of Input Regulation: The Case of the U.S. Dental Industry." *Journal of Law and Economics* 25 (October 1982): 367–81.

Federal Trade Commission. *Staff Report on Advertising of Ophthalmic Goods and Services and Proposed Trade Regulation Rule (16 CFR Part 456)*. Washington, D.C.: Government Printing Office, May 1977.

Federal Trade Commission. *State Restrictions on Vision Care Providers: The Effects on Consumers ("Eyeglasses II")*. Washington, D.C.: Government Printing Office, July 1980.

Federal Trade Commission. *Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry*. Washington, D.C.: Government Printing Office, September 1980.

Feldman, R., and Begun, J. W. "The Effects of Advertising: Lessons from Optometry." *Journal of Human Resources* 13, Suppl. (1978): 247–62.

Frech, H. E., III. "Occupational Licensure and Health Care Productivity: The Issues and the Literature." In *Health Manpower and Productivity: The Literature and Required Future Research*, edited by John Rafferty. Lexington, Mass.: Lexington Books, 1974.

Kihlstrom, R. E., and Riordan, M. H. "Advertising as a Signal." *Journal of Political Economy* 92 (1984): 427–50.





Kwoka, John. "Advertising and the Price and Quality of Optometric Services." *American Economic Review* 74 (March 1984): 211–16.

Leland, H. E. "Quacks, Lemons, and Licensing: A Theory of Minimum Quality Standards." *Journal of Political Economy* 87 (1979): 1328–46.

Maddala, G. S. *Econometrics*. New York: McGraw-Hill Book Co., 1977.

Maloney, Michael T., and McCormick, Robert E. "A Positive Theory of Environmental Quality Regulation." *Journal of Law and Economics* 25 (April 1982): 99–123.

Meltzer, Alfred; Langwell, Kathryn; Keane, Michael; and Nelson, Shelly. "Report on the Geographic Distribution of Vision Care Providers." Unpublished report. Silver Spring, Md.: Applied Management Sciences, Inc., 1983.

Nelson, Phillip. "Advertising as Information." *Journal of Political Economy* 81 (July/August 1974): 729–54.

Newman, Howard H. "Strategic Groups and the Structure-Performance Relationship." *Review of Economics and Statistics* 60 (August 1978): 417–27.

Oster, Sharon. "The Strategic Use of Regulatory Investment by Industry Subgroups." *Economic Inquiry* 20 (October 1982): 604–18.

Pauly, Mark V., and Satterthwaite, Mark A. "The Pricing of Primary Care Physicians' Services: A Test of the Role of Consumer Information." *Bell Journal of Economics* 12 (Autumn 1981): 488–506.

Peltzman, S. "Toward a More General Theory of Regulation." *Journal of Law and Economics* 19 (August 1976): 211–40.

Porter, Michael E. "The Structure within Industries and Companies' Performance." *Review of Economics and Statistics* 61 (May 1979): 214–27.

Posner, Richard A. "Theories of Economic Regulation." *Bell Journal of Economics and Management Science* 5 (Autumn 1974): 335–58.

Posner, Richard A. "The Social Costs of Monopoly and Regulation." *Journal of Political Economy* 83 (1975): 807–27.

Salop, Steven. "Information and Monopolistic Competition." *American Economic Review* 66 (May 1976): 240–45.

Salop, Steven C., and Scheffman, David T. "Raising Rivals' Costs." *American Economic Review* 73 (May 1983): 267–71.

Schmalensee, Richard. "A Model of Advertising and Product Quality." *Journal of Political Economy* 86 (1978): 485–503.

Smallwood, Dennis E., and Conlisk, John. "Product Quality in Markets Where Consumers Are Imperfectly Informed." *Quarterly Journal of Economics* 93 (February 1979): 1–23.

Stigler, George J. "The Theory of Economic Regulation." *Bell Journal of Economics and Management Science* 2 (Spring 1971): 3–21.

Stuart, Charles. "Consumer Protection in Markets with Informationally Weak Buyers." *Bell Journal of Economics* 12 (Autumn 1981): 562–73.

U.S. Department of Commerce, Bureau of Economic Analysis. *Survey of Current Business*. Vol. 61. Washington, D.C.: Government Printing Office, April 1981.

U.S. Department of Commerce, Bureau of the Census. *State and Metropolitan Area Data Book*. Washington, D.C.: Government Printing Office, 1979.

U.S. Department of Health, Education, and Welfare. National Center for Health Statistics. *Opticians Employed in the Health Services, U.S., 1968*. Ser. 14, No. 3. DHEW Publication No. (HSM) 72-1052. Washington, D.C.: Government Printing Office, 1972.

U.S. Department of Health, Education, and Welfare. Public Health Service, Bureau of Health Manpower. *Report to the Congress. Reimbursement under Part B of Medicare for Certain Services Provided by Optometrists*. Rockville, Md.: U.S. Department of Health, Education, and Welfare, Bureau of Health Manpower, July 1976.

U.S. Department of Health, Education, and Welfare. Bureau of Health Manpower. *Supply of Optometrists in the United States. Current and Future*. DHEW Publication No. (HRA) 79-18. Hyattsville, Md.: U.S. Department of Health, Education, and Welfare, Bureau of Health Manpower, October 1978.

Waterson, Michael. *Economic Theory of Industry*. Cambridge: Cambridge University Press, 1984.

# THE DIFFERENTIAL EFFECT OF REGULATION ACROSS PLANT SIZE: COMMENT ON PASHIGIAN*

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## I. Introduction

I show that the conclusion of a recent article by B. Peter Pashigian, that environmental regulatory costs have fallen more heavily on smaller than on larger businesses, is not supported by the statistical evidence he presents and is contradicted by data on the actual distribution of pollution abatement costs across plant and firm sizes.[1] Section II shows that average pollution abatement costs per employee are substantially smaller for smaller plants and firms than for larger plants and firms. Section III shows that Pashigian's statistical analysis does not support his conclusion that small businesses have borne the brunt of environmental regulations. Section IV presents conclusions. Before proceeding, it will prove useful to clarify why the incidence of regulatory costs across plant or firm size is of interest and to summarize Pashigian's analysis.[2]

The differential effect of regulation across plant or firm size is important for at least three reasons. First, when there are scale economies in regulatory compliance and when certain other assumptions are met, optimal regulatory policy may require imposing a lighter regulatory burden on

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[1] B. Peter Pashigian, The Effect of Environmental Regulation on Optimal Plant Size and Factor Shares, 27 J. Law & Econ. [illegible] (1984).

[2] Pashigian's analysis is based on plant data, although he infers firm effects from these data in his concluding section.

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Jacobs et al., *Staff Report on Improving Consumer Access to Legal Services: The Case for Removing Restrictions on Truthful Advertising* (Executive Summary), Bureau of Economics, Federal Trade Commission (Nov. 1984).

**Scope of Study:** Jacobs et al. surveyed attorneys in 17 cities about the fees they charged for five simple services. After obtaining the necessary information on prices, they classified the cities into three categories based on the restrictiveness of attorney marketing rules. The most restrictive category prohibited the use of electronic broadcast advertising, trade names and direct mail. The moderately restrictive category allowed broadcast advertising but restricted its content, and prohibited trade names and direct mail.

**Conclusions:** Jacobs et al. found that restrictions on attorney advertising resulted in higher prices (from five to ten percent higher depending on the legal service). They concluded that the dominant effect of advertising was to enhance price competition by lowering consumer search costs.

**FEDERAL TRADE COMMISSION**

Staff Report On
Improving Consumer Access To Legal Services:
The Case For Removing Restrictions On Truthful Advertising

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EXECUTIVE SUMMARY

# IMPROVING CONSUMER ACCESS TO LEGAL SERVICES:

## The Case For Removing Restrictions On Truthful Advertising*

## I. THE VALUE OF PROVIDING CONSUMERS WITH GREATER INFORMATION ABOUT LEGAL SERVICES.

The first section of the Staff Report sets forth the basis for believing that many consumers are not receiving legal assistance to solve their legal problems. The Report summarizes studies concluding that the two principal reasons why consumers do not consult lawyers are the result of inadequate information: consumers believe they will be unable to afford legal counsel; and consumers do not know how to find a lawyer who is able to assist them with their particular problems. Further, the Report examines regulations restricting the free flow of truthful information in the legal services market and discusses how advertising may help consumers identify legal problems and shop for competent counsel.

## II. THE EMPIRICAL STUDY.

This Commission study represents the first broad-based empirical research linking state regulations restricting non-deceptive marketing practices by lawyers to higher prices for consumer legal services. The study demonstrates that, consistent with economic information theory, prices for five legal services are lower in areas where regulatory restrictions on the marketing of legal services have been removed. The study is based on a price survey for simple wills, wills with trusts, uncontested divorces, personal bankruptcies, and personal injury cases in 17 cities with varying advertising regulations. The data for the study was gathered by Louis Harris & Associates in eleven cities, and was then combined with data gathered independently in six additional cities by Dr. Steven Cox, an economist from Arizona State University who served as a consultant for this study.

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* This report has been prepared by staff members of the Cleveland Regional Office and the Bureau of Economics of the Federal Trade Commission. The Commission has authorized its release. It does not necessarily reflect the views of the Federal Trade Commission or any of its individual Commissioners.

## A. Restrictive Cities Had Higher Prices for Legal Services.

The empirical economic study provides convincing support for the propositions that (1) the amount of advertising in the market increases significantly in states where most restrictions have been removed, and (2) in areas with greater advertising, the prices for legal services are lower. The prices for five legal services in cities characterized as "restrictive" (based on the advertising provisions of the Code of Professional Responsibility for lawyers in effect in the state) were significantly higher than prices in "liberal" cities.

"Restrictive" cities prohibited electronic broadcast advertising and the use of trade names and direct mail, and did not allow any advertising content not provided for in an approved list of items. The cities classified as restrictive are: Birmingham, Alabama; Hartford, Connecticut; Jackson, Mississippi; Springfield, Missouri; Albuquerque, New Mexico; and Oklahoma City, Oklahoma.

"Moderate" cities allowed electronic broadcast advertising, but restricted advertising content to an approved "laundry list" of items. Trade names were prohibited, although three state codes allowed the use of the term "legal clinic." Direct mail was not allowed. The cities classified as moderate are: Phoenix, Arizona; Indianapolis, Indiana; Wichita, Kansas; Columbus, Ohio; Nashville, Tennessee; and Seattle, Washington.

"Liberal" cities allowed electronic broadcast advertising and permitted the use of either trade names or direct mail, or both. Only false or misleading advertisements were prohibited. The cities classified as liberal are: Fresno, California; Baltimore, Maryland; Boston, Massachusetts; Detroit, Michigan; and Milwaukee, Wisconsin.

The study demonstrates that:

(1) Uncontested personal bankruptcies, which had an unadjusted average price of $460 across all cities, were $44 more expensive in "restrictive" cities.

(2) Uncontested divorces, which had an unadjusted average price of $525 across all cities, were $33 more expensive in "restrictive" cities.

(3) Simple reciprocal wills, which had an unadjusted average price of $135 across all cities, were $7.00 more expensive in "restrictive" cities.

(4) Simple reciprocal wills with trusts, which had an unadjusted average price of $240 across all cities, were $26 more expensive in "restrictive" cities.

(5) Personal injury cases settled before trial had an average contingent fee rate of 33 percent and were billed at rate 4.5 percent higher in "restrictive" cities.

prices ranged from 5 percent to 13 percent lower in cities with fewer advertising restrictions. However, there are still relatively few attorneys who engage in any advertising outside of the Yellow Pages of the telephone directory. The price differences may be understated due to this low level of advertising. As advertising continues to increase, greater consumer savings may result.

## B. The Relationship Between Advertising and the Prices of Legal Services.

The amount of advertising, other than in the Yellow Pages, was significantly less in restrictive cities as opposed to cities with more liberal advertising regulations. This finding supports the theory that restrictiveness will reduce the amount of advertising and is consistent with the conclusion that as advertising increases, prices tend to decrease.

In addition, the staff analyzed the relationship between the percentage of attorneys advertising and the average price of each service in the cities surveyed. They found statistically significant results for three of the five services: personal injury, uncontested personal bankruptcy, and uncontested divorce. (For the other two services, simple wills and wills with trusts, the data did not show statistically significant results.) When the staff examined advertising in all media, they found that the percentage of attorneys advertising ranged from .5 percent to 37 percent, and that prices for each of the three services decreased significantly with each percentage point increase in advertising. For example, as attorney advertising increased from 15 percent to 25 percent, the average price of an uncontested divorce decreased about $33. The results followed the same pattern for personal injury, uncontested personal bankruptcy, and uncontested divorce, revealing lower prices as the extent of non-Yellow Pages advertising increased. The extent of non-Yellow Pages advertising ranged from 0 percent to 11 percent, and the average prices of the three services decreased as advertising increased. For example, as advertising increased from 0 percent to 11 percent, the average price of an uncontested divorce decreased by about $128.

Finally, the staff examined whether advertising lawyers charged the lowest average prices for the services surveyed. In most cases, attorneys who advertised a specific service provided that service at a price lower than lawyers who did not advertise that service. These differences were often substantial. For example, lawyers who advertised simple wills charged an average of $25 less than lawyers who did not advertise simple wills, and lawyers who advertised uncontested divorces charged about $185 less than lawyers who did not advertise that service.

In general, the empirical work lends strong support for the proposition that advertising promotes competition, leads to lower prices, and enhances consumer welfare. To provide a specific mechanism for removing unnecessary restrictions on marketing practices which are not unfair, deceptive, misleading, or overreaching, the staff proposed a Model Code that the Commission endorsed.

## III. THE FTC MODEL CODE.

### A. Model Code Provisions.

The FTC Model Code presents a straightforward, streamlined approach to regulating the marketing practices of lawyers. It incorporates several proposals from the ABA's Commission on Evaluation of Professional Standards (the Kutak Commission) which were rejected in favor of more restrictive regulations by the ABA House of Delegates in enacting the Model Rules in August 1983. The FTC Model Code is based in large part on recommendations of the Kutak Commission and on regulations currently in effect in certain states and the District of Columbia which are less restrictive than the ABA Model Rules. Essentially, the FTC Model Code prohibits only false or deceptive communications, while providing additional safeguards against overreaching, undue influence, or coercion in personal contacts with prospective clients. The FTC Model Code is designed to remove all unnecessary restrictions on advertising, using trade names, communicating areas of practice, and soliciting clients in-person or through the mail. A side-by-side comparison of the ABA Model Rules and the FTC Model Code is contained in Appendix A, and the FTC Model Code is set forth in Appendix B. The FTC Model Code is also consistent with positions taken by the Department of Justice.

The major provisions of the FTC Model Code are outlined below.

#### 1. False or deceptive communications about a lawyer or the lawyer's services are prohibited.

The "false or deceptive" standard in the FTC Model Code reflects the Commission's recommendation set forth in its letter to the President of the ABA in January 1983. The Commission cautioned that the then-proposed standard which appeared to define "misleading" might be misconstrued or misapplied to prohibit truthful, non-deceptive communications about legal services.

> As indicated above, the Commission applauds the general direction of the changes in advertising restrictions set forth in the Proposed Model Rules. In connection with the specific language of the proposed Rule 7.1 we offer one suggestion to clarify the intended scope of that provision. Rule 7.1 is structured into three subparagraphs. Subparagraph (a) restates an accepted standard for determining what is a deceptive or misleading advertising representation. Subparagraphs (b) and (c) go on to define certain specific practices — e.g., making comparisons that cannot be "factually substantiated" and creating "unjustified expectations" about the results a lawyer can achieve — as being misleading. We read subparagraphs (b) and (c) as providing examples of conduct that would be prohibited by subparagraph (a) and, conversely, that conduct which did not violate subparagraph (a) would not violate (b) or (c). But others

might read subparagraphs (b) and (c) differently, namely, as prohibiting representations that would not be considered false or deceptive under traditional standards. 1/

Despite the Commission's expression of concern, the ABA adopted Rule 7.1 as it had been proposed. The FTC Model Code omits the confusing subparagraphs of ABA Rule 7.1. However, as noted in the Staff Report, comments or notes accompanying this provision might elaborate upon the circumstances under which omissions of material fact, claims about expected results, and comparative claims could be misleading. As structured, the ABA Rule may deny consumers valuable comparative information, as the Commission also noted in its letter to the ABA:

> Information that accurately indicates the potential benefits available from the purchase of particular legal services or compares the abilities of competing practitioners may enable consumers more accurately to assess their needs and more wisely to select a provider. Of course, false or deceptive statements about the likelihood of achieving particular results or deceptive comparisons of an attorney's skills would not be helpful to consumers. Yet, because of the value of non-deceptive information on these subjects, all reasonable steps should be taken to avoid unnecessarily discouraging attorneys from providing it to consumers. 2/

2. **A lawyer may advertise in a truthful, non-deceptive manner through any public media, and shall keep a copy of any advertisement and a record of where it appeared for one (1) year after dissemination.**

The FTC Model Code eliminates several potentially costly burdens included in ABA Rule 7.2 which may discourage lawyers from advertising. Unlike ABA Rule 7.2, the advertising provision in the FTC Model Code makes no reference to communications which may constitute solicitation, since the FTC Model Code would, with certain exceptions, allow in-person and telephone contact as well as direct mailings to specific individuals.

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1/ Commission letter to Morris Harrell, President, American Bar Association, dated January 17, 1983.

2/ Id. at 3.

The period of time lawyers must retain advertisements was reduced from the two-year period in ABA Rule 7.2(b) to a maximum of one year, as recommended by the Kutak Commission in its Proposed Rules. The one-year recordkeeping requirement ensures that advertisements will be available for review, if necessary, without unduly burdening the advertising lawyer. This subsection is optional, however, and perhaps it is unnecessary.

The FTC Model Code eliminates the provision set forth in ABA Rule 7.2(c), prohibiting a lawyer from paying anyone for recommending the lawyer's services. This provision is unnecessary if it is designed to prevent a lawyer from using "runners." ABA Rule 5.3 already prohibits a lawyer from employing anyone to engage in conduct that would be unethical for the lawyer to do directly 3/. Thus, a lawyer may not use non-lawyer employees to solicit business in a fashion which would be unethical if engaged by a lawyer.

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3/ ABA Model Rule 5.3 states:

RULE 5.3 Responsibilities Regarding Nonlawyer Assistants

With respect to a nonlawyer employed or retained by or associated with a lawyer:

(a) A partner in a law firm shall make reasonable efforts to ensure that the firm has in effect measures giving reasonable assurance that the person's conduct is compatible with the professional obligations of the lawyer;

(b) A lawyer having direct supervisory authority over the nonlawyer shall make reasonable efforts to ensure that the person's conduct is compatible with the professional obligations of the lawyer; and

(c) A lawyer shall be responsible for conduct of such a person that would be a violation of the rules of professional conduct if engaged in by a lawyer if:

(1) the lawyer orders or, with the knowledge of the specific conduct, ratifies the conduct involved; or

(2) the lawyer is a partner in the law firm in which the person is employed, or has direct supervisory authority over the person, and knows of the conduct at a time when its consequences can be avoided or mitigated but fails to take reasonable remedial action.

Further, ABA Rule 7.2(c) prohibits a lawyer from joining a for-profit lawyer referral service 4/. The ABA Rule also appears to limit the ability of a lawyer to employ the services of a marketing expert because, apart from allowing the lawyer to pay costs directly related to advertising, it prohibits the lawyer from paying anyone to recommend the lawyer's services.

The FTC Model Code also eliminates ABA Rule 7.2(d), which requires the name of at least one lawyer to be included in all advertising. This requirement may limit the effectiveness of firms using trade names, and is unnecessary for enforcement purposes. Many other professional and non-professional advertisers have been held accountable for the veracity of their claims without mandating that the name of a responsible party be included in each advertisement.

### 3. Personal, Direct-Mail, or Telephonic Communications Are Permitted:

(a) unless the potential client is in an apparent physical or mental condition which would impair his or her exercise of reasonable, considered judgment in selecting a lawyer; or

(b) unless they are directed at persons who have expressed a desire not to be contacted by the lawyer; or

(c) unless they involve the use of harassment, coercion, or undue influence.

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4/ The Department of Justice took the position that:

> Rule 7.2(c), which prohibits a lawyer from paying someone other than an advertising medium for recommending his services, would prevent lawyers from financing a lawyer referral service. We believe that this absolute ban would unnecessarily harm consumer interest and propose as an alternative that the referral service be required to disclose that the lawyers are paying for the referrals.

See Appendix C, Department of Justice letter from Jonathan C. Rose, Assistant Attorney General, to Robert J. Kutak, dated July 23, 1982, at 8-9. We did not adopt the Department's position requiring that lawyers disclose that they are paying for referrals. We take no position on this recommendation, except to note that Rule 7.1 prohibits any false or misleading communication about the lawyer or the services offered by the lawyer. An additional disclosure may be unnecessary. Further, lawyers frequently participate with not-for-profit lawyer referral services run by bar organizations and pay administrative or other fees to participate, without making any disclosures to the public.

The FTC Model Code is a substantial departure from the solicitation rules set forth in ABA Rule 7.3. The FTC Model Code is based largely on the solicitation rule adopted by the District of Columbia. This provision is aimed specifically at preventing the harmful conduct identified by the Supreme Court in Ohralik 5/ and Primus 6/ without interfering with the ability of a lawyer to communicate truthfully about the benefits of legal services or the lawyer's availability to provide those services. ABA Rule 7.3 prohibits in-person communication with prospective clients or direct mailings to specific recipients when "a significant motive for the lawyer's doing so is the lawyer's pecuniary gain." The ABA Rule permits advertising circulars or mailings distributed generally "to persons not known to need legal services." In contrast, the FTC Model Code permits solicitation, in-person or through the mail, except when the lawyer knows or should know that the communication involves coercion or undue influence or when an apparent mental or physical condition would impair the judgment of the prospective client. The Department of Justice reviewed a draft of the FTC Model Code, endorsed the overall provision, and made one minor suggestion that has been incorporated 7/. The FTC Model Code permits lawyers to communicate with persons who may be most in need of legal services, with adequate safeguards to prevent improper overreaching.

**4. A lawyer may communicate the fact that he or she practices in particular areas of law, but may not state or imply any officially recognized or certified expertise when such is not the case.**

The FTC Model Code provision for communicating fields of practice, set forth in Rule 7.4, allows a lawyer to identify areas of law in which the lawyer does or does not practice. The only limitation is that the lawyer shall not state or imply any officially recognized expertise or certification that he or she does not actually possess. The Department of Justice has taken a similar position.

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5/ Ohralik v. Ohio State Bar Association, 436 U.S. 447 (1978).

6/ In re Primus, 436 U.S. 412 (1978).

7/ See Appendix D. Letter from J. Paul McGrath, Assistant Attorney General to Carol T. Crawford, Director, Bureau of Consumer Protection dated July 31, 1984.

5. <u>A lawyer may use any firm name, letterhead, or professional designation which is not false or deceptive.</u>

The FTC Model Code provision concerning firm names and letterheads returns to the general principle that only false or deceptive conduct is prohibited. Unlike ABA Model Rule 7.5, the FTC Model Code provision does not address particular circumstances in which a firm name or designation may be deceptive. If necessary, an accompanying comment can clarify the state's position on how implying a connection with a government entity may be deceptive, on whether the names of deceased partners can be used in a firm name, and on how a disclosure can effectively communicate the fact that some members of a multi-state firm may be limited to practicing only in those states where they have been admitted.

## IV. CONCLUSION.

We believe the findings from this investigation will be useful to state regulators, individual lawyers, and consumers. In the face of the empirical data demonstrating that consumers find substantially less expensive legal services when restrictions on non-deceptive marketing practices have been removed, we urge state regulators to revise their regulations and only impose restrictions that demonstrably advance the public interest. We hope the FTC Model Code will provide a useful alternative for states in the process of amending their regulations governing lawyer marketing practices.

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# APPENDIX A

## Side-by-Side Comparison: American Bar Association Model Rules for Advertising, Trade Names, and Direct-Mail Solicitation, and the FTC Staff Proposed Model Code

# APPENDIX A

## ABA Model Rules

### RULE 7.1 COMMUNICATIONS CONCERNING A LAWYER'S SERVICES

A lawyer shall not make a false or misleading communication about the lawyer or the lawyer's services. A communication is false or misleading if it:

(a) contains a material misrepresentation of fact or law, or omits a fact necessary to make the statement considered as a whole not materially misleading;

(b) is likely to create an unjustified expectation about results the lawyer can achieve, or states or implies that the lawyer can achieve results by means that violate the rules of professional conduct or other law; or

(c) compares the lawyer's services with other lawyers' services, unless the comparison can be factually substantiated.

## FTC Staff Proposed Model Code

### COMMUNICATIONS CONCERNING A LAWYER'S SERVICES

A lawyer shall not make a false or deceptive communication about the lawyer or the lawyer's services.

## ABA Model Rules

### RULE 7.2 ADVERTISING

(a) Subject to the requirements of Rule 7.1, a lawyer may advertise services through public media, such as a telephone directory, legal directory, newspaper or other periodical, outdoor, radio or television, or through written communication not involving solicitation as defined in Rule 7.3.

(b) A copy or recording of an advertisement or written communication shall be kept for two years after its last dissemination along with a record of when and where it was used.

(c) A lawyer shall not give anything of value to a person for recommending the lawyer's services, except that a lawyer may pay the reasonable cost of advertising or written communication permitted by this Rule and may pay the usual charges of a not-for-profit lawyer referral service or other legal service organization.

(d) Any communication made pursuant to this Rule shall include the name of at least one lawyer responsible for its content.

## FTC Staff Proposed Model Code

### ADVERTISING

(a) A lawyer may advertise services through direct mail advertising or through public media, including but not limited to telephone directories, legal directories, newspapers or other periodicals, radio or television, provided the communication is not false or deceptive.

(b) A copy or recording of an advertisement or written communication shall be kept for [one year] after its dissemination along with a record of when and where it was used.*

* The recordkeeping requirement of subsection (b) is optional. If any retention requirement is imposed, however, it should not exceed one year.

**ABA Model Rules**

**ILE 7.3 DIRECT CONTACT WITH PROSPECTIVE CLIENTS**

A lawyer may not solicit professional employment om a prospective client with whom the lawyer has no mily or prior professional relationship, by mail, in-rson or otherwise, when a significant motive for the wyer's doing so is the lawyer's pecuniary gain. The rm "solicit" includes contact in person, by telephone or legraph, by letter or other writing, or by other mmunication directed to a specific recipient, but does t include letters addressed or advertising circulars stributed generally to persons not known to need legal rvices of the kind provided by the lawyer in a particular atter, but who are so situated that they might in neral find such services useful.

**FTC Staff Proposed Model Code**

**DIRECT CONTACT WITH PROSPECTIVE CLIENTS**

A lawyer may initiate communications with a prospective client through personal contact, through individually directed written communication, or through telephonic communication for the purpose of obtaining professional employment, unless:

(1) The lawyer knows or reasonably should know that the physical, emotional or mental state of the person is such that the person could not exercise reasonable judgment in employing a lawyer;

(2) The person has made known to the lawyer a desire not to receive communications from the lawyer; or

(3) The lawyer knows or should reasonably know that the communication involves coercion, duress or harassment.

## ABA Model Rules

### RULE 7.4 COMMUNICATION OF FIELDS OF PRACTICE

A lawyer may communicate the fact that the lawyer does or does not practice in particular fields of law. A lawyer shall not state or imply that the lawyer is a specialist except as follows:

(a) A lawyer admitted to engage in patent practice before the United States Patent and Trademark office may use the designation "patent attorney" or a substantially similar designation;

(b) A lawyer engaged in admiralty practice may use the designation "admiralty," "proctor in admiralty" or a substantially similar designation; and

(c) [provisions on designation of specialization of the particular state].

## FTC Staff Proposed Model Code

### COMMUNICATION OF FIELDS OF PRACTICE

A lawyer may communicate the fact that the lawyer does or does not practice in particular fields of law. A lawyer shall not state or imply that the lawyer is an officially recognized or certified specialist except where the lawyer in fact has been certified in a particular field of practice.

**ABA Model Rules**

**RULE 7.5 FIRM NAMES AND LETTERHEADS**

(a) A lawyer shall not use a firm name, letterhead or other professional designation that violates Rule 7.1. A trade name may be used by a lawyer in private practice if it does not imply a connection with a government agency or with a public or charitable legal services organization and is not otherwise in violation of Rule 7.1.

(b) A law firm with offices in more than one jurisdiction may use the same name in each jurisdiction, but identification of the lawyers in an office of the firm shall indicate the jurisdictional limitations on those not licensed to practice in the jurisdiction where the office is located.

(c) The name of a lawyer holding a public office shall not be used in the name of a law firm, or in communications on its behalf, during any substantial period in which the lawyer is not actively and regularly practicing with the firm.

(d) Lawyers may state or imply that they practice in a partnership or other organization only when that is the fact.

**FTC Staff Proposed Model Code**

**FIRM NAMES AND LETTERHEADS**

A lawyer may use any firm name, letterhead or other professional designation provided it is not false or deceptive.

# APPENDIX B

**Rules 7.1, 7.2, 7.3, 7.4, 7.5:**
**FTC Staff Proposed Model Code**

## APPENDIX B

## FTC STAFF PROPOSED MODEL CODE

**Communications Concerning a Lawyer's Services.**

A lawyer shall not make a false or deceptive communication about the lawyer or the lawyer's services.

**Advertising.**

(a) A lawyer may advertise services through direct mail advertising or through public media, including but not limited to telephone directories, legal directories, newspapers or other periodicals, radio or television, provided the communication is not false or deceptive.

(b) A copy or recording of an advertisement or written communication shall be kept for [one year] after its dissemination along with a record of when and where it was used.*

**Direct Contact with Prospective Clients.**

A lawyer may initiate communications with a prospective client through personal contact, through individually directed written communication, or through telephonic communication for the purpose of obtaining professional employment, unless:

(1) The lawyer knows or reasonably should know that the physical, emotional or mental state of the person is such that the person could not exercise reasonable judgment in employing a lawyer;

(2) The person has made known to the lawyer a desire not to receive communications from the lawyer; or

(3) The lawyer knows or reasonably should know that the communication involves coercion, duress or harassment.

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* The recordkeeping requirement of subsection (b) is optional. If any retention requirement is imposed, however, it should not exceed one year.

## Communication of Fields of Practice.

A lawyer may communicate the fact that the lawyer does or does not practice in particular fields of law. A lawyer shall not state or imply that the lawyer is an officially recognized or certified specialist except where the lawyer in fact has been certified in a particular field of practice.

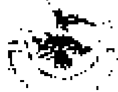
## Firm Names and Letterheads

A lawyer may use any firm name, letterhead or other professional designation provided it is not false or deceptive.

# # # # #

## APPENDIX C

**Department of Justice Letter**
**from Jonathan C. Rose, Assistant Attorney General,**
**to Robert J. Kutak, dated July 23, 1982**



U.S. Department of Justice

Washington, D.C. 20530

7 MAY 1984

JPMcG:JWP:EDE
60-423-0

Brenda W. Doubrava, Esquire
Federal Trade Commission
The Mall Building, Suite 500
118 St. Clair Avenue
Cleveland, Ohio 44114

Re: ABA Model Rules

Dear Brenda:

In response to your request during our May 3, 1984 telephone conversation, please find enclosed a copy of the Department's July 23, 1982 letter to the ABA concerning the Model Rules.

Sincerely yours,

Edward D. Eliasberg, Jr.
Attorney
Antitrust Division

Enclosure

Office of Legal Policy

Assistant Attorney General

Washington, D.C. 20530

July 23, 1982

Robert J. Kutak, Esq.
National Center for Professional
Responsibility
6th Floor
77 South Wacker Drive
Chicago, Illinois 60606

Dear Mr. Kutak:

The Department of Justice commends the Commission on Evaluation of Professional Standards for its balanced and comprehensive final draft of the Model Rules of Professional Conduct. The Department previously commented on the discussion draft of the Model Rules of Professional Conduct in a letter from Attorney General Civiletti to Professor Geoffrey C. Hazard, Jr., dated May 23, 1980. We are pleased that the Commission incorporated a number of these comments into the final draft, and I wish to affirm at this time the Department's continuing support for the substantial portion of Mr. Civiletti's stated positions.

The Commission's substantive review of the comments received and of their relationship to the discussion draft and common law principles of professional conduct was a task of extraordinary dimensions. It would have been impossible to incorporate every comment into the final draft, but I have no doubt that each comment received consideration. I have carefully weighed the Department's keen interest in selected issues before [illegible]bmitting comments which in particular instances were not [illegible]ed or were substantially modified in the final draft. The De[illegible]rtment is pleased to have this opportunity to offer these and additional comments on the final draft.

Part I: Government Employment

Rule 1.11 places ethical limitations on post-service activities of a public officer or employee of a government agency and similar limitations on the activities of private sector attorneys who subsequently are employed by the government. Generally, a lawyer may not represent a private client on a matter in which the lawyer participated personally or substantially as a public official; conversely, a government attorney may not participate in a matter in which the lawyer participated personally or substantially while in private practice.

Similar restrictions, set forth in Rule 1.9, prohibit lawyer from representing a client whose interests are adverse t a former client if the representation involves the same or a substantially related matter. Rule 1.10 imputes the disqualification of Rule 1.9 to all lawyers in a firm unless th affected client consents to the firm's participation in the subsequent matter. The comments to Rule 1.10 define the term "firm" to include the legal department of a government agency; thus, Rule 1.9 is equally applicable to government attorneys.

The final draft of Rule 1.11 reflects many of our previous suggestions. Most importantly, Rule 1.11 codifies the principle in ABA Formal Opinion No. 342 that a firm is not precluded from undertaking a matter in which one of its attorney had been involved while in government service if the disqualifie lawyer is screened from participation in the case. By permitting firms to screen disqualified lawyers rather than declining to take on cases on which they had worked while in government service, the rule would not inhibit the government from attracting and retaining qualified attorneys contemplating temporary government service.

The Department expressed a related concern that a broad definition of the term "matter" in Rule 1.11 would too often necessitate screening government attorneys from participation in crucial decision making and thus deprive the government agency of the services of those attorneys who are mos informed about issues of primary concern to the hiring agency. The comments amply clarify that attorneys entering government ar not disqualified because of prior activities such as writing la review articles or advocating public positions on policy issues, however, we fear that attorneys leaving the government may stil suffer under an expansive definition of matter.

The Department believes that the term "matter" should be more clearly defined to conform to ABA Formal Opinion 342, where it was limited to activities akin to litigation between identifiable parties. The comments accompanying Rules 1.9 and 1.11 still suggest that disqualification will extend to such prior government activities as drafting proposed legislation, participation in informal rulemaking, or reviewing government contracts. This overly broad categorization of disqualifying activity could impede government hiring significantly.

We note that the procedures for elimination of the imputed disqualification of Rule 1.10, which applies generally, and Rule 1.11, which applies only to successive government and private employment, are not the same. Disqualification under Rule 1.10 is eliminated by the consent of the affected clients while disqualification under rule 1.11 is eliminated by screenin and notice to the government. In most common situations affecting government agencies, disqualification would probably b required by both rules. It would thus appear that screening, notice, and client consent are all necessary. This overlap is

confusing. For the reasons we stated above, firms should be permitted to screen disqualified lawyers without having to secure government consent. Thus, we suggest correcting the overlap by amending Rules 1.9 and 1.10 to eliminate references to situations involving government service.

Finally, we recommend two clarifications to Rule 1.11. First, subsection (a) purports to grant the government a right to waive restrictions upon successive government and private employment upon disclosure by the affected attorney. The comments should clarify that waiver of this restriction is beyond the authority of a federal agency to the extent that any restriction is codified in a federal criminal statute. Second, subsection (b)(2) prohibits a government attorney from negotiating for private employment with any person or firm involved in a matter in which the government attorney is participating personally and substantially. The criminal prohibitions of 18 U.S.C. § 208 place a similar restriction on government attorneys but also contain a provision for waiver of the restriction by the employing federal agency. We strongly believe that Rule 1.11 should provide for similar waiver authority.

In summary, the final draft should allow recruitment of attorneys from the private sector for government service and their return to their previous career without threatening disqualification of the firm or government agency. However, unless the definition of "matter" is clearly restricted to activities akin to litigation between identifiable parties, we feel that individuals will be discouraged unnecessarily from entering government service. Overall, our suggestions would bring Rule 1.11 and Rule 1.9 more in line with the statutory standards established under 18 U.S.C. § 207, the so-called "revolving door" provisions of the Ethics in Government Act of 1978.

## Part II: Disclosure of Confidential Information

The final draft Rules 1.6, 1.13, 3.3 and 4.1 represent a major rewrite of the discussion draft rules pertaining to permissible and mandatory disclosure of confidential client information. Rule 1.6 sets forth the general prohibition against revealing confidential information relating to the representation of a client and identifies certain instances where disclosure may be made; Rule 1.13 presents traditional rules of permissible disclosure where the client is an organization; Rule 3.3 deals specifically with disclosure to the tribunal; and Rule 4.1 requires mandatory disclosure where failure to disclose is equivalent to a material misrepresentation or is required under Rule 1.2 to avoid assisting effectuation of a client's criminal or fraudulent activity. In our view, the rules generally strike a sound balance between the public interest in disclosure and the venerable legal principles of attorney-client privilege and confidentiality. We offer only the following three comments:

(1) Rule 4.1(b)(2) links mandatory disclosure to a lawyer's legal obligations to avoid assisting a criminal or fraudulent act, as stated in Rule 1.2(d). The specific duty o criminal defense counsel to correct a fraud on the tribunal by disclosing his client's perjury on the witness stand is tempere by a black letter caveat in Rule 3.3. The caveat notes that Constitutional law may require that the defendant's rights to effective assistance of counsel and to due process override a lawyer's ethical obligation to rectify a fraud on the tribunal While we recognize that this issue has not been fully resolved we believe that the underlined caveat in Rule 3.3 may detract from the position adopted by the Model Rules that the lawyer's ethical obligation not to participate in a fraud on the court requires him to disclose his client's perjury. The caveat unnecessarily implies an absolute duty on counsel not to disclo and not to withdraw from criminal cases when the client commit perjury, although this view has clearly not been generally accepted and is rejected in the Model Rules themselves. We believe that the Constitutional issue could be more appropriate raised and addressed in the comments to Rule 3.3 than in the caveat. We would further suggest that the comments to Rule 3. make clear that a lawyer's disclosure to the court of his client's perjury be made, whenever possible, out of the hearin of the jury. */

(2) Rule 1.13 declares that the organizational lawye represents the organization as distinct from the organization's officers, directors, employees, shareholders or members, and suggests that the lawyer has final authority to decide when an officer has violated a legal obligation owed to the organizatio Since a government agency is included in the definition of organization, we are concerned that the subjectivity inherent i the rule could be construed to give an attorney the final authority to judge the propriety of organizational policies. W believe that the comments should make clear that lawyers representing government agencies should take no action in accordance with Rule 1.13(c) when the matter involved is committed to the agency's discretion by law.

(3) The comments to Rule 1.6 at page 40 state: "Whether another provision of law supersedes rule 1.6 is a matte of interpretation beyond the scope of these Rules, but a presumption should exist against such a supersession." This sentence is subject to differing interpretations but presumably is intended to limit encroachments on the traditional right to

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*/ We also note that the comments suggest at page 127 that a defendant who lies on the stand a second time to create a secon mistrial should be deemed to have waived his right to counsel. We find the comments' endorsement of such a remedy troublesome and propose instead that the comments leave it to the court to determine what should be done in the event a defendant attempts to provoke mistrials by repeated perjury.

assert attorney-client privilege. However, we believe this presumption could be cited as justification for non-compliance with discovery requests or Civil Investigative Demands (CID's) from the government for information which is clearly not protected by attorney-client privilege. We recommend that the quoted sentence at page 40 be deleted and replaced with the following language: "For example, a lawyer must disclose information not protected by the attorney-client privilege when the lawyer is under compulsion of law or court to testify, to produce information in response to requests for discovery or to respond to a subpoena or a Civil Investigative Demand from the government."

Part III: Special Responsibilities of the Prosecutor

The responsibilities of a federal prosecutor are clearly defined by the Constitution, federal statutes, rules of criminal procedure, Departmental policy guidelines and court decisions. Indeed, federal law must ultimately determine the responsibilities of federal prosecutors and will supersede conflicting rules of the private bar.

Several important recommendations offered by the Department in its May, 1980, comments were not adopted. We continue to strongly oppose Rule 3.8(c), which states that the prosecutor in a criminal case shall "not seek to obtain from an unrepresented defendant a waiver of important pretrial rights, such as the right to a preliminary hearing...." A similar provision in the preliminary draft also exceeded case law requirements, which require only that a waiver be "knowing, voluntary, and intelligent." The comments in the final draft at page 154 state that knowing disregard of this obligation or systematic abuse of prosecutorial discretion could constitute professional misconduct under Rule 8.4. The prosecutor under current law already faces a heavy burden of proving a knowing and voluntary waiver; that burden deters abuse in this area. We strongly recommend that subsection (c) be modified as follows:

> "(c) not seek to obtain from an unrepresented defendant any waiver of an important procedural right which is not a knowing and voluntary waiver."

The Department opposed preliminary draft Rule 3.10(d), which stated that a prosecutor should "seek all evidence, whether or not favorable to the accused...." Rule 3.8(d) has been modified to require the prosecutor to "make reasonable effort to seek all evidence, whether or not favorable to the defendant...." We remain convinced that the limited financial resources require prosecutors to concentrate on the development of evidence believed most relevant to the prosecutor's case. Rule 3.8(d) continues to place an affirmative obligation on the prosecutor to develop the defendant's case. We urge instead, the adoption of a rule prohibiting the prosecutor from intentionally avoiding pursuit of evidence merely because the evidence might damage the

prosecutor's case or aid the accused. Our recommendation conforms with the language of EC 7-13.

The comments to Rule 3.8 at page 154 state that grand jury proceedings are *ex parte* proceedings for the purpose of Rule 3.3(d). Rule 3.3(d) imposes a new burden on the prosecutor to inform the tribunal "of all relevant facts whether or not the facts are adverse." Taken with Rule 3.8(d), Rule 3.3(d) may be read to create an obligation on the prosecutor to develop and present a target's defense to a grand jury. The target's rights are more properly protected by granting that person an opportunity to appear before the grand jury. Therefore, we recommend that grand jury be excluded from the scope of Rule 3.3(d).

Finally we believe that Rule 3.8(d) should be amended to provide that the prosecution is required to disclose to the defense only "unprivileged" evidence known to the prosecutor that supports innocence or mitigates the offense in conformity with the provision that requires the prosecutor to disclose only unprivileged mitigating information in connection with sentencing.

## [illegible] IV: Solicitation Rules

Rule 7.3(a) would permit a lawyer to initiate personal contact with a prospective client only in certain very limited circumstances. We believe this proposed Rule is too restrictive.

Under some circumstances, in-person solicitation of clients has the potential for fraud, undue influence, intimidation, overreaching, or other similar vexatious conduct. But personal contacts with potential clients may also apprise a victim of misfortune of his legal rights, provide an attorney with an opportunity to describe his or her capabilities with useful specificity and detail, and permit prospective clients to make more informed judgments about personal qualities that may be important to the attorney-client relationship. While we agree that protection of the public from the harmful aspects of solicitation is a legitimate and important state interest, we also believe that it is possible to regulate solicitation in a manner that avoids its dangers but preserves its benefits. Accordingly, we recommend that Rule 7.3(a) be eliminated and that Rule 7.3 be redrafted as follows:

RULE 7.3 PERSONAL CONTACT WITH OR WRITTEN COMMUNICATION TO PROSPECTIVE CLIENTS

A lawyer shall not contact, or send a written communication to, a prospective client for the purpose of obtaining professional employment if:

(a) the lawyer knows or reasonably should know that the physical, emotional, or mental state of

the person is such that the person cannot exercise reasonable judgment in employing a lawyer;

(b) the person has made known to the lawyer a desire not to receive communication from the lawyer; or

(c) the lawyer reasonably should know that the communication involves coercion, duress, or harrassment.

Rule 7.2(a) would also prohibit advertising that involves "personal contact." Therefore, in conformity with our comment on the in-person solicitation rule (Rule 7.3(a)), we recommend that Rule 7.2(a) be amended to permit advertising that involves personal contact, subject to the constraints of Rules 7.1 and 7.3(b) (i.e., our recommended Rule 7.3).

Part V: Communication With Persons Represented by Counsel

Proposed Rule 4.2 provides that "a lawyer shall not communicate on a subject of the representation with a party the lawyer knows to be represented by another lawyer in the matter, unless the lawyer has the consent of the other lawyer or is authorized by law to do so." The text of and comments to this rule, and the commentary to Rule 7.3, taken together, suggest that Rule 4.2 could be construed to be not only a legitimate prohibition against an attorney for one party dealing directly with an adverse party without the consent of the adverse party's attorney, but also an anti-competitive ban on encroachment.

Bans on encroachment inhibit practitioners from providing useful information and can substantially reduce consumer welfare. */ They are clearly anticompetitive and have been held to violate the antitrust laws. See, Mardirosian v. American Institute of Architects, 474 F. Supp. 628 (D.D.C. 1979). We therefore propose the following alternative, which is designed to protect a client's legitimate interests:

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*/ For example, Rule 4.2 could be construed to prevent a client, dissatisfied with his present representation, from even negotiating with a new attorney until he had formally terminated his relationship with his current attorney. See, Mardirosian v. American Institute of Architechts, 474 Supp. 628, 646 (D.D.C. 1979).

RULE 4.2 COMMUNICATION WITH PERSONS REPRESENTED BY COUNSEL

> A lawyer shall not communicate on a matter with an adverse or potentially adverse party, or with a nonparty witness or potential witness, that the lawyer knows to be represented by another lawyer in the matter, unless the lawyer has the consent of the other lawyer or is authorized by law to do so.

Furthermore, the comments concerning Rule 4.2 should make clear that it is not intended to be a ban on encroachment, and the Notes to Rule 7.3 on pages 195-96, which suggest that Rule 4.2 is such a ban, should be amended.

Part VI: Miscellaneous Rules

We again recommend that Rule 3.6 (b)(7)(i), be expanded to include "similar background information" about an accused beyond name, age, residence, occupation and family status. This change would conform the rule to current Justice Department guidelines on permissible statements to the press. See 28 C.F.R. §50.2(b)(3). In a particular case, similar background information, such as former residences or occupations or educational background, may be useful to identify an individual, without prejudicing his case. This change would permit flexibility to a prosecutor to disclose innocuous background information.

Rule 3.4(f)(1) states that a lawyer shall not request a person other than a client to refrain from voluntarily giving relevant information to another party unless the person is "an employee or other agent of a client." The comments to the rule [illegible] page 140 clearly state that a request involving unlawful [illegible]t could amount to obstruction of justice and result in a [illegible]lation of Rule 8.4(b). This comment seems compatible with ou[illegible] [illegible]ew that employees of a corporation or organization, who are not themselves potential defendants, have an affirmative duty to aid criminal and civil law enforcement. In the context of criminal cases and civil enforcement actions by the government, the "employee" exception in Rule 3.4(f)(1) contradicts this comment. We recommend that this employee exception be made clearly inapplicable in criminal cases or civil enforcement actions by the government. Alternatively, the comments should state that attorneys for a corporation are not permitted to advise employees to refrain from giving information to the government in criminal cases or civil enforcement actions.

Rule 7.2(c), which prohibits a lawyer from paying someone other than an advertising medium for recommending his services, would prevent lawyers from financing a lawyer referral service. We believe that this absolute ban would unnecessarily

harm consumer interests and propose as an alternative that referral services be required to disclose that the lawyers are paying for the referrals.

Rule 7.4 would permit a lawyer to "communicate the fact that the lawyer does or does not practice in particular fields of law" but would prevent the lawyer form stating or implying that he is a specialist except under certain limited conditions. The comment adds that "stating . . . that the lawyer's practice 'is limited to' or 'concentrated in' particular fields is not permitted [because] [t]hese terms have acquired a secondary meaning implying formal recognition as a specialist."

We question whether these terms have acquired any such "secondary meaning" among laymen. On the other hand, this information could be useful to potential clients for legal services. In an effort to exclude subjective claims of expertise, we believe the Rule may unnecessarily preclude valid statements of objective fact. We recommend, therefore, that the rule be limited to prohibiting improper claims of specialization, leaving statements concerning fields of practice to be governed only by the general strictures of proposed Rule 7.1.

Proposed Rule 1.5(a) would require that "[a] lawyer's fees shall be reasonable." This is a change from the present Model Code of Professional Responsiblity which prohibits a "clearly excessive fee." The Comment and Notes concerning Rule 1.5(a) indicate (at page 34) that no substantive change was intended. Nothing in the rule, the Comment or the Notes, however, precludes the possibility that Rule 1.5(a) might be applied to bar less than reasonable fees, a result that could not be reached under the present Code. Such an interpretation could, of course, adversely affect price competition among lawyers and restrict the development of legal clinics and other nontraditional systems for providing legal services. Moreover, an agreement among lawyers to prohibit "unreasonably low" fees would be a _per se_ violation of the Sherman Act. _Cf._ _Goldfarb_ v. _Virginia State Bar_, 421 U.S. 773 (1975) (bar association's minimum fee schedule adjudged _per se_ illegal).

We therefore recommend either that Rule 1.5(a) be rewritten to provide: "A lawyer's fee shall not be excessive," or that the comment be redrafted to make clear that a fee could be deemed unreasonable within the meaning of this rule only if it were excessively high. If the Rule is rewritten, the first line of the Comment on the Rule should then be revised to begin: "Relevant factors in determining whether a fee is excessive include . . . ."

## Part VII: Conflicts Between Government Attorney's Obligations under Federal Law and the Code

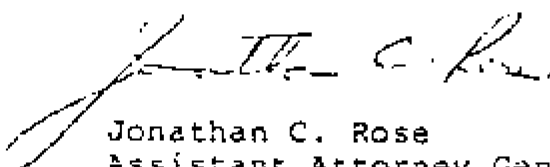
The Department is concerned that the requirements or interpretations of provisions of the ABA code or the code of a

local jurisdiction may be construed to create a conflict with the government attorney's obligations under federal law. It is well settled that the Supremacy Clause of the Constitution bars state authorities from regulating the conduct of United States employees in the performance of their official duties in a manner inconsistent with federal law. See Hancock v. Train, 426 U.S. 167, 178-81 (1976); In Re Neagle, 135 U.S. 1, 75 (1890); Clifton v. Cox, 549 F. 2d 722 (9th Cir. 1977). Compare Sperry v. Florida, 373 U.S. 379 (1963).

Since the Department employs attorneys who are members of the bar of all fifty states and the District of Columbia, it is impossible to anticipate every situation; therefore, like his predecessor, the Attorney General must reserve his prerogative to determine the appropriate course of conduct for federal attorneys where this conflict arises. Therefore, in some comments above, we have suggested language that may clarify government attorneys' responsibilities but we also urge the inclusion of comments clarifying the scope of the application of the rules to government attorneys in light of the unique nature of government practice and the special responsibilities of government attorneys under federal law.

Again, we commend the Commission for completing this comprehensive and critical evaluation of professional legal standards. The Commission's work may well serve to stem the public's growing perception that the legal profession lacks the will to improve the quality of legal services and to police itself for ethical violations.

Sincerely,



Jonathan C. Rose
Assistant Attorney General

## APPENDIX D

**Letter from J. Paul McGrath, Assistant Attorney General to Carol T. Crawford, Director, Bureau of Consumer Protection Dated July 31, 1984.**

U.S. Department of Justice

Antitrust Division

Office of the Assistant Attorney General

Washington, D.C. 20530

July 31, 1984

Federal Trade Commission
Bureau of Consumer Protection
Received

AUG 3 1984

Office of
the Director

Ms. Carol T. Crawford
Director
Bureau of Consumer Protection
Federal Trade Commission
Washington, D.C. 20009

Dear Carol:

As you requested, we have reviewed the FTC staff's draft report on state-imposed attorney advertising restrictions and proposed model code provisions on advertising. As a preliminary matter, I would like to commend your staff on the fine job it has done on both the report and the model code provisions. This effort should be very helpful in persuading the various states to remove unnecessary anticompetitive restrictions on truthful attorney advertising.

We generally agree with all of your staff's proposed model code provisions. We have only one minor suggestion as to Subparagraph (3) of your proposed Rule 7.3, which prohibits communication that "involves coercion, duress, or harassment." We suggest qualifying that provision to read:

> <u>The lawyer reasonably should know that</u> the communication involves coercion, duress, or harrassment.

This language should prohibit genuine instances of overreaching, while at the same time minimizing the possibility that subparagraph (3) will be used broadly to prohibit communication that is characterized as "inherently" coercive or harassing in contexts in which it clearly is not. Our proposed language is similar to language adopted by the Virginia Supreme Court in October 1983 and by the District of Columbia Court of Appeals in 1979. We have found no evidence that adoption of this language by the District has led to an increase in "undue influence, intimidation [or] overreaching" of the public.

John E. Kwoka, Jr., *Advertising and the Price and Quality of Optometric Services*, 74 AM. ECON. REV. 211 (1984).

| | |
|---|---|
| **Scope of Study:** | Kwoka used data from an FTC market experiment to analyze the relationship between advertising and price in the provision of optometric services. Kwoka focused on seven cities – three that prohibited advertising, and four that did not. Using the FTC data and a review of newspapers and Yellow Pages advertising, Kwoka divided optometrists into three categories– advertisers, non-advertisers by choice and non-advertisers by necessity (i.e., because of local prohibitions on advertising). Subjects with similar visual conditions who were trained at optometric schools regarding the components of an optometric examination visited a stratified sample of optometrists in the selected cities. This allowed Kwoka to explore the relationship between quality and advertising. |
| **Conclusions:** | Kwoka concluded that the presence of advertising caused substantial and significant declines in the prices of eye examinations offered by all types of optometrists. He found that advertisers charged $11-12 less than optometrists in cities that banned advertising. Even non-advertisers by choice in advertising markets were forced to lower their prices, although to a lesser degree than advertisers. Kwoka also concluded that advertising does not lead to an erosion of quality in optometric services. Indeed, Kwoka concluded that if advertising restrictions were lifted, price would decline by 20 percent with no decrease in the quality of services. |

# Advertising and the Price and Quality of Optometric Services

*By* JOHN E. KWOKA, JR.*

Restrictions on price advertising have been a long-standing feature of most markets for professional services. The prevailing economic view of these restrictions is that they constitute restraints on the provision of information that maintain excessive prices for such services. Much of the evidence for this view, however, comes from commodities which are standardized and assessable by consumers. By contrast, most professions claim that their services are neither, and that advertising may mislead consumers and undermine the provision of high quality. Market failure may be a danger under such circumstances.

This note examines advertising of professional services, and of optometry in particular. In Section I, I elaborate on the distinctive characteristics of professional services and summarize relevant theory and empirical evidence. Section II analyzes new, detailed data on the effect of advertising on the price and quality of optometric services. The empirical results are consistent with improved market efficiency from advertising, in that prices fall without the erosion of quality sometimes feared.

## I. Advertising and Professional Services: The Issues

Many professions contend that the markets for their services are characterized by extremely asymmetric information between buyers and sellers, in conjunction with what we may call endogenous heterogeneous quality. The asymmetry is said to arise since consumers cannot assess, or fully assess, the quality of the services they receive. Services are often complex and inherently judgmental (for example, medical checkups) with effects that are long delayed (title searches), or stochastically indeterminate (prescriptions for ailments). The feedback effects on which the market usually depends are impeded, if present at all. In addition, the quality of the service is not predetermined, but instead the provider can choose or vary the quality supplied. Thus, there is no simple objective measure of an adequate title search or medical checkup, but the services provide to varying degrees for contingencies. The determination of appropriate thoroughness is part of the professional's judgement, that is, quality is endogenously determined.

In such circumstances, professional advertising is alleged to hasten or ensure market problems. Although buyers have difficulty in assessing quality, price is easily understood and price advertising is effective in shifting demand. To accommodate their increased volume of business, advertisers are said to lower quality without market recognition, or at least without full market recognition. This is supposedly accomplished by reducing the crucial input, namely, the professional's own time per customer. Those providers who prefer to offer high-quality service must either suffer a progressive decline of their customer base, or, similarly, lower quality. Thus advertising has increased rewards to low-quality professionals and exacerbated pressures on high-quality providers.

Theory and empirical evidence of varying degrees of relevance to this scenario do exist. For example, for homogeneous or predetermined heterogeneous commodities,[1] theory predicts that advertising may lower price by raising demand elasticity for individual sellers and/or by permitting fuller realization of production scale economies. Such price effects have been demonstrated for

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[1] Predetermined heterogeneous commodities are those for which sellers cannot readily vary quality, although various qualities exist in the market.

eyeglasses by Lee Benham (1972), prescription drugs by John Cady (1976), and retail gasoline by Alex Maurizi (1972) and Howard Marvel (1976). The relationship between advertising and product quality has also been considered, again for predetermined heterogeneous commodities. Philip Nelson (1974; 1978) has argued that even for experience goods, high-quality sellers have more to gain from advertising, via repeat purchases, than low-quality sellers. Yet Richard Schmalensee (1978) identifies circumstances under which low-quality sellers advertise more. In any event, neither author considers the simultaneous role of price, or the possibility that quality is a choice variable of the seller.

The effect of asymmetric information on quality (and price) between buyers and sellers was originally considered by George Akerlof (1970). His used car consumers know market average quality only, and his sellers offer products of predetermined heterogeneity. The inability of high-quality suppliers to be adequately compensated in the market leads to a quality erosion ("lemons") process. More recently, Hayne Leland (1979) has modeled the potentially beneficial role of quality standards in such circumstances, and Eric Bond (1982) has produced evidence that the used truck market has escaped the lemons result.

Thus while advertising may generate lower prices, the effects on quality may be more problematic. Indeed, with endogenous quality for professional services (in contrast to Akerlof's used cars), complete and immediate quality erosion may be prevented only by whatever information consumers may bring to bear, plus the professional's own determination to produce quality.[2] Clearly, of course, some amount of information does exist in the market. Most services produce a subset of immediately measurable effects, and consumers learn more from repeat purchases, second opinions, and others' previous experiences. For "contact" services like medical checkups, where consumers are necessarily present, inputs (such as time, capital equipment) can be monitored. Also, some professionals may develop ways of signalling their quality to potential customers, for example, by adopting nonadvertising modes of operation.

On the production side, advertising may produce benefits in a variety of ways. The above has noted that advertising may permit the fuller realization of production scale economies with likely lower prices. An analogous phenomenon may be at work regarding quality. Low volume may be associated with the deterioration of professional skills and reduced incentive to improve skills. And if there are economies of scale with respect to quality control (say, brand names), larger volume may not only improve information about quality, but quality itself.

Thus, a variety of considerations works to sustain and perhaps even improve quality in the presence of advertising. The models predicting quality erosion may be too simple, and empirical evidence has been sparse. The next section partially remedies this latter problem.

## II. Advertising and Optometric Services: The Evidence

Tests of the price and quality effects of advertising require data on at least three categories of professionals: those operating in restrictive environments (nonadvertisers of necessity), nonadvertisers in advertising environments (nonadvertisers by choice) and advertisers, obviously in advertising environments as well. Such data are available from a substantial market experiment in the optometry profession conducted by the Federal Trade Commission (Ronald Bond et al., 1980). Optometry has often been studied,[3] since it, virtually alone among the professions, has long had a rich variety of advertising environments. The present data constitute improvements over those used in most previous studies in three respects.

First, cities are classified on the basis of actual advertising rather than restrictions in

[2]A model along these latter lines is developed in my working paper, where I demonstrate conditions under which quality erosion does not occur even with extreme informational asymmetry.

[3]See particularly Roger Feldman and James Begun (1978; 1980).

laws or codes of ethics.[4] Because instances were found where advertising was either greater or less than permitted, formal restrictions are unreliable guides to actual practice. Ultimately, three cities were selected which prohibited all advertising of eye examinations (and eyeglasses as well), and also prohibited were commercial practices such as an optometrist working for an optical firm. All optometrists in these "restrictive" markets were, of course, nonadvertisers. In the four "advertising" markets, price and nonprice advertising of both examinations and eyeglasses were permitted, as well as commercial practice.[5]

Second, in advertising markets, nonadvertisers are distinguished from advertisers, thereby permitting analysis of the quality erosion hypothesis. In fact, four different types of optometrists are identified, corresponding approximately to the magnitude of their advertising effort. The term *NONE* denotes nonadvertising practitioners; their names appear only in listings of optometrists in the Yellow Pages, and they practice in thoroughly "professional-looking" offices. The term *STORE* denotes on-site advertisers who do not advertise in the Yellow Pages or newspapers, but instead have storefronts with prominent signs or displays. The variable *SMED* denotes optometrists, who are small-firm media advertisers, those affiliated with small local firms (usually optical firms) which advertise in the Yellow Pages and/or newspapers, and *LMED* represents large-chain advertisers, optometrists affiliated with large regional or national optical firms, and heavy advertisers in the media.

Third, the methodology produced primary data of enormous detail and quality, since the data were generated by examinations actually obtained from a stratified sample of optometrists in the selected cities. The seven subjects with similar visual conditions were trained at two schools of optometry with regard to the components of an optometric examination. They obtained examinations and recorded price, time spent, and details on the various tests and procedures performed. The present data set consists of 147 observations.

Table 1 reports regressions which test the effects of advertising on price and one measure of the quality of optometric services. In all regressions, the comparison group (the constant term) consists of all optometrists in restrictive markets, that is, they are nonadvertisers by definition. The variables denoted *NONE*, *STORE*, *SMED*, and *LMED* represent the categories of practitioners previously defined in advertising markets. In addition, following conventional practice, variables are included to control for the number of optometrists per capita in the market (*ODPC*), to represent the intensity of monopolistic competition;[6] income per capita of the population (*YPC*), reflecting different demand conditions; as well as a set of six dummy variables for the subjects.

The first three regressions in Table 1 explore price. Those lettered (a) and (b) are ordinary least squares, and differ only in the inclusion of subject dummies in (b). Both suggest that the presence of advertising causes substantial and significant declines in the prices of eye examinations offered by all types of optometrists. Large- and small-firm advertisers (*LMED* and *SMED*, respectively) appear to charge $11 to $12 less than optometrists in restrictive markets, a finding consistent with evidence previously cited. The negative coefficient on the *NONE* variable confirms that even nonadvertisers in advertising markets are forced to lower prices to compete. Yet their reduction is much less than that by advertisers themselves.[7] The addition of six subject dummies in price

[4]Specifically, the telephone book Yellow Pages were checked, and newspapers were scanned for two to four months to ascertain the type and amount of advertising. Further details on methodology can be found in Bond et al.

[5]Restrictions on advertising and commercial practice tend to occur simultaneously, and present data reflect that coincidence. To that extent, estimates below may represent an upper bound on advertising alone.

[6]There is reason to believe that the number of optometrists per capita may be greater where advertising exists (see Lee Benham and Alexandra Benham, 1975). If so, present estimates understate the full effect of advertising.

[7]In their study of eyeglass prices, Benham and Benham find similar effects of advertising on the prices charged by nonadvertisers.

TABLE 1—REGRESSION RESULTS FOR PRICE AND TIME-QUALITY OF SERVICE[a]

| Dependent Variable | Constant | *NONE* | *STORE* | *SMED* | *LMED* | *ODPC* | *YPC* | $R^2$ | *F* |
|---|---|---|---|---|---|---|---|---|---|
| (a) *Price* | 28.92 | −2.59 | −7.56 | −11.13 | −12.35 | −9.88 | 8.24 | .56 | 29. |
| | (7.79) | (1.94) | (3.16) | (7.48) | (8.68) | (6.54) | (1.10) | | |
| (b) *Price*[b] | 29.18 | −2.56 | −7.44 | −11.03 | −12.06 | −9.61 | 8.04 | .57 | 14. |
| | (7.54) | (1.88) | (3.00) | (7.30) | (8.27) | (6.14) | (1.05) | | |
| (c) *Price*[c] | 30.63 | −1.40 | −6.13 | −9.88 | −11.19 | −8.52 | 1.44 | .64 | 41. |
| | (10.41) | (.98) | (2.15) | (5.90) | (8.43) | (5.30) | (.24) | | |
| (d) *Time* | 40.07 | 7.68 | −4.61 | −7.01 | −8.01 | 2.14 | −34.02 | .29 | 9. |
| | (3.95) | (2.11) | (.71) | (1.72) | (2.06) | (.52) | (1.67) | | |
| (e) *Time*[b] | 49.53 | 7.55 | −4.23 | −6.92 | −8.09 | 2.49 | −32.33 | .40 | 7. |
| | (5.05) | (2.18) | (.67) | (1.81) | (2.19) | (.65) | (1.67) | | |
| (f) *Time*[b,c] | 41.23 | 11.71 | −0.87 | −3.14 | −4.89 | 9.51 | −27.84 | .52 | 12. |
| | (6.48) | (2.79) | (.18) | (.80) | (1.29) | (2.05) | (2.02) | | |

[a]The $t$-statistics are shown in parentheses.
[b]Subject dummies are included in regression.
[c]*GLS* regression. The constant term is a variable representing between-group differences in sample variance. Th statistic $F$ is calculated by comparing the explanatory power of a regression where all the coefficients except th constant are constrained to zero; $R^2$ corresponds to that $F$. See George Judge et al. (1980, pp. 254–56).

regression (b) does not affect the magnitude or significance of any result in equation (a). An $F$-test on the increase in regression sum of squares from the subject dummies yield $F(6,134)=.45$, far short of statistical significance. Subject-specific variation is not important in the price regressions.

A correction which is of some importance, however, is for heteroskedasticity among the five types of optometrists.[8] Using generalized least squares in equation (c), we obtain efficient parameter estimates in most cases close to the previous values. As before, all optometrists in advertising markets lower their prices, from $1.40 by nonadvertisers to over $11 by large-firm advertisers. The statistical significance of the nonadvertisers' price reduction has diminished, although the difference between *NONE* and *LMED* remains high significant ($t=13.9$). These differences can be compared to a restrictive market mean price of $25.17, evaluated at the means of *ODPC* and *YPC*. The latter, it should be noted, have the expected signs, although per capita income is not statistically significant.

Regression equations (d), (e), and (f) in Table 1 perform the same tests on the measure of quality: time (in minutes) spent in th examination. In the absence of a standar definition of quality in optometry, "time' has the advantages of being unbiased observable, and correlated with output mea sures of quality.[9] And, as previously noted in many circumstances it is the crucial inpu to quality, supposedly reduced as the resul of advertising. In addition to the type o optometrist and the other control variable in equation (d), dummy variables for sub jects are added in equation (e). In this case their impact is more pronounced, and collec tively they are statistically significant wit $F(6,134)=4.16$. The effects of subjects o time-quality is probably due to slight differ ences in their visual conditions, requirin different procedures, and/or to individua differences in their mannerisms during ex aminations. I shall focus on equations whic control for such extraneous factors.

In addition, heteroskedasticity among th types of optometrists requires application o generalized least squares (*GLS*).[10] As re ported in equation (f), the possibility tha advertisers give shorter examinations is sup ported. The coefficient on *LMED* implie

[8]A likelihood-ratio test for equality of the price regression residuals among the five types of optometrists yields a test statistic $\lambda=23.8$. The 5 percent region with four degrees of freedom is defined by $\lambda=9.5$. See Jan Kmenta (1971, p. 268). The standard deviations of the computed residuals are used to normalize the data.

[9]In the Bond et al. study, consulting optometrist developed an "index of thoroughness" by weighting th various tests and procedures. Its simple correlation wit the time input is .71.

[10]The test statistic for equality of variances is $\lambda=$ 47.1. See fn. 8.

TABLE 2—*GLS* REGRESSIONS FOR PRICE, TIME-QUALITY HELD CONSTANT

| | Constant | *Time* | *Time* × *Adv* | *NONE* | *STORE* | *SMED* | *LMED* | *ODPC* | *YPC* | $R^2$ | $F$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (a) | 24.16 | .133 | | −2.83 | −6.06 | −9.39 | −10.52 | −9.19 | 9.23 | .70 | 46.7 |
| | (7.87) | (4.71) | | (2.05) | (1.88) | (5.64) | (7.99) | (5.82) | (2.55) | | |
| (b) | 25.47 | .064 | .095 | −5.48 | −8.40 | −11.65 | −12.75 | −9.14 | 10.21 | .71 | 41.5 |
| | (8.02) | (1.17) | (1.51) | (2.46) | (2.36) | (5.21) | (6.44) | (5.81) | (1.71) | | |

*Note*: See footnotes to Table 1.

that large-firm optometrists spend about 5 minutes less in a typical examination than practitioners in restrictive markets. This difference is statistically significant at 10 percent in a one-tail test, and bears out one portion of the argument made by optometrists and other professionals concerning the effects of advertising. But a crucial part of their story, that concerning the fate of nonadvertisers, is not confirmed. Nonadvertisers in advertising markets give higher quality examinations than their counterparts in restrictive markets. The coefficient on *NONE* indicates their exams are over 11 minutes *longer* than the restrictive market average of 24 minutes.

This conclusion stands in sharp contrast to the argument that advertising induces an erosion of quality by all practitioners in the market. These data reveal that nonadvertisers-by-choice actually provide service of superior quality to nonadvertisers in restrictive markets. This result may be due to (*i*) simple disaggregation of all practitioners in restrictive markets, such that those who provide above-average quality adopt a nonadvertising mode; (*ii*) lower opportunity cost of time to nonadvertisers in advertising markets, who lose customers to advertisers (unless they take countermeasures); or (*iii*) greater sensitivity of consumers in advertising markets to quality differences, with consequently stronger feedbacks for high quality. In any case, such nonadvertisers constitute a sizeable fraction of providers in advertising markets. Weighting the time differences in regression (f) by the frequency of each kind of optometrist found,[11] the mean time spent in advertising markets is actually *longer* than in restrictive markets.[12] This is altogether inconsistent with the view that high-quality service is endangered by advertising.

One final matter concerns the overall relation between price and time-quality. If such an association exists, it must be taken into account in estimating the effect of removing advertising restriction, since only constant-quality prices will have significance. Table 2 reports the results of *GLS* price regressions analogous to equation (c) in Table 1, with the addition of variables to hold quality constant. Equation (a) of Table 2 demonstrates the strong positive association throughout the data between price and time-quality ($t = 4.71$). The significantly different intercepts for the four categories of practitioners in advertising markets, even after controlling for time, are price differences associated with other dimensions of quality (for example, waiting time, location), and might be due to residual imperfections in consumer information.

A variation of interest is to add a slope dummy on the time variable permitting a different relationship between price and quality in advertising markets. In equation (b) of Table 2, the variable *Time* × *Adv* has a sizeable positive coefficient, and $t = 1.51$, significant at about 13 percent. It would appear that price of *additional* examination time may be higher in advertising environments, even while total price is less. This would be consistent with practitioners' greater ability to

[11] These weights are obtained from the proportions of various types of optometrists in the Yellow Pages, and in field work. Thus, the price comparisons are of offer prices, not transactions prices in the market. The larger share of advertisers would make the price difference with restrictive markets greater yet.

[12] The difference is 5.3 minutes. Recall that these numbers represent quality offered, and do not reflect the likely larger share of chain firms. In addition, it is interesting to note that the variance of time spent in restrictive markets is 135.9 (standard deviation of 11.6 minutes) compared to 118.8 (standard deviation of 10.9 minutes) in advertising markets. The difference, however, is not significant, with $F(45,97) = 1.13$.

differentiate their services, and seemingly to get compensated accordingly, in advertising markets. By contrast, restrictive markets cause a leveling of prices despite the existence of quality diversity.

From the results in equation (a), we apply weights representing the proportions of each type of practitioner to the estimates of constant-quality price differences in advertising markets. The mean difference is $5.23. Compared to an average price in restrictive markets of $25.44,[13] this implies that the removal of advertising restrictions would cause constant-quality prices to decline over 20 percent. And to reiterate, this occurs without a decline in overall market quality.

### III. Summary

This paper has explored a market process that, many professions argue, may be precipitated by advertising. In particular, the claim that advertising lowers price and quality, forcing others to do so, is tested with data from the optometry profession. The evidence reveals that advertisers' prices and quality are indeed lower, and while nonadvertisers' prices fall, their quality actually is greater. Furthermore, nonadvertisers remain in sufficient numbers in the market so that average market quality is not lower, but indeed greater. These results are inconsistent with key elements of the professions' argument against advertising, but instead imply considerable social benefits from loosening restrictions as shown on the practice of optometry.

[13] This amount differs slightly from that derived before because of the additional control for quality in the present regression.

## REFERENCES


**Akerlof, George**, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, August 1970, *84*, 488–500.

**Benham, Lee**, "The Effect of Advertising on the Price of Eyeglasses," *Journal of Law and Economics*, October 1972, *15*, 337–52.

______ and Benham, Alexandra, "Regulating Through the Professions: A Perspective Information Control," *Journal of Law a Economics*, October 1975, *18*, 421–47.

**Bond, Eric**, "A Direct Test of the 'Lemo Model: The Market for Used Pick Trucks," *American Economic Review*, Se tember 1982, *72*, 836–40.

**Bond, Ronald et al.**, *Effects of Restrictions Advertising and Commercial Practice in t Professions*, Washington: Federal Tra Commission, 1980.

**Cady, John**, "An Estimate of the Price Effe of Restrictions on Drug Price Advertisin *Economic Inquiry*, December 1976, 1 493–510.

**Feldman, Roger and Begun, James**, "The Effe of Advertising Restrictions—Lessons fr Optometry," *Journal of Human Resourc* Supp., 1978, *13*, 247–62.

______ and ______, "Does Advertising R duce the Mean and Variance of Prices *Economic Inquiry*, July 1980, *18*, 479–84

**Judge, George et al.**, *The Theory and Practi of Econometrics*, New York: Wiley & So 1980.

**Kmenta, Jan**, *Elements of Econometrics*, N York: Macmillan, 1971.

**Kwoka, John**, "Advertising and the Price a Quality of Optometric Service," Depa ment of Economics Discussion Paper 82 George Washington University, 1982.

**Leland, Hayne**, "Quacks, Lemons, and Licen ing: A Theory of Minimum Quality Sta dards," *Journal of Political Economy*, D cember 1979, *87*, 1328–46.

**Marvel, Howard**, "The Economics of Inform tion and Retail Gasoline Price Behavi An Empirical Analysis," *Journal of Poli cal Economy*, October 1976, *84*, 1033–6

**Maurizi, Alex**, "The Effects of Laws Again Price Advertising: The Case of Ret Gasoline," *Western Economic Journ* September 1972, *10*, 321–29.

**Nelson, Philip**, "Advertising as Informatio *Journal of Political Economy*, July/Augu 1974, *81*, 729–54.

______, "Advertising as Information On More," in David Tuerck, ed., *Issues Advertising*, Washington: American Ente prise Institute, 1978, 133–60.

**Schmalensee, Richard**, "A Model of Advert ing and Product Quality," *Journal of Pol ical Economy*, June 1978, *86*, 485–503.

James H. Love & Frank H. Stephen, *Advertising, Price and Quality in Self-regulating Professions: A Survey*, 3 INT'L J. ECON. BUS. 227 (1996).

**Scope of Study:** Love and Stephen reviewed and analyzed 17 empirical studies in an attempt to discern the relationship between advertising and fees in self-regulating professions. The empirical literature fell into three broad categories. The first compared fees in states with strict regulations on advertising with those with limited or no such advertising. The second group of studies compared the fees of firms that advertised with those of firms that did not. The third group analyzed the impact of market-wide advertising on the fees of individual firms.

**Conclusions:** Love and Stephen found that 16 of the 17 empirical studies showed that advertising has a downward effect on professional fees, while there was little evidence that advertising lowered the quality of service offered to the public. Love and Stephen concluded that restrictions on advertising tended to increase fee levels and dispersion of prices.

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# Advertising, Price and Quality in Self-regulating Professions: A Survey

JAMES H. LOVE and FRANK H. STEPHEN

ABSTRACT *This paper surveys the theoretical and empirical literature on the relationship between advertising, fees and quality in the self-regulating professions. Much of the literature is derived from the perspective of advertising as an information-enhancing device, helping to reduce the information asymmetry between professional and client. This is consistent with the majority of the empirical studies which suggest that advertising tends to have a downward effect on professional fees, with little if any adverse effect on quality. There are, however, important issues of method and measurement which may lessen the force of this conclusion.*

*Keywords:* Advertising; Self-regulating professions; Price–quality interaction.

*JEL classifications:* L15, L43, L84.

## 1. Introduction

In North America and throughout much of western Europe many professions are subject to a system of self-regulation which permits the profession to regulate its own affairs, often with the backing of statute.[1] Invariably inherent within any system of self-regulation is some form of restriction on the structure and/or conduct of the profession: such restrictions are of three main types: (i) restrictions on entry (in terms of both quality and quantity); (ii) restrictions on fee competition; (iii) restrictions on advertising and other means of self-promotion.[2]

The fact that self-regulation permits restrictive practices which might normally fall foul of competition policy arises from the view that a fully competitive environment in the professions would not serve the public interest. This is because assurances are required regarding the professional competence of providers of services relating to the health and safety of the general public, and because of the potential for opportunism arising from substantial information asymmetries which exist between client and professional. However, there is a contrary view which

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maintains that professional self-regulation is a particularly effective form of rent seeking by monopolistic providers whose activities serve their own interests more than those of the public.[3] This latter view has, in recent years, increasingly influenced public policymakers, and, consequently, there has been a move towards less heavily regulated markets for professional services. In particular, professions in the US and UK have had their controls on advertising considerably weakened. To a large extent, this changing view has drawn support from empirical studies by economists on the effects of advertising by the professions. The present paper is directed to re-assessing this evidence.

The next section discusses in more detail the informational issues relating to advertising and the professions. The predictions of economic theory with respect to advertising and its restriction are then outlined, and this is followed by a review of the empirical literature on the subject, concentrating on two main aspects; the effect on professional fees (including the incidence of price discrimination), and the effect on the quality of service provided by professionals. Following a discussion of problems of method and measurement in the empirical research, the final section draws conclusions from the survey and makes suggestions for future research.

## 2. Informational Aspects of Professional Advertising

Professional services markets give rise to potentially severe informational problems with respect to both potential and existing clients (Federal Trade Commission, 1984).[4] First, there is an information asymmetry between client and professional as a result of the complexity and specialised nature of the work undertaken. This is important because, in the absence of an asymmetry favouring the supplier, incomplete consumer information alone is insufficient to reduce consumer welfare relative to full-information equilibrium (Pauly, 1986). Second, the client/practitioner relationship is typically of a fiduciary nature, rendering the client exposed to opportunistic behaviour and problems arising from moral hazard. Third, it is inherently difficult for most consumers to assess the quality of service provided even *ex-post*. Since the demand for professional services by most consumers is relatively infrequent, there is often insufficient contact for clients to gauge from experience the quality of service being received, even if they were competent to make such judgements. Professional services may therefore be considered as a credence good (Darby and Karni, 1973). Finally, consumers rarely buy professional services directly; more commonly the professional makes a diagnosis of the client's problem and then recommends and supplies a service to solve the problem. There is therefore the potential problem of supplier-induced demand.

Overall, the relationship between client and professional is one of highly imperfect agency. Market imperfections may arise from the transaction costs of obtaining the necessary information on the availability of suitable professional services, agreeing on the quantity and quality of service rendered, and enforcing all explicit and implicit contracts between client and practitioner (Cheong, 1993). The crucial point is that the above arguments may be used to support either of two mutually exclusive positions. On one hand it can be argued that the identified problems show that the public must be protected by a system of regulation to lessen the undesirable effects of competitive pressures, including a ban on (competitive) advertising by professionals. On

the other, the argument is that these problems arise precisely because there is a lack of information available to clients, and that information-enhancing instruments such as advertising would help alleviate these problems.

Much of the literature advocating the latter position originates from legal scholars (Zander, 1968; Mitchell, 1982; Hazard *et al.*, 1983). In part this arises from the belief that none of the traditional sources of information which are available on professional services fully meet the needs of consumers. Hudec and Trebilcock (1982) argue that the very information asymmetries discussed above prevent both personal and second-hand experience being accurate methods of conveying information, yet in the absence of more objective sources of data these are precisely the methods most likely to be used by prospective clients. Advertising may help, argue Hudec and Trebilcock, by supplementing existing information sources and filling gaps in information networks at an early stage in the decision-making process of the potential client.

There are, nevertheless, legitimate concerns over some aspects of professional advertising (Cheong, 1993). Advertising alone cannot provide a client with details of the skill or expertise of a particular professional. In addition, the complexity and information asymmetries involved in professional advice will make it difficult for clients to detect untruthful advertising claims, potentially giving rise to the erosion of service quality and problems of adverse selection in the market.[5] One response to this is to claim that dishonest advertising will create its own demise because potential clients will respond positively to professional advertising only if they find they can trust the accuracy of the information conveyed (Hudec and Trebilcock, 1982). However, this argument may apply only to the categories of search and experience goods identified by Nelson (1970; 1974). In the case of search goods, consumers can easily discover false or inflated claims prior to purchase. For experience goods, where quality is only verifiable after purchase, the volume of advertising by the supplier can be used as an indicator of quality and truthfulness of the advertised claims. This is because service providers could not afford to advertise heavily unless their quality of service was sufficiently high to ensure repeat business. The credence good nature of most professional services weakens the force of Nelson's argument on the relationship between quality and advertising volume. In addition, even if clients were able to assess service quality *ex post*, the mechanism by which they are able to identify false claims about service quality does not operate instantaneously, so that transitory benefits may be reaped from dishonest advertising. This danger is exacerbated by the occasional use which most purchasers make of professional services, preventing the informational role of repeat purchase from coming into play.

Determining whether advertising is likely to ameliorate or exacerbate the informational problems inherent in the provision of professional services requires first that clear hypotheses are developed about the likely effects, based on appropriate economic theory, and second, that suitable empirical research is carried out to test these hypotheses. Much of the empirical research on professional advertising deals with two crucial aspects of the process on which both hypothesising and empirical testing are possible; the effect on fee levels and the effect on quality of service. The next section briefly reviews the relevant economic theory with respect to both of these.

## 3. Economic Theory and Professional Advertising

### *(a) Fee Levels and Price Discrimination*

*Fee Levels.* Two distinct strands of economic theory are relevant to the relationship between advertising and price: broadly speaking, this is the distinction between 'informative' and 'persuasive' advertising. In the first of these strands, advertising is a useful source of information to consumers, which helps underpin competitive behaviour. This may be of particular relevance to the professional services market because of the information asymmetry discussed earlier: Gaynor and Polachek (1994) produce empirical evidence for the US market for physicians' services that incomplete patient information is approximately 50% higher than incomplete physician information. Telser (1964) argues that advertising can be informative in three respects: it can inform consumers about the existence of suppliers; it can provide information on the characteristics of different products in a market in which product differentiation is commonplace; and it can help consumers judge the quality of the products on offer from different suppliers. The first and third of these informational aspects have had some influence on research into professional advertising. The relationship between advertising and quality is dealt with separately in the next section, and for the moment we concentrate on advertising as an indicator of the existence of suppliers with certain characteristics.

The most influential subset of this literature derives from the work of Stigler (1961) on the economics of information. Stigler's model relates to consumers seeking low prices among numerous suppliers where the consumer has an implicit or explicit conception of the probability distribution of prices. The optimal search strategy of consumers is affected by the extent of advertising, because advertising is seen as being equivalent to a large amount of search by a large number of consumers: as a result, advertising can have the effect of reducing price dispersions in a market. This work has been adapted by researchers interested in professional advertising. For example, while Stigler's hypothesis actually deals with the ability of advertising to lower price *dispersions* in a given market, it has been developed in the context of professional advertising and fee *levels* by Schroeter *et al.* (1987). They argue that Stigler's hypothesis implies that advertising in a market will increase the own-price elasticity of demand for firms in that market, leading to lower prices *ceteris paribus* in the presence of advertising.

The second major strand in the literature sees advertising as a form of persuasion and/or barrier to entry, which is geared towards product differentiation. This lowers the advertiser's own-price elasticity of demand and increases price-cost margins, leading *ceteris paribus* to a higher fee than would otherwise be the case; advertisers would therefore be expected to have higher prices than non-advertisers.[6] The simplest expression of this derives from Comanor and Wilson (1967), who show that high penetration costs incurred by potential entrants into an oligopoly with established brands helps keep the lowest price needed to forestall entry well in excess of incumbents' average cost. While this basic model has been criticised on several grounds for over-simplicity (e.g. Cubbin, 1981; Schmalensee, 1983), the use of some measure of advertising intensity has a long pedigree in the industrial organisation literature as an explanatory variable in empirical studies of the determinants of profitability.[7]

Although apparently providing neatly contrasting hypotheses about the influence of advertising on fee levels, the arguments presented above are actually conducted at different levels of aggregation. The advertising-as-persuasion view is

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about the advertising behaviour and pricing of individual firms; the advertising-as-information view suggests that in markets with higher levels of advertising prices should be lower for *all* firms in the market. In contrast to the industrial organisation literature generally, it is this latter approach which has been predominant in the empirical work on professional advertising. Stigler (1961) has been particularly influential here. However, Stigler's theoretical contribution suffers from two potential weaknesses in this respect. First, there is experimental evidence that, even where information on professional fees is available, consumers do not use such data to seek out lowest-cost providers (Hibbard and Weeks, 1989). Second, Stigler's analysis is implicitly restricted to *price* advertising; by contrast, we show below that much of the advertising carried out by professionals will be *non-price* advertising. The preponderance and potentially differential effects of non-price advertising are rarely dealt with in the empirical studies.

*Price Discrimination.* Professional service markets provide almost classical opportunities for price discrimination, that is the provision of similar services at prices which are in different ratios to their marginal costs (Stigler, 1987). This requires that three conditions be fulfilled. First, it must be possible for the supplier to prevent resale. Second, the supplier must be able to segment the market into two or more groups. Finally, there must be some element of market power on the part of the supplier, since the incentive for price discrimination arises naturally when a good or service is priced above marginal cost. The nature of professional services, the information asymmetries inherent in their supply, and the restrictive practices employed in many self-regulating professions all provide conditions appropriate to price discrimination (Stephen *et al.*, 1993).

The theoretical links between advertising and price discrimination derive almost exclusively from the advertising-as-information perspective. Rothschild (1974) builds on Stigler's analysis to show that sequential search (i.e. equating the expected costs and gains from continued search) is the optimal strategy where the distribution of prices is known. In addition, he derives optimal search rules even where (as is more likely) the distribution of prices is unknown to the consumer. Philips (1983) argues that we can therefore assume that high-income consumers have relatively high search costs and *vice versa* for low income consumers, suggesting that suppliers may make use of price discrimination based on incomes.

Precisely such a model is developed by Masson and Wu (1974) in the context of the self-regulating profession. They show that the existence of information costs help physicians engage in third-degree price discrimination based on patients' income: higher income patients have higher search costs, and are charged higher fees. The model implies that any action which reduces search costs will, *ceteris paribus*, reduce fees. If advertising is informative, and so reduces the cost of acquiring relevant information, it will tend to increase the elasticity of demand of high-income patients by more than that of their low-income counterparts. This will result in a reduction in price discrimination. Masson and Wu's basic model has been extended and adapted by Stephen (1994) to consider the effect of advertising by solicitors.

The concentration in the price discrimination literature on Stigler's advertising-as-information perspective again implies that the analysis is (implicitly) restricted to the effect of price advertising. The theoretical relationship between price discrimination and non-price advertising is less clear, and the two main theoretical

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strands outlined earlier suggest opposing signs on the effect of such advertising. Following the informational argument of Telser (1964), non-price advertising may reduce the costs associated with search by identifying potential suppliers or supplying information relevant to the consumer's choice of supplier. Stephen *et al.* (1993) point out that this may be particularly relevant in the case of professional services, where price may not be the sole (or even principal) determining factor in consumer choice. To the extent that such reduced search costs have a greater effect among wealthy consumers with high search costs than among poorer consumers, even non-price advertising may have the effect of reducing the incidence of price discrimination. Equally valid, however, is the advertising-as-persuasion view that non-price advertising may be used as a vehicle for product differentiation, possibly increasing the opportunity for price discrimination through asymmetric effects on demand elasticities in different market segments. There is therefore a degree of ambiguity about the likely effect of market-wide non-price advertising in professional service markets.

### (b) *Quality of Service*

The arguments in favour of advertising restrictions among self-regulating professions arise in part from fears that advertising may lead to 'excessive' price competition, which may result in extremely low returns to professionals and the tendency to provide a lower quality of service. This may stem, it is argued, from the complexity of professional services; it is difficult to signal quality clearly through advertising because of the lack of tangible, describable features of the service on offer. Indeed, "... the price of his service might be one of the few pieces of information which a professional can effectively communicate through advertising" (Rogerson, 1988: 215). Competition therefore occurs on this observable variable, at the expense of less tangible quality dimensions. However, this is only part of the picture. Advertising will have the effect of increasing demand, which allows economies of scale in production by individual providers. This may have the effect of lowering costs and hence prices without any detrimental effect on quality, the natural outcome of a more competitive environment.

This appears to suggest a testable hypothesis; that (price) advertising either increases or lowers the quality of service provided by the firms undertaking it, which may in turn have implications for the overall level of quality in the market. But there is the complication of the trade-off between price and quality. Competition only becomes 'excessive' if it results in a quality deterioration which is not at least offset by lower prices. Maris and McChesney (1979) argue that consumers should be free to make their own price–quality tradeoffs in professional services just as they are for other goods. This, however, requires that consumers have the necessary information to make such a choice; if professional advertising provides data only on price and not quality, how can this be achieved?

The answer lies in the ability of price to signal quality. Rogerson (1988) shows formally that even if price can communicate no information directly about quality, it can do so indirectly because price serves as a positive signal of quality *when price advertising is allowed.*[8] Price advertising is therefore welfare enhancing because it improves consumer choice. A problem arises, however, if price advertising is undertaken exclusively, or at least principally, by low-price/low-quality suppliers. Price advertising therefore becomes an adverse signal on quality. This is a general

Zeckhauser (1992) point out that consumers who are unable to assess quality *ex ante* (and possibly even *ex post*) and who observe a low price for a non-standardised service may assume that more knowledgeable purchasers have assessed the service as being of low quality.[9] Professionals are keen to avoid such adverse signals on quality, and so Rizzo and Zeckhauser conclude that price advertising will be uncommon in most professions. Thus not only may advertising have an effect on quality, perceptions of quality may have an effect on the form of advertising chosen by professionals.

The hypothesis that non-price advertising will be much more common than price-advertising is supported by evidence from the legal profession in the UK. Stephen *et al.* (1994) show that within 2 years of advertising being permitted, the percentage of English solicitors' firms which had advertised within the 6 months prior to an extensive survey was 46%; but only 2% of firms had advertised the price of any service. Six years later (in 1992), the proportion of advertising firms had risen to 59%, but price advertising was carried out by just 4% of firms. And in Scotland, Stephen (1994) estimates that within 3 years of being permitted to do so, over half of Scottish solicitors' firms engaged in advertising, but less than 5% advertised the price of any service.

The hypothesised relationship between non-price advertising and quality is less clear than in the case of price advertising. Nelson (1974) shows that goods which exhibit mainly experience characteristics are more likely to be advertised than 'search' goods, because the advertising of such goods does more than simply relate brand to function; it provides important information about the supplier's reputation and commitment both to the market and to the good or service in question. Thus even if advertising lacks informational content, there will nevertheless be a mutually-reinforcing relationship between advertising and quality: the provision of high-quality goods generates repeat purchases from satisfied consumers which in turn raises the returns to advertising, ensuring that more advertising is carried out (Hay and Morris, 1991). A judicious mix of pricing and advertising will permit high-quality firms to protect their market share from low-quality producers who copy the former's price, but are unable to sustain (or to risk) the advertising outlay which is necessary to help generate long-term repeat business (Milgrom and Roberts, 1986).

Laband (1986) extends Nelson's argument and shows that advertisements for high priced, low frequency items—including some personal services—are more likely than those for low priced, frequently purchased goods to contain information on professional or trade certification. This may provide important information on quality, and suggests the possibility of a positive relationship between the extent of advertising by a given supplier and that supplier's quality. However, in the case of credence goods such as self-regulating professional services, this relationship may be less clear because professional certification provides an indication of no more than some minimum level of competence guaranteed by all those permitted to practise. Further, Schmalensee (1978) shows that Nelson's hypothesised positive relationship between advertising and quality may not hold under all circumstances. Where costs vary across suppliers of different quality, and where the cost to the consumer of judging quality is high even after purchase, there may be an inverse relationship between advertising and quality. These are, of course, precisely the conditions which tend to hold in professional services.

This brief overview of the theoretical literature can be summarised as follows:

1. With respect to fee levels and price discrimination, the advertising-as-information approach is much more prevalent than its advertising-as-persuasion counterpart. This provides unambiguous predictions with respect to the effect of price advertising, but the likely impact of non-price advertising is less clear.
2. With respect to quality of service, Rogerson (1988) shows that price advertising will be positively associated with quality, to the extent that high-price, high-quality firms engage in such advertising. However, in practice, price advertising is rare among professionals, possibly because they fear it may provide an *adverse* signal on quality. While Nelson's analysis suggests that even non-price advertising may provide positive quality signals, it is unclear that this applies to credence goods such as professional services; these may be of the type identified by Schmalensee which have an inverse relationship between advertising and quality.

## 4. Evidence from Empirical Studies

### (a) *Advertising and Fees*

Much of the empirical work on the relationship between advertising and professional fees is summarised in Table 1. The studies fall into three general categories. The first of these, mainly carried out during the 1970s, is principally concerned with the market for optometry services and prescriptions for eyeglasses in the US. They have a common approach[13] which involves comparing the fees for a professional service across states with varying severity of restrictions on advertising, the null hypothesis being that, *ceteris paribus*, the severity of such restrictions has no effect on fee levels. The results consistently reject this hypothesis; in all cases, states which restrict or ban professional advertising are found to have higher fees on average than those which permit advertising. One of the studies (Feldman and Begun, 1980) also finds that the dispersion of fees is higher in states which prohibit or restrict advertising, apparently providing direct support for Stigler's hypothesis on the informational effect of advertising and its impact on price dispersions.

The second approach concentrates on the fees charged by advertisers compared with those of non-advertisers. Although most of these studies are explicitly set up as tests of advertising's informational content, the comparison of advertisers' fees with those of non-advertisers has more in common with the product differentiation/barrier to entry view of advertising. The finding (as in most of these studies) that advertisers have lower fees is not compatible with the advertising-as-persuasion view. At first sight, this approach appears to have little relevance to Stigler's (1961) hypothesis on the information-enhancing properties of advertising, which relates only to market-wide advertising, not the advertising of individual suppliers. However, Love *et al.* (1992) point out that Stigler argues that an increase in consumer search activity will lead to an increase in advertising by low-price firms and a decrease in advertising by high-price firms; to the extent that consumers are now more willing to engage in search activities with respect to professional services, the finding that advertisers charge lower fees than non-advertisers would lend indirect support to Stigler's hypothesis that advertising is information enhancing.

The one exception to this general pattern is the study by Rizzo and Zeckhauser (1992), which consistently finds that advertisers charge higher prices than non-

**Table 1.** Empirical studies of advertising's effect on professional fees

| Authors | Profession | Dependent variable(s) | Price/non-price? | Effect of advertising |
|---|---|---|---|---|
| *Studies of advertising restrictions* | | | | |
| Benham (1972) | Optometrists | Fee levels | Yes | *Negative.* Non-restrictive markets have lower average fees than restrictive markets (price/non-price advertising) |
| Benham and Benham (1975) | Optometrists | Fee levels | No | *Negative.* Non-restrictive markets have lower average fees than restrictive markets |
| Feldman and Begun (1978) | Optometrists | Fee levels | No | *Negative.* As above |
| Feldman and Begun (1980) | Optometrists | Fee levels/dispersion | No | *Negative.* As above, plus lower dispersions in non-restrictive markets |
| Cady (1976) | Prescription drugs | Fee levels | No | *Negative.* Non-restrictive markets have lower average fees than restrictive markets (price advertising *only*) |
| Feldman and Begun (1985) | Optometrists | Fee levels | No | *Negative.* Non-restrictive markets have lower average fees than restrictive markets |
| Bond *et al.* (1980)* | Optometrists | Fee levels | Yes | 1. *Negative.* Non-restrictive markets have lower fees<br>2. *Negative.* Price advertisers have lower fees<br>3. *No effect.* No difference in fees of non-price advertisers |
| Bond *et al.* (1983)* | Optometrists | Fee levels | No | *Negative.* Non-restrictive markets have lower fees. Advertisers charge lower fees than non-advertisers |
| *Studies of advertisers vs. non-advertisers* | | | | |
| Kwoka (1984)* | Optometrists | Fee levels | No | *Negative.* Presence of advertising lowers fees for *all* firms in market, and advertisers have lower fees than non-advertisers |
| Maurizi *et al.* (1981) | Eye care | Fee levels | No | *Negative.* Advertisers have lower fees than non-advertisers |
| Cox *et al.* (1982) | Lawyers | Fee levels/dispersions | No | *Negative.* Advertisers have lower fees-and-dispersions than non-advertisers |
| Rizzo and Zeckhauser (1992)* | Physicians | Fee levels | No | *Positive.* Advertisers charge higher fees |
| *Studies of market-wide advertising* | | | | |
| Schroeter *et al.* (1987) | Lawyers | Fee levels | No | *Negative.* Market-wide advertising lowers fees for *all* firms in market, but for one service suggestion that advertisers charge higher fees than non-advertisers |
| Love *et al.* (1992) | Lawyers | Fee levels | Yes | *Negative.* Market-wide price *and* non-price advertising lowers fees for *all* firms in market. Advertisers charge lower fees |
| Stephen (1994) | Lawyers | Fee levels/price discrimination | Yes | *Negative.* For some services market-wide *non-price* advertising lowers fees of all firms, no price advertising effect. No clear effect of advertising on price discrimination |
| Haas-Wilson (1986)* | Optometrists | Fee levels | No | *Negative.* Markets with advertising present have lower prices for all firms than non-advertising markets |
| Stephen *et al.* (1993) | Lawyers | Price discrimination | Yes | *Negative.* Some market-wide price and non-price advertising reduces price discrimination for all firms in market |

*Indicates a study which also examines the effect of advertising on quality.

advertisers.[11] This result only becomes apparent once allowance is made for selection effects, that is the possibility that advertisers and non-advertisers differ in some non-ascertainable way. This is an important issue of research method, which is explored in the following section.

The third approach explicitly tests the Stiglerian hypothesis of the informational effect of advertising by examining the impact of market-wide advertising on the fees of individual firms. Several of these studies also consider the effect of advertising at the firm level. Haas-Wilson (1986) employs a simple dummy variable to indicate the actual presence of advertising in the market, and finds that such advertising has a negative effect on fees. While this represents an improvement on the early studies of restrictive vs non-restrictive regimes, it is less satisfactory than research which examines the impact of the *extent* of advertising in the market, and also fails to distinguish between price and non-price advertising. The remaining studies all have measures of the extent of advertising across different markets, and all find evidence to support the advertising-as-information hypothesis. Schroeter *et al.* (1987) treat market-wide advertising as homogeneous, but two studies (Love *et al.*, 1992; Stephen, 1994) explicitly allow for different types of price, non-price and Yellow Pages advertising in studies of a routine legal service (conveyancing), and suggest that under some circumstances both price and non-price market-wide advertising may have a downward effect on overall fees.

Two studies, both of lawyers in the UK, examine the effect of advertising on price discrimination. Stephen *et al.* (1993) find that certain forms of both price and non-price advertising reduce the incidence of price discrimination of all firms in a given market, while Stephen (1994) finds little clear evidence on advertising and price discrimination. The difference in these findings may be in part due to the different jurisdictions and advertising regimes studied; England and Wales in the former study and Scotland in the latter.

Laying aside for the moment the differences of approach and problems of research method discussed later, the overwhelming impression from the results reviewed in Table 1 is of advertising having a downward effect on professional fees. Sixteen of the 17 surveyed studies suggest an effect of this type, while only one consistently suggests a positive effect of advertising on fees. On the basis of these results, the informational properties of advertising are clearly visible in professional markets.

### (b) *Advertising and Quality*

As with price, the level of quality desired by the client will vary with income, risk preference and the nature of the 'problem' which the client has. However, unlike price, quality is a multi-dimensional concept in the context of professional services. While technical competence is clearly of great importance, under some circumstances this may be considered no more than a necessary condition by the client, who may use other more observable characteristics as indicators of quality. Promptness, empathy and the ability to appraise the client in an understandable manner are all perfectly rational indicators of quality in the case of a credence good. This raises quite severe measurement problems, discussion of which is deferred until the next section: we concentrate here on summarising the results of this research.

The results are more heterogeneous than those on fee levels, and are presented in Table 2. Studies examining differences between markets which do and do not restrict professional advertising generally come to the conclusion that there is no evidence of such restrictions raising average quality (Bond *et al.*, 1980, 1983; Haas-Wilson, 1986; Haas-Wilson and Savoca, 1990). Indeed, Kwoka (1984) finds that the average quality (i.e. time taken) in markets permitting advertising is generally greater than where the use of advertising is restricted. This conclusion obtains despite some suggestion that heavy users of advertising tend to be lower quality providers than firms which choose not to advertise in markets where it is permitted to do so. Kwoka's interpretation of this is that "... non-advertisers remain in sufficient numbers in the market so that average market quality is not lower, but indeed greater" (216).

Studies directly comparing advertisers and non-advertisers vary in their results. Muris and McChesney (1979) compare the quality of a high-advertising legal clinic with that of more traditional providers of legal services, using the subjective opinions of users and the more objective criteria of how different providers perform in actual cases of child allowance in divorce cases, the latter measure estimated in a regression equation to allow for other exogenous determinants of quality. On both measures the legal clinic is judged to provide higher quality, but there can be no guarantee that this is because of its advertising, which is not directly measured. The most curious study is that by Murdock and White (1985) which uses the confidential ratings given to individual attorneys by fellow professionals and judges and compares these between advertisers and non-advertisers. Their conclusion that advertisers are more likely to be low quality firms has been heavily criticised by Thomas (1985) as revealing little about whether advertising lowers quality. "[The study] does, however, tend to confirm the unsurprising view that successful, older, well established lawyers, who are respected and admired by their colleagues, are less likely to advertise. They do not, of course, need to advertise" (166). Given the endogenous nature of their dependent variable and the absence of other determinants of quality in the research, it is impossible to attach much credence to the findings of Murdock and White. By contrast, the most econometrically sophisticated of the advertiser/non-advertiser studies (Rizzo and Zeckhauser, 1992) deals explicitly with other exogenous determinants of quality and with the selection effects mentioned earlier. This study reaches the firm conclusion that advertisers offer higher quality services.

The overall impression given by the studies reviewed in Table 2 is that there is very little evidence that advertising lowers the quality of service offered to the public, or that restricting its use by professionals is likely to raise quality. The one clear exception is Cox *et al.* (1986), who find weak evidence that for two of three studied routine legal services the greater the extent of advertising in a given market the lower is the overall level of quality. This research finds no evidence of lower quality among advertisers compared with non-advertisers, but even if this were the case the average level of quality may be increased by the fact that non-advertiser in advertising markets give higher quality service than their counterparts in restrictive markets (Kwoka, 1984). Even the one study which finds that advertising restrictions help reduce the marginal cost of quality (Feldman and Begun, 1985) firmly opposes regulation on welfare grounds which are discussed below. There is little in the empirical literature to support the case for restricting professional advertising on grounds of quality.

**Table 1.** *Empirical studies of advertising's effect on professional quality*

| Author(s) | Profession | Effect of advertising on quality | Price–quality interaction |
|---|---|---|---|
| *Market-level studies* | | | |
| Bond *et al.* (1980) | Optometrists | Ambiguous results | Fees lower where advertising allowed, quality unclear |
| Bond *et al.* (1983) | Optometrists | Advertising restrictions have no effect on quality | Fees lower without quality reduction |
| Feldman and Begun (1985) | Optometrists | Regulation of advertising may increase quality, but leads to welfare loss | Regulation of advertising reduces marginal price of quality, i.e. extra quality is less expensive in states which regulate |
| Cox *et al.* (1986) | Lawyers | Inverse relationship between market-wide advertising and quality. No evidence of quality effects by advertising firms | Not applicable |
| Haas-Wilson (1986) | Optometrists | Presence of advertising in a market has no effect on quality | Fees lower without quality reduction |
| Haas-Wilson and Savoca (1990) | Optometrists | Advertising restrictions have no effect on quality | Not applicable |
| *Firm level studies* | | | |
| Muris and McChesney (1979) | Lawyers | High-advertising legal clinic provides higher quality service on subjective and objective indicators | Not applicable |
| Kwoka (1984) | Optometrists | (a) Weak evidence that advertisers have lower quality<br>(b) Non-advertisers in advertising markets have higher quality than firms where advertising is banned<br>(c) Mean quality in advertising markets higher than in restrictive markets | Advertisers have lower fees and quality, driving down fees (but not quality) of non advertisers where advertising is permitted |
| Murdock and White (1985) | Lawyers | Lower quality lawyers more likely to be advertisers | Not applicable |
| Rizzo and Zeckhauser (1992) | Physicians | Advertisers have higher quality | Advertisers also have higher fees |

*(c) Price–Quality Interaction*

The discussion so far has proceeded as if price and quality were entirely separate issues. Clearly there will be a strong link between them which is important to consider in coming to a view on the effect of professional advertising. Several of the empirical studies explicitly consider price–quality interactions (Table 2, final column).

One of the earliest empirical studies, Benham (1972), sets the tone for the general findings in this area. Although there is no formal test of quality in the work, Benham concluded that the finding that advertising bans raised optometric fees and the price of eyeglasses could not be due to variations in quality. This was because most suppliers of eyeglasses to the public purchased supplies of eyeglasses from the same sources; in addition, relatively little variation in the cost of eye examinations was observed across states, leading Benham to conclude that variations in total cost reflected variation in the cost of eyeglasses. More formal studies of states which do and do not restrict professional advertising come to the same conclusion. Bond *et al.* (1983) and Haas-Wilson (1986) conclude that non-restrictive markets (or, in the latter case, markets in which advertising is actually present) have lower fees without any statistically significant effect on quality. Bond *et al.* also conclude that, where advertising is permitted, the constant-quality fees charged by advertisers are lower than those of non-advertisers, a finding echoed by Maurizi *et al.* (1981).

By explicitly allowing for both selection effects and the impact of advertising on *quantity* (the only study formally to do so), the work of Rizzo and Zeckhauser (1992) deserves close attention. They find that advertisers charge higher prices, produce work of higher quality and have reduced output. They suggest that this may occur because although advertising expands demand, it reduces its (own-price) elasticity. Advertisers exploit this by charging higher prices, but this is possible in part because they are willing to spend more time with patients. This is virtually the only reviewed study to conclude that its findings are "... hardly encouraging to the view that advertising will promote competition" (414). This is, however, a premature conclusion. Rizzo and Zeckhauser admit that their advertising variable is deficient, being a firm-level dummy variable. Ideally, they would wish to use aggregate advertising data (as discussed earlier in the theoretical section on the Stiglerian hypothesis), because while advertising may reduce the elasticity of demand for any particular provider, it may increase it for others. This is precisely what Haas-Wilson (1986) and Kwoka (1984) are able to test.[12] The latter study finds that advertisers have lower fees and quality. However, while non-advertisers, in markets where advertising is permitted, are forced to lower their prices as a result of other firms' advertising, their quality is higher than that of firms where advertising is banned. In addition, the *overall* level of quality in advertising markets is higher than in those in which it is banned.

Ultimately, however, the effects of the price–quality interaction can only be judged in overall welfare terms. This ambitious task is undertaken by Feldman and Begun (1985) in their examination of professional restrictions in American optometry. By explicitly modelling the price–quality interaction, they find that extra quality is less expensive in states which have regulation, including a ban on advertising. They interpret this as indicating that 'vision examination length' (their principal measure of quality) is priced below marginal cost in regulated states, and providers can only exist in such states because regulations

increase fees. Price competition is effectively impossible in regulated states, and so competition on quality is used to attract customers.[13] The corollary of this is that deregulation (including allowing advertising) is likely to raise the marginal price of quality and reduce quality. Yet Feldman and Begun strongly contest the conclusion that this supports the use of professional regulation for two reasons: first, because the extra quality engendered by regulations is not valued by consumers at its marginal cost, and second because professional regulation (not just of advertising) causes quantity demanded to fall below the competitive level. These joint effects lead Feldman and Begun to conclude that even where regulation does increase quality, it is likely to lead to a substantial welfare loss.[14] It seems unlikely that the joint consideration of price and quality effects can be used to support the claims of those favouring the restriction of professional advertising.

## 5. Issues of Method and Measurement

Despite the consistency of findings, important caveats must be introduced to these findings as indicators of the impact of advertising on professional fees. This is because of several issues relating to research method, which fall into three categories.

The first relates to the early studies comparing fee levels under regimes of differing restrictiveness on advertising. The problem here is that formal restrictions on advertising provide an unreliable guide to actual advertising practice. It cannot be assumed that interstate variations in advertising controls necessarily give rise to corresponding differences in advertising behaviour; there is no guaranteed correlation between structure and conduct. The most common approach in these studies is to employ a dummy variable for 'restrictive' *vs.* 'non-restrictive' states. Even where the classification is accurate, such an approach does not allow the inference that the less restrictive the professional rules governing advertising, the lower will be the level of fees. This is exacerbated by the finding that the actual level of advertising in surveyed states can be both higher or lower than that formally permitted (Kwoka, 1984), and that weak relationships exist between different authors' classifications of markets by their level of restrictiveness (Haas-Wilson, 1986).

The second issue arises in studies comparing the fees of advertising and non-advertising firms, and concerns the possible biases introduced by selection effects. The key possible selection effect is precisely that firms with low opportunity cost of time and hence lower fees are more likely to (price) advertise: were such an effect not allowed for, Rizzo and Zeckhauser (1992) find that one would mistakenly conclude that advertisers had lower fees than non-advertisers. This is the only study which explicitly allows for selection effects, although Love *et al.* (1992) has a similarity with Rizzo and Zeckhauser in that the firm-level advertising variable in the fee equation is not simply a dummy variable, but the fitted values of such a variable estimated from an equation of the propensity to advertise. This two-stage approach is employed to deal with possible simultaneity in the advertising and fee-setting decisions, but the procedure is operationally equivalent to that adopted by Rizzo and Zeckhauser to allow for selection effects. Although Love *et al.* still conclude that advertisers charge lower fees than non-advertisers, the contrary finding by Rizzo and Zeckhauser, and the possibly pervasive influence of selection effects in such research, does lessen the strength of the conclusion on advertising's downward effect on fees.

The final weakness of many of the reviewed studies is their failure to distinguish between price and non-price advertising. Generally the presence of advertising at the firm level is indicated by a simple dummy variable, while in the case of Cady (1986) only price advertising effects are considered. Several studies which do make such a distinction find that there are indeed differences in the effects of different types of advertising; for example, Bond *et al.* (1980) find that while price advertisers have lower fees than non-advertisers, this is not the case for non-price-advertisers. Given the likelihood that product differentiation is more likely to be directed to quality rather than price, there may be some significance in the finding that non-price advertisers do not charge higher prices than non-advertisers.[15]

Studies of advertising's effect on quality may suffer from all of the above problems, but in addition face the issue of appropriate measurement. This is reflected in the number of different quality proxies used in the empirical literature,[16] which can be divided into three broad categories (Table 3). The first type of proxy commonly used is time spent on providing the service. This is clearly an input measure as opposed to any (subjective or objective) measure of output, and need not be positively correlated with the technical ability of the professional concerned. Nevertheless, Kwoka (1984) argues that such an indicator does have three principal advantages over other measures. First, time taken to deliver a service is unbiased and readily observable. Second, it is often the crucial input which opponents of advertising often claim will be reduced to lower service quality without being fully observed by the market. Finally, at least in the case of the optometry services studied by Kwoka, there is a strong positive correlation between time taken and more objective output measures of quality such as the 'index of thoroughness' employed by Bond *et al.* (1980).

The second group of studies—all dealing with the legal profession—employ a subjective output measure, the views either of the clients themselves or of fellow professionals about the quality of service provided. Domberger and Sherr (1989) use time taken to complete a conveyancing transaction in addition to three client-judged indicators; quantity and quality of information provided, availability of the solicitor, and 'value for money'. Almost by definition, these are issues which the client is particularly poorly equipped to judge in the case of a credence good. However, Domberger and Sherr's proxies do have the advantage of measuring precisely those characteristics which clients can actually observe, and may themselves employ as quality indicators in the absence of 'harder' data on technical competence.[17] Muris and McChesney (1979) also use the subjective opinions of clients using a high-advertising legal clinic and those opting to employ a more traditional attorney's office, while Murdock and White (1985) compare the ratings given by other professionals to individual attorneys who do and do not advertise.

The final type of quality indicator is a series of objective output measures, which attempt to evaluate *ex post* the competence of the professional service provided in a given instance. With one exception, these derive from the literature on optometrists and ophthalmologists in the US, mainly from research sponsored by the Federal Trade Commission. Several of these have employed teams of surveyors receiving eye examinations and related prescriptions, then having these checked *ex post* for accuracy, while one study (Haas-Wilson and Savoca, 1990) employs a detailed index of the eye health of contact lens wearers taking part in the study.

Given the multi-dimensional nature of professional quality and the highly

**Table 3. Measures of quality in empirical research**

| Author(s) | Measure used |
|---|---|
| (A) Input measures (time) | |
| Bond *et al.* (1980) | Time spent per eye examination |
| Kwoka (1984) | As above |
| Feldman and Begun (1985) | As above plus number of procedures used |
| Cox *et al.* (1986) | Time spent per routine legal service |
| Domberger and Sherr (1989) | As above |
| Rizzo and Zeckhauser (1992) | Time spent per patient visit |
| (B) Subjective output measures | |
| Muris and McChesney (1979) | Clients subjective reactions to quality of different forms of attorney practices |
| Murdock and White (1985) | Confidential ratings of attorneys from fellow professionals |
| Domberger and Sherr (1989) | Clients subjective reactions to quality of different providers |
| (C) Objective output measures | |
| Muris and McChesney (1979) | Performance of different forms of attorney practices in child support cases |
| Bond *et al.* (1980) | Index of thoroughness of eye examinations and accuracy of optometric prescription |
| Maurizi *et al.* (1981) | Proportion of lenses from labs with state-guaranteed minimum quality standards |
| Bond *et al.* (1983) | As Bond *et al.* (1980) |
| Haas-Wilson (1986) | Thoroughness and accuracy of eye examination |
| Haas-Wilson and Savoca (1990) | Index of contact lens wearers' eye health |

Note: Several studies employ more than one type of quality indicator.

personal nature of the service in many cases, there is no suggestion that the three principal measurement proxies represent any kind of hierarchy: subjective measures have their place along with their more objective counterparts. Empirical studies do in general suggest that advertising is unlikely to have an adverse effect on quality, but problems of measurement and the other issues of research method discussed above suggest that we still require to exercise caution with respect to the strength of this conclusion.

## 6. Conclusions

There is a substantial body of empirical literature on the price and quality effects of advertising in the professions. There is more limited evidence on the quantity effects of advertising and its restriction.[18] The early research is unambiguous in its findings that advertising restrictions were likely to increase average professional fees. The empirical research has become increasingly econometrically sophisticated since these studies of the 1970s and early 1980s, allowing explicitly for price-quality interactions and various selection effects *inter alia*. However, all such studies have their limitations and all must be considered partial; we still await the definitive study of the effects of professional advertising. Nevertheless, despite the fact that there is substantial variation in the research methods employed and in the findings, there is a degree of consensus on some important issues:

1. Most studies suggest that advertising has the effect of lowering fees, which may be because advertisers charge less than non-advertisers, but is not dependent on this being the case. The restriction of advertising tends to increase fee levels and dispersions on average.
2. Much of the literature suggests that this price effect occurs without any clear evidence of a reduction in quality. There is little evidence of quality reductions because of advertising, and even where advertisers have lower quality than non-advertisers, the *overall* level of quality in markets permitting advertising tends to be higher than in more restrictive markets.
3. Ultimately, the effect of advertising can only be judged in welfare terms. The one study which does so suggests that, even if advertising is quality reducing, this does not represent a welfare reduction because of consumers' valuation of extra quality and the concomitant output effects.

Overall, there is very little evidence to support the use of advertising restrictions to maintain quality standards, and a substantial amount of evidence to suggest that advertising does increase consumer information and can reduce fees as a result.

These conclusions must be moderated by what appear, in retrospect, to be deficiencies in the measures of advertising behaviour used in a number of the studies. Remedying this should be the focus of future research. Perhaps the most pressing is the need for more detailed understanding of the effects of different types of advertising, i.e. price, non-price, different forms of media, Yellow Pages etc. Too much of the reviewed research, even relatively recent and sophisticated studies, still employ simple dummy variables to indicate the presence or absence of advertising, failing to distinguish between advertising's different forms. More work is required here because theory offers ambiguous guidance on the effect of non-price advertising. Secondly, more attention should be paid to the effects of variations in the level of advertising in professional markets, both between different

regulatory regimes and (especially) within single regimes. The origins of the advertising-as-information perspective lie in the effects of market-wide advertising, not that of individual suppliers. Thirdly, there is a clear need for the interaction between price, quality and quantity to be studied more closely, and for this to be done with appropriate recognition of the potentially complex treatment and selection effects which can arise in empirical work of this kind. Finally, there is a need for studies of a wider range of professions. Much of the evidence reviewed above comes from just two areas: optometry and legal services.

## Notes

1. For a discussion of how self-regulation differs from other forms of the regulation of professions, see Van den Bergh (1993).
2. Button and Fleming (1992) suggest a fourth aspect of self-regulation relating to the forms of business organisation which professionals may use. This form of regulation generally prohibits incorporation, in order to ensure the direct accountability of those offering professional services to the public.
3. For a discussion of these opposing views, see Arrow (1963) and Curran (1993). Leffler (1978) contains a useful discussion with respect to the medical profession.
4. The FTC report couches these arguments in terms of the legal profession, but similar arguments may be made with respect to any self-regulating profession.
5. Adverse selection arises when asymmetric information prevents suppliers signalling quality differences to consumers. As a result, low-quality suppliers go undetected and the market price reflects only average quality, driving out high-quality suppliers and attracting those of low quality. In extreme cases, this process of adverse selection may be cumulative, and effectively destroy the market for the good or service in question (Akerlof, 1970).
6. Note that even if advertisers charge higher prices, and even if prices are higher overall in the presence of advertising, this need not have any welfare-reducing consequences in the absence of quality effects. The costs of search may be reduced to an even greater extent, and search costs plus the direct fee for the service represent the overall cost borne by consumers.
7. Hay and Morris (1991: chapter 8) review 67 empirical studies of industry profitability published between 1971 and 1986, 39 of which have some measure of advertising intensity. Of these, 28 report a significantly positive relationship between advertising and profitability, ten report no significant relationship, and one has an ambiguous result.
8. This arises because, with price held constant, raising quality increases quantity demanded. The larger is the price–cost margin, the larger is the incentive to increase quality to obtain this benefit. Thus, in (sequential search) equilibrium, higher price firms will tend to be higher quality firms.
9. In the case of professions, Rizzo and Zeckhauser claim that this 'sign-posting' effect may arise even for the more standard elements of the service, such as a visit to a lawyer's office or doctor's surgery. This is because a low price may indicate that the professional has few clients, or allows little time per visit.
10. The three approaches listed in Table 1 are not mutually exclusive.
11. Although Schroeter *et al.* (1987) find weak evidence that advertisers charge higher prices for one of three routine legal services in their study.
12. These studies make no allowance for the potentially important selection effects considered by Rizzo and Zeckhauser. However, Haas-Wilson does explicitly acknowledge and allow for this in her later study on quality (Haas-Wilson and Savoca, 1990).
13. By using time as the principal quality measure, Feldman and Begun resolve the issue of how consumers can detect quality variations in credence service.
14. Feldman and Begun estimate an annual welfare loss of \$16 million (1985 prices) from regulation and its associated output effects.
15. However, Benham (1972) does suggest that non-price advertising may be a substitute for price advertising and have the same price-reducing effect.
16. There is a considerable literature on the issue of quality measurement with respect to physician services and health care generally which goes far beyond the scope of this paper. For a brief review of these issues and the relevant literature, see Haas-Wilson and Savoca (1990). A more general

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study relating occupational restrictions to quality in professional and other services using a wide range of quality indicators can be found in Carroll and Gaston (1981).

17. Domberger and Sherr (1989) and Maurizi *et al.* (1981) are not reviewed in Table 2. The former study does not contain a specific measure of advertising, concentrating on the implied effects of competition generally, while the latter introduces quality only as an independent variable in regressions on the determinants of fees.
18. Rizzo and Zeckhauser (1992) argue that the concentration of empirical research on price and quality rather than quantity effects reflects the concerns of the theoretical literature commonly used to guide the research and the consumer orientation of most empirical researchers.

## References


Akerlof, G., "The Market for 'Lemons': Quality, Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, 1970, 84, 488–500.

Arrow, K., "Uncertainty and the Welfare Economics of Medical Care," *American Economic Review*, 1963, 53, 941–73.

Benham, L., "The Effect of Advertising on the Price of Eyeglasses," *Journal of Law and Economics*, 1972, 15, 337–52.

Benham, L. and Benham, A., "Regulating through the Professions: A Perspective on Information Control," *Journal of Law and Economics*, 1975, 18, 421–47.

Bond, R.S., Kwoka, J.E., Phelan, J.J. and Taylor Whitten I., *Effects of Restrictions on Advertising and Commercial Practice in the Professions: The Case of Optometry*, Washington DC: Federal Trade Commission, 1980.

Bond, R.S., Kwoka, J.E., Phelan, J.J. and Taylor, I., "Self-regulation in Optometry: The Impact on Price and Quality," *Law and Human Behavior*, 1983, 7, 219–34.

Button, K. and Fleming, M., "The Effects of Regulatory Reform on the Architectural Profession in the United Kingdom," *International Review of Law and Economics*, 1992, 12, 95–116.

Cady, J., "An Estimate of the Price Effects of Restrictions on Drug Price Advertising," *Economic Inquiry*, 1976, 14, 493–510.

Carroll, S. and Gaston, R., "Occupational Restrictions and the Quality of Service Received: Some Evidence," *Southern Economic Journal*, 1981, 47, 959–76.

Cheong, M., "Advertising and the Market for Legal Services," Undergraduate dissertation, Department of Economics, University of Strathclyde, 1993.

Comanor, W.S. and Wilson, T.A., "Advertising, Market Structure and Performance," *Review of Economics and Statistics*, 1967, 49, 423–40.

Cox, S.R., De Serpa, A. and Canby, W., "Consumer Information and the Pricing of Legal Services," *Journal of Industrial Economics*, 1982, 30, 305–18.

Cox, S.R., Schroeter, J.R. and Smith, S.L., "Attorney Advertising and the Quality of Routine Legal Services," *Review of Industrial Organization*, 1986, 2, 340–54.

Cubbin, J., "Advertising and the Theory of Entry Barriers," *Economica*, 1981, 48, 289–98.

Curran, C., "The American Experience with Self-regulation in the Medical and Legal Professions," in M. Faure, J. Finsinger, J. Siegers and R. Van den Bergh, eds., *Regulation of Professions*, Antwerp: MAKLU, 1993.

Darby, M.R. and Karni, E., "Free Competition and the Optimal Amount of Fraud," *Journal of Law and Economics*, 1973, 16, 67–88.

Domberger, S. and Sherr, A., "The Impact of Competition on Pricing and Quality of Legal Services," *International Review of Law and Economics*, 1989, 9, 41–56.

Feldman, R. and Begun, J.W., "The Effects of Advertising Restrictions: Lessons from Optometry," *Journal of Human Resources*, 1978, 13 (Suppl.), 247–62.

Feldman, R. and Begun, J.W., "Does Advertising Reduce the Mean and Variance of Prices?," *Economic Inquiry*, 1980, 18, 487–92.

Feldman, R. and Begun, J.W., "The Welfare Cost of Quality Changes due to Professional Regulation," *Journal of Industrial Economics*, 1985, 34, 17–32.

Federal Trade Commission, *Improving Consumer Access to Legal Services: The Case for Removing Restrictions on Truthful Advertising*, Report of the Staff, Cleveland, Ohio, 1984.

Gaynor, M. and Polachek, S.W., "Measuring Information in the Market: An Application to Physician Services," *Southern Economic Journal*, 1994, 60, 815–31.

Haas-Wilson, D., "The Effect of Commercial Practice Restrictions: The Case of Optometry," *Journal of Law and Economics*, 1986, 29, 165–86.

Haas-Wilson, D. and Savoca, E., "Quality and Provider Choice: A Multinomial Logit-Least-Squares Model with Selectivity," *Health Services Research*, 1990, 24, 791–809.

Hay, D.A. and Morris, D.J., *Industrial Economics and Organization*. Oxford: Oxford University Press, 1991.

Hazard, G.C., Pearce, R.G. and Stempel, J.N., "Why Lawyers Should be Allowed to Advertise: Market Analysis of Legal Services," *New York University Law Review*, 1983, 58, 1084–113.

Hibbard, J. and Weeks, E., "Does the Dissemination of Comparative Data on Physician Fees Affect Consumer Use of a Service?," *Medical Care*, 1989, 27, 1167–74.

Hudec, A.J. and Trebilcock, M.J., "Lawyer Advertising and the Supply of Information in the Market for Legal Services," *University of Western Ontario Law Review*, 1982, 20, 53–99.

Kwoka, J., "Advertising and the Price and Quality of Optometric Services," *American Economic Review*, 1984, 74, 211–16.

Laband, D.N., "Advertising as Information: An Empirical Note," *Review of Economics and Statistics*, 1986, 68, 517–21.

Leffler, K., "Physician Licensure: Competition and Monopoly in American Medicine," *Journal of Law and Economics*, 1978, 20, 165–86.

Love, J.H., Stephen, F.H., Gillanders, D.D. and Paterson, A.A., "Spatial Aspects of Deregulation in the Market for Legal Services," *Regional Studies*, 1992, 26, 137–47.

Masson, R.T. and Wu, S., "Price Discrimination for Physicians' Services," *Journal of Human Resources*, 1974, 9, 63–79.

Maurizi, A.R., Moore, R.L. and Shepard, L., "Competing for Professional Control: Professional Mix in the Eyeglasses Industry," *Journal of Law and Economics*, 1981, 24, 351–64.

Milgrom, P. and Roberts, J., "Price and Advertising Signals of Product Quality," *Journal of Political Economy*, 1986, 94, 796–821.

Mitchell, C.N., "The Impact, Regulation and Efficacy of Lawyer Advertising," *Osgoode Hall Law Journal*, 1982, 20, 119–37.

Murdock, G.W. and White, J., "Does Legal Service Advertising Serve the Public's Interest? A Study of Lawyer Ratings and Advertising Practices," *Journal of Consumer Policy*, 1985, 8, 153–65.

Muris, T.J. and McChesney, F. S., "Advertising and the Price and Quality of Legal Services: The Case for Legal Clinics," *American Bar Foundation Research Journal*, 1979, 1, 179–207.

Nelson, P., "Information and Consumer Behavior," *Journal of Political Economy*, 1970, 78, 311–29.

Nelson, P., "Advertising as Information," *Journal of Political Economy*, 1974, 82, 729–54.

Pauly, M.V., "Taxation, Health Insurance, and Market Failure," *Journal of Economic Literature*, 1986, 24, 629–75.

Philips, L., *The Economics of Price Discrimination*. Cambridge: Cambridge University Press, 1983.

Rizzo, J.A. and Zeckhauser, R.J., "Advertising and the Price, Quantity, and Quality of Primary Care Physician Services," *Journal of Human Resources*, 1992, 28, 381–421.

Rogerson, W.P., "Price Advertising and the Deterioration of Product Quality," *Review of Economic Studies*, 1988, 55, 215–29.

Rothschild, M., "Searching for the Lowest Price when the Distribution of Prices is Unknown," *Journal of Political Economy*, 1974, 82, 689–711.

Schmalensee, R., "A Model of Advertising and Product Quality," *Journal of Political Economy*, 1978, 86, 485–503.

Schmalensee, R., "Advertising and Entry Deterrence: An Exploratory Model," *Journal of Political Economy*, 1983, 91, 636–53.

Schroeter, J.R., Smith, S.L. and Cox, S.R., "Advertising and Competition in Routine Legal Service Markets: An Empirical Investigation," *Journal of Industrial Economics*, 1987, 36, 49–60.

Stephen, F.H., "Advertising, Consumer Search Costs and Prices in a Professional Service Market," *Applied Economics*, 1994, 26, 1177–88.

Stephen, F.H., Love, J.H., Gillanders, D.D. and Paterson, A.A., "Deregulation and Price Discrimination in the Conveyancing Market," *Managerial and Decision Economics*, 1993, 14, 365–75.

Stephen, F.H., Love, J.H. and Paterson, A.A., "Deregulation of Conveyancing Markets in England and Wales," *Fiscal Studies*, 1994, 15, 4, 102–18.

Stigler, G., "The Economics of Information," *Journal of Political Economy*, 1961, 69, 213–25.

Stigler, G., *Theory of Price*. New York: Macmillan, 1987.

Telser, L.G., "Advertising and Competition," *Journal of Political Economy*, 1964, 72, 537–62.

Thomas, R., "Legal Service Advertising—A Comment on the Paper by Murdock and White," *Journal of Consumer Policy*, 1985, 8, 165–67.

Van den Bergh, R., "Self-regulation in the Medical and Legal Professions and the European Internal Market in Progress" in M. Faure, J. Finsinger, J. Siegers and R. Van den Bergh, eds., *Regulation of Professions*. Antwerp: MAKLU, 1993.

Zander, M., *Lawyers and the Public Interest: A Study in Restrictive Practices*. London: Weidenfeld & Nicholson, 1968.

Alex R. Maurizi et al., *Competing for Professional Control: Professional Mix in the Eyeglasses Industry*, 24 J.L. & ECON. 351 (1981).

**Scope of Study:** This paper analyzed the effects of advertising on price in the context of the professional mix in the eyeglass industry between ophthalmologists, opticians, and optometrists. Maurizi et. al. performed a survey of eyewear dispensers in two major metropolitan areas in California, asking respondents about what products they sold, competitive practices, professional affiliations, and prices charged for eyewear exclusive of examinations.

**Conclusions:** The authors found that advertisers charged less than non-advertisers (about $7 less, where the mean price was about $45).

# COMPETING FOR PROFESSIONAL CONTROL: PROFESSIONAL MIX IN THE EYEGLASSES INDUSTRY*

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In analyzing the eyeglasses industry the literature on professional control has principally focused on optometrists and the information controls they have imposed on the market. In particular, Benham's 1972 study demonstrated that eyewear prices are systematically 25 to 100 per cent higher where regulations prevent optometrists from advertising.[1] In a second pathbreaking article, Benham and Benham reported that higher eyeglasses prices coincide both with participation by optometrists in professional associations that restrict information flows and with state restrictions on entry by commercially oriented optical firms that compete with independent optometrists.[2] Partially in response to such findings, no doubt, various state legislatures and regulatory bodies have removed restrictive statutes from their business and professions codes.[3]

While information restrictions favoring optometrists have been scrutinized for years, less attention has been devoted to the role of ophthalmologists and opticians who compete with optometrists both in the eyewear market and in the market for politically conveyed regulatory benefits. This paper has as its objective the analysis of professional re-

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[1] Lee K. Benham, The Effect of Advertising on the Price of Eyeglasses, 15 J. Law & Econ. 337 (1972).

[2] Lee K. Benham & Alexandra Benham, Regulating through the Professions: A Perspective on Information Control, 18 J. Law & Econ. 421 (1975).

[3] For example, in July of 1978 the California Board of Medical Quality Assurance and the California Board of Optometry declared that laws prohibiting price advertising would no longer be enforced. The courts have also been active on this front. In Va. Citizens Consumer Council Inc. v. St. Bd. of Pharmacy, 425 U.S. 748 (1976), the Supreme Court held that restrictions on the advertising of goods violate First-Amendment guarantees. The Court extended this interpretation to restrictions on the advertising of services in Bates v. St. Bar of Ariz., 433 U.S. 350 (1977).

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lationships between ophthalmologists, optometrists, and opticians and the identification of their impact on the eyeglass industry. Following a discussion of the structure of the industry, it is argued that the struggle between these groups for control of regulation of the eyeglass market in various states has led to differences in the distribution of eyeglass providers among the groups. That is, the outcome of intra-professional competition between ophthalmologists, optometrists, and opticians to achieve control of their industry may have altered the *professional mix* of eyeglass dispensers across states. Differences in professional mix, in turn, are hypothesized to have affected eyeglass prices because ophthalmologists, optometrists, and opticians possess different levels of training, distinct areas of competence, and differing propensities to dispense eyewear commercially. Data from a sample of California eyeglass providers are used to test the proposition that intra-professional competition and the resulting differences in professional mix represent another dimension of professional control that can supplement information restrictions in explaining variation in eyewear prices.

## Structure of the Eyewear Industry

As physicians specializing in eye care, ophthalmologists stand at the top of the professonal hierarchy that characterizes the eyewear market. They are trained to handle all eye disorders, including diagnosis and treatment of eye diseases as well as selling and fitting eyeglasses. Of those ophthalmologists who handle glasses, many perform only refractions (examining eyes and writing eyeglasses prescriptions) without dispensing lenses and frames themselves. As Table 1 indicates, ophthalmologists account for only about 10 per cent of eyeglasses sales nationally but perform nearly half of all refractions. However, because of their medical training they comprise the premium end of the eyewear industry, serving those patients who choose to pay a medical specialist to perform refractions. Ophthalmologists also provide leadership to and enjoy the respect of optometrists and opticians since they are the experts with the broadest professional competence in eye care.

TABLE 1
U.S. Eyeglasses Sales and Examinations by Provider, 1975

| Dispenser | Millions of Pairs | Percentage | Millions of Exams | Percentage |
|---|---|---|---|---|
| Ophthalmologists | 4.2 | 10 | 22.5 | 44 |
| Optometrists | 20.4 | 48 | 29.0 | 56 |
| Opticians | 17.8 | 42 | — | — |
| Total | 42.4 | | 51.5 | |

Source: Federal Trade Commission, Staff Report 11-25 (May 1977).



Optometrists, who are not physicians, in most cases both prescribe and dispense eyeglasses. While some optometrists engage in related practices such as perceptual training and optometry involving patients with learning disabilities, the majority confine their work to examining eyes and selling glasses. Like ophthalmologists, optometrists typically regard themselves as independent medical professionals. Indeed, optometrists argue that theirs is the only professional group that specializes in refraction and dispensing eyewear. That they dispense about one-half of all eyeglasses and perform some 56 per cent of all eye exams nationally no doubt explains their conspicuousness in the eyeglasses literature.[4]

Unlike ophthalmologists and optometrists, opticians are not authorized to examine eyes for optical needs. Instead, they dispense glasses and contact lenses using prescriptions written by ophthalmologists and, less often, optometrists. As retailers of eyewear, most opticians purchase ready-made lenses and frames from wholesale laboratories. While they sometimes attach lenses to the frames chosen by customers, opticians more often sell glasses that are fully fabricated to order by wholesale laboratories. Among eyewear providers, then, opticians possess a narrower range of activity than optometrists who, in turn, have a narrower range than ophthalmologists.

Within this hierarchy a symbiosis exists between nondispensing ophthalmologists and opticians. It is in the interest of opticians to refer their customers lacking prescriptions to nondispensing ophthalmologists who, unlike optometrists and dispensing ophthalmologists, do not compete with opticians in the sale of eyewear. By the same token, nondispensing ophthalmologists usually refer clients to opticians rather than to optometrists since the latter group competes with ophthalmologists in prescribing glasses. So close have been referral patterns between ophthalmologists and opticians that optometrists generally fill their own prescriptions while opticians tend to fill only prescriptions written by ophthalmologists.[5] Note that nondispensing ophthalmologists also favor opticianry since opticians may be in a position to undercut eyewear prices charged by dispensing ophthalmologists, who share the premium eye-care

[4] Federal Trade Commission, Staff Report on Advertising of Ophthalmic Goods and Services and Proposed Trade Regulation Rule 16 CFR Pt. 456, at 11-25 (May 1977).

[5] Judith Tiffen, A Historical Perspective on Regulation of the Vision Care Industry, Testimony before the Federal Trade Commission Hearing on Advertising of Ophthalmic Goods and Services (1977) (unpublished). The strength of referral relationships between ophthalmologists and opticians has led optometrists, the excluded group, to allege that opticians give kickbacks to ophthalmologists for sending customers to them. See Federal Trade Commission, *supra* note 4, at 26.

market with nondispensing ophthalmologists. Cementing this community of interests is the fact that nondispensing ophthalmologists, who have a vested interest in protecting and encouraging opticianry, are in a position to counter the attacks of optometrists on opticians since ophthalmologists operate at the top of the professional hierarchy in eyecare.[6]

To be sure, dispensing ophthalmologists and optometrists regard opticians as substitute rather than complementary factors of production. Accordingly, they would favor entry barriers for opticians. Such barriers tend to increase the proportion of eyeglass sales by optometrists and dispensing ophthalmologists without raising their costs, since unlicensed technicians can be hired by optometrists and ophthalmologists for their dispensing function.[7] The interests of dispensing ophthalmologists and optometrists would thus be better served if opticians were required to be licensed. That opticians remain unlicensed in a majority of states may speak to the regulatory power of nondispensing ophthalmologists, for whom opticians are a complementary factor.[8]

## Competing for Professional Control

As might be expected, optometrists and the coalition of ophthalmologists and opticians have turned to market regulation in their competitive struggles. Indeed, the eyewear market provides a textbook example of the "economic" theories of regulation that have come to be associated with this *Journal*. It illustrates the principle that regulation can be used not only to stifle competition within a profession but also to advance the interests of one professional group at the expense of another.

### *Historical Development*

The term "optician" came to be associated with peddlers of eyeglass lenses during the seventeenth century in Europe.[9] As a rule, customers determined their own need for glasses by trying on different lenses rather than by undergoing eye exams. However, by the mid-ninteenth century

[6] In many states ophthalmologists sit on boards of optometry and in some cases the body that regulates optometrists is composed exclusively of ophthalmologists.

[7] See, for example, Cal. Bus. & Prof. Code, § 2544 (West).

[8] While data are not available on the proportion of ophthalmologists who dispense glasses versus those who do not, nondispensing ophthalmologists clearly dominate. As Table 1 indicates, an average of about 4 pairs of glasses are sold by all providers for every 5 eye exams performed, yet ophthalmologists sold only 4.2 million pairs of glasses in a year during which they performed 22.5 million examinations.

[9] A full description of the evolution of the eyewear industry is contained in Tiffen, *supra* note 5, at 1-7; and Delia Novak Schletter, Optical Illusion: A Consumer View of Eye Care, San Francisco Consumer Action, August 1976.



some opticians began measuring the range and power of eyes. Those performing these fitting services became known as "refracting" opticians.

Prior to the last century, physicians eschewed the fitting of eyeglasses, arguing that "such trifles as bits of glass" could not overcome human ailments and could, in fact, harm the eye.[10] This attitude was not altered by the emergence of specialists in ophthalmology, who addressed eye diseases and their medicinal and surgical treatment. However, during the latter part of the nineteenth century ophthalmologists became increasingly interested in refraction, so much so that in many states they attempted to restrict its practice to physicians through laws and codes of ethics. In 1893, for example, the New York County Medical Society resolved to expel any member who referred patients to refracting opticians for eye tests. While such restrictions were supported by nonrefracting eyeglass salesmen—who came to be known as "dispensing opticians" or just "opticians"—they threatened to displace refracting opticians, who both tested eyes and sold glasses.

In response to the efforts of ophthalmologists and dispensing opticians to impose regulatory prohibitions on refraction by nonphysicians, refracting opticians in 1901 split with dispensing opticians and designated themselves as "optometrists." This split began in Minnesota in 1901 and spread to other states during the first decade of the century. In 1904 the American Association of Opticians, founded in 1898, limited its membership to optometrists and in 1918 adopted the name "American Optometric Association."[11]

Over the objections of ophthalmologists and dispensing opticians, optometrists established their own licensing boards and secured thereby the right to perform refractions. By 1920 optometrists in many states had employed their regulatory power to restrict entry, raise educational requirements, and enhance their professional status. They eventually acquired the title "doctor" despite the efforts of ophthalmologists and opticians. Since optometrists could both prescribe and sell glasses, they were dependent on neither ophthalmologists nor opticians. Within seventy-five years optometrists had moved from the realm of itinerant peddlers to that of recognized health-care professionals.

### *Professional Control Today*

With a degree of intensity that varies across states, competition for professional control of the eyglass industry continues among ophthal-

[10] Schletter, *supra* note 9, at 3-5.

[11] Tiffen, *supra* note 9, at 9.

mologists, optometrists, and opticians. For example, in many jurisdictions optometrists, having employed regulation to promote their own profession, subsequently have supported the arguments by opticians for strict optician-licensing standards despite that fact that opticians are in an important sense merely retailers. In the nineteen states that license opticians, these arguments have prevailed over the opposition of nondispensing ophthalmologists. Licensing, of course, has tended to restrict entry into the market for eyeglass dispensing, which optometrists and opticians share.

In order to further remove eyewear dispensing from the realm of merchandizing, optometrists have also supported regulations prohibiting advertising by opticians and by optometrists. They have supported professional codes that prohibit optometrists from operating on opticianry premises in an attempt to prevent chain opticians from offering the same "one-stop" eyeglass service offered by independent optometrists. Finally, to discourage clients from shopping among eyewear dispensers, the optometry profession has opposed rules making eyewear prescriptions the property of patients.

Ophthalmologists have also asserted their interests through regulation. For example, in California, where medical doctors dominate the board that licenses opticians, applicants have been required to provide sworn affidavits from three "physicians and surgeons who specialize in the treatment of the eyes," stating from personal knowledge that the applicant has had five years of experience in the industry and affirming his or her moral character.[12] At a minimum, this allows ophthalmologists to control entry into the opticianry market. It may also subsidize ophthalmologists, since unlicensed opticians gain experience working for ophthalmologists or licensed opticians, many of whom have professional or financial links to an ophthalmologist. California ophthalmologists have also opposed extending optometrists the right to employ certain diagnostic drugs to detect diseases. On the other hand, ophthalmologists have joined optometrists in several states to prevent opticians from duplicating eyeglasses without new prescriptions. This forces customers who desire a second pair of glasses or a replacement pair of glasses to obtain refracting services whether they need them or not. Clearly, the system of overlapping regulation in the vision-care industry also increases the dependence of opticians on their intraprofessional competitors.

[12] Cal. Bus. & Prof. Code, § 2552(b). Effective January 1, 1979, § 2552(b) has been altered so that only one of three affiants need be a physician and three of the required five years experience can be satisfied by graduation from an approved course of study.



TABLE 2
REGRESSION RESULTS—VARIATION IN PROFESSIONAL MIX

| Independent Variables | Dependent Variable: OPTICPC |
|---|---|
| LICOPTIC | −0.73 |
| | (1.13) |
| NODUP | −1.24 |
| | (1.79)** |
| OPHTHPC | 1.29 |
| | (5.82)* |
| OPTOMPC | −0.10 |
| | (0.74) |
| Constant term | 1.82 |
| $R^2$ | 0.47 |
| N | 51 |
| Mean value of OPTICPC | 5.66 |

NOTE: The $t$-values are in parentheses.
* Significant at the 1 percent level (one-tailed test).
** Significant at the 5 percent level (one-tailed test).

| DEFINITION OF VARIABLES | | MEAN VALUE |
|---|---|---|
| OPTICPC: | Number of opticians per 100,000 people | 5.66 |
| LICOPTIC: | 1 = states which license opticians; 0 otherwise | 0.37 |
| NODUP: | 1 = states which prohibit duplication of lenses by opticians; 0 otherwise | 0.37 |
| OPHTHPC: | Number of ophthalmologists per 100,000 people | 4.28 |
| OPTOMPC: | Number of optometrists per 100,000 people. | 9.30 |

*Impact on Professional Mix*

The cumulative impact of this eighty-year struggle for control of the industry has been to alter the mix of eyewear providers across states. Some states have come to be dominated by optometrists while others have more ophthalmologists and opticians. For example, states like California, Illinois, and South Dakota have as many as 2.1, 3.8, and 4.3 optometrists per ophthalmologist, respectively, and as many as 3.1, 3.8, and 2.5 optometrists per optician, while the corresponding figures for states like Maryland and the District of Columbia are only 1.1 and .9 optometrists per ophthalmologist and .6 and .5 optometrists per optician. Clearly professional mix varies widely from state to state.

The regression results reported in Table 2 provide a general test of the proposition that the professional mix of eyewear providers within a state varies with the outcome of the struggle for control. In that regression, the representation of opticians in the population (OPTICPC) is hypothesized

to depend on: (1) whether states require opticians to be licensed (LICOPTIC); (2) the existence of laws disallowing duplication of lenses without prescriptions (NODUP); (3) the representation of ophthalmologists in the population (OPHTHPC); and (4) the representation of optometrists in the population (OPTOMPC).[13] Fewer opticians were expected in those states which require them to hold licenses. Similarly, laws that favor ophthalmologists and optometrists by prohibiting lens duplication were expected to coincide with reduced numbers of opticians. The historical alliance between ophthalmologists and opticians suggests that the coefficient on OPHTHPC would be positive. On the other hand, the competition between optometrists and opticians suggests that OPTICPC and OPTOMPC would be inversely related. The analysis was conducted across all states and the District of Columbia using figures for 1968 and 1969, the last years for which a complete data set is available.

The empirical results tend to validate these expectations. States where regulation requires opticians to be licensed and where opticians cannot duplicate lenses without prescriptions have .73 and 1.24 fewer opticians per 100,000 persons, respectively. The combined effect of these restrictive regulations promulgated by other eye-care professionals is represented by a decrease in the density of opticians of 1.97 or about one-third of the mean value of OPTICPC. The strong relationship observed between variables OPTICPC and OPHTHPC illustrates the complementarity of opthalmologists and opticians which makes their alliance workable, just as the negative (but insignificant) coefficient on OPTOMPC hints at the substitutability of opticians and optometrists which gives that alliance impetus. In general, the results support the premise that competition to achieve professional control in the eyeglass industry has significantly altered the mix of providers.

### *Significance of Professional Mix*

The significance of varying professional mix derives from the differing propensities of ophthalmologists, optometrists, and opticians to engage in competition. While the ophthalmology and optometry professions have historically tried to minimize all forms of competition, opticians have in general been a significant competitive force in the eyewear industry. Because the function of opticians is limited to filling eyeglass prescriptions, their training is less involved than that of ophthalmologists and optometrists. While optometrists and ophthalmologists must be licensed in all states, fewer than half the states require opticians to be licensed. These factors, combined with the fact that optician outlets are in many cases just showrooms without laboratories, make opticianry a relatively easy occupation to enter. Ease of market entry, of course, suggests that opticians may be lower cost providers of eyewear.

This possibility is strengthened by the recent movement among opticians toward the commercial dispensing of eyewear. To the disdain of independent "professional" eyewear providers, some opticians have engaged in open price competition and, where state laws permit, advertising. Associated with this move towards commercialism has been the emergence of chain-dispensing firms, which often lease space in discount stores or are themselves owned by large national retailers. These enterprises employ modern management, financing, and marketing techniques that enable them to sell eyewear at lower margins than independent optometrists. Moreover, some large-volume chains have been able to extract concessions from wholesalers, including lower prices and earlier delivery of eyeglass frames. The latter is a significant advantage now that fashion has become an element in eyewear, leading some chains to open eyewear boutiques specializing in the latest designer and "signature" frames. In some cases, too, chains have bypassed the wholesaler altogether, exerting their purchasing leverage directly on manufacturers.

While some optometrists have joined this move toward commercial merchandising of eyewear, most have not. Instead, independent optometrists have felt intensive competitive pressure from commercialists.[14] However, the competition of commercial opticians in the eyewear-dispensing market may enhance the position of nondispensing ophthalmologists, both because lower eyewear prices would increase demand for the complementary service of prescribing eyewear and because reduced margins on eyewear put competitive pressure on optometrists, who compete with ophthalmologists in prescribing glasses.

The ease of market entry and commercial rather than professional orientation of opticians provide theoretical reasons to believe that optician's prices are in fact lower. They also suggest that where the struggle for professional control in the industry has altered the mix of providers by excluding opticians, eyeglass prices will generally be higher.

## The California Survey

While higher eyewear prices in some states have been attributed to information controls imposed by optometrists, note from Table 2 that,

[13] Note that the regulations under which eyeglass practitioners operate are not wholly exogenous. That is, while licensing laws may determine the relative size of a professional group (for example, opticians), so the size and strength of the professional group may influence future licensing laws. Because the process of policy formation inevitably has feedback loops, such simultaneity attends most studies of the effects of regulation.

[14] See Rudo S. Globus, Blueprint for Survival, 68 Optometric Weekly 26 (1977).

where regulations favor optometrists, opticians tend to be underrepresented in the population. Since there is theoretical reason to believe that opticians are low-cost dispensers of eyewear, higher fees in heavily regulated states may have as much to do with the mix of professionals in those jurisdictions as with the information controls enforced there. Accordingly, the estimated savings associated with eliminating restrictions on optometric advertising may be overstated if such reform fails to alter the distribution of eyeglass dispensers among ophthalmologists, optometrists, and opticians.[15]

Recent Supreme Court decisions overturning state prohibitions on professional advertising and the responses of state regulatory authorities provide an opportunity to assess the relative importance of information controls and professional mix in influencing eyewear prices. To this end, a survey of 283 eyewear dispensers was conducted in two major metropolitan counties in California during the Summer of 1977, one year after formal announcement by the California Board of Optometry and the Board of Medical Quality Assurance that they would no longer enforce advertising prohibitions. In the survey, some 147 respondents provided detailed information about products sold, competitive practices, professional affiliations, and prices charged for eyewear exclusive of examination fees.

The survey provided overwhelming evidence that suspension of the price-advertising prohibition failed to stimulate widespread advertising. None of the 30 responding ophthalmologists and none of the 90 responding optometrists reported engaging in price advertising during the year following suspension. Among 27 responding opticians only 4 indicated that they had advertised. These results were confirmed by a review of media in the study regions that revealed only sporadic advertisements by opticians. No ads for ophthalmologists or optometrists were identified.

In the survey the most common reason cited for not advertising was the view that promotion is unethical or less than professional. As would be expected, this view was most prominent among ophthalmologists and optometrists and among dispensers who were affiliated with professional groups that forbid price advertising. That only 3 per cent of the respondents engaged in price advertising following its legalization suggests that state-imposed controls on information were not compelling constraints in the California case. No doubt information controls arising from the personal inclinations of dispensers and professional association codes of

[15] Note, however, the interdependence between information restrictions and professional mix: while advertising controls may on the one hand reflect the professional mix a state, any exogenous change in those controls (for example, due to a court decision or FTC trade rule) would alter the nature of production in the market, including changes in capital/labor ratio and professional mix.



ethics continue to influence the market. However, the data illustrate that regulatory reform failed to augment substantially the quantity of price information forthcoming in the eyeglass market, a result that had been assumed in reform measures and a proposed Federal Trade Commission trade-regulation rule.[16]

While the small number of price advertising respondents precludes meaningful statistical analysis of advertising practitioners, it does not necessarily mean that advertising had little or no effect on market prices. To the contrary, simulation experiments have demonstrated that the presence of one or two firms with substantially different prices can "spoil" the efforts of a cartel to establish prices above market clearing levels.[17] Moreover, since respondents generally refused to answer questions about sales volume, the data offer little insight into whether or not advertising outlets enjoyed large market shares and, therefore, had disproportionate impacts on average prices.

*The Regression Model*

The California survey data were analyzed by estimating the following equation relating price to variables that capture a practitioner's provider group, competitive practices, membership in professional organizations that prohibit price advertising, location, and use of licensed wholesale laboratories:

$$\text{PRICE} = \beta_0 + \beta_1\text{OPHTHAM} + \beta_2\text{OPTICIAN} + \beta_3\text{ADVERTISE} + \beta_4\text{PHONEQUOTE} + \beta_5\text{PROFASSN} + \beta_6\text{LABLICEN} + \beta_7\text{CREDIT} + \beta_8\text{HICOSTLOC},$$

where
- PRICE = price of eyewear product
- OPHTHAM = 1 if ophthalmologist, 0 otherwise
- OPTICIAN = 1 if optician, 0 otherwise
- ADVERTISE = 1 if firm advertises (whether or not prices are included in the ad), 0 otherwise
- PHONEQUOTE = 1 if dispenser quotes requested price information over the phone, 0 otherwise
- PROFASSN = 1 if member of professional association that prohibits price advertising, 0 otherwise
- LABLICEN = proportion of labs used by dispenser that are licensed by California ($0 \leq \text{LABLICEN} \leq 1$)

[16] Federal Trade Commission, Report of the Presiding Officer on Proposed Trade Regulation Rule Regarding Advertising of Ophthalmic Goods and Services, December 10, 1976 (unpublished).

[17] Charles R. Plott, The Opportunity for Conspiracy in Restraint of Trade: An Experimental Study, paper presented at a Conference on Occupational Licensure and Regulation sponsored by the American Enterprise Institute, Washington, D.C., Feb[illegible]

CREDIT = 1 if firm extends credit, 0 otherwise
HICOSTLOC = 1 for Alameda County providers, 0 for Sacramento County.

The cross-section analysis was completed for specified plastic and metal frame eyeglasses.[18]

The superior training and premium image of ophthalmologists who dispense eyewear create the expectation that $\beta_1$ will be positive. On the other hand, economic theory predicts that $\beta_2$ will assume a negative value because of the ease of entry and competitive orientation among opticians. The null hypothesis that the professional status of dispensers has no impact on price would be confirmed by values of $\beta_1$ and $\beta_2$ that are statistically indistinguishable from zero. Theory also predicts that dispensers who draw attention through advertising or quoting prices over the telephone will have lower prices, giving $\beta_3$ and $\beta_4$ negative values.[19] On the other hand, those who choose to belong to organizations that prohibit price advertising are apt to be professionally rather than commercially oriented, thus potentially raising prices. This would be confirmed by a positive value on $\beta_5$. Theory suggests that higher prices will be charged by practitioners who attempt to enhance quality by employing licensed in-state laboratories[20] or by extending an extra service, credit. Thus, positive values are expected for the coefficients on LABLICEN and CREDIT. A positive value for the coefficient on HICOSTLOC would conform with Bureau of Labor Statistics data indicating that prices are generally higher in Alameda County in the San Francisco Bay Area than in Sacramento County.

*Empirical Results*

Table 3 presents regression results for standardized metal- and plastic-frame eyeglasses. In both cases, the cross-section analysis explains a substantial portion of the variation in prices. However, there appears to be little systematic relationship between eyewear prices and (1) the quoting of prices over the phone, (2) affiliation with a professional association prohibiting advertising, and (3) use of licensed wholesale laboratories. Only in the case of plastic-frame eyewear did higher prices coincide with extension of credit. As expected, prices were higher among Alameda County providers.

[18] The specified plastic and metal frames were, respectively, "Stadium" and "Liner" frames manufactured by American Optical, Inc.

[19] Advertising was defined to exclude listing in professional directories and telephone books.

[20] Conventional eyewear lenses manufactured by licensed laboratories in California must meet the Z80 standard of the American National Standards Institute. However, retailers are [text cut off in scan]



TABLE 3
REGRESSION RESULTS

| | Mean Values | | Dependent Variables: Price of Glasses with Specified or Equivalent: | |
|---|---|---|---|---|
| | Plastic Frame | Metal Frame | Plastic Frame | Metal Frame |
| OPHTHAM | .02 | .02 | 19.40 (2.59)* | 12.86 (1.64)** |
| OPTICIAN | .33 | .27 | −5.49 (1.70)** | −6.54 (1.88)** |
| ADVERTISE | .19 | .12 | −7.26 (2.08)* | −7.30 (1.76)** |
| PHONEQUOTE | .64 | .62 | −2.46 (1.10) | −1.55 (0.63) |
| PROFASSN | .58 | .63 | 2.20 (0.75) | −0.45 (0.14) |
| LABLICEN | .13 | .15 | −1.74 (0.41) | −1.70 (0.39) |
| CREDIT | .86 | .85 | 4.68 (1.51)*** | 2.35 (0.70) |
| HICOSTLOC | .63 | .62 | 3.59 (1.62)*** | 4.40 (1.77)** |
| Constant term | | | 45.60 | 63.00 |
| $R^2$ | | | 0.36 | 0.21 |
| $N$ | | | 79 | 74 |
| Mean price | | | 48.55 | 63.88 |

NOTE: The $t$-values are in parentheses.
* Significant at the 1 percent level (one-tailed test).
** Significant at the 5 percent level (one-tailed test).
*** Significant at the 10 percent level (one-tailed test).

DEFINITION OF VARIABLES:
OPHTHAM: 1 = ophthalmologist; 0 optometrist or optician
OPTICIAN: 1 = optician; 0 ophthalmologist or optometrist
ADVERTISE: 1 = advertises; 0 otherwise
PHONEQUOTE: 1 = provides price information over phone; 0 otherwise
PROFASSN: 1 = member of a professional association; 0 otherwise
LABLICEN: proportion of laboratories used that are licensed
CREDIT: 1 = accepts credit cards; 0 otherwise
HICOSTLOC: 1 = Alameda County; 0 otherwise.

Advertising practices and the professional category of practitioners appear to have the greatest impact on eyeglass prices. For both types of frames, advertisers charged about $7 less than nonadvertisers. Coefficients on the OPHTHAM and OPTICIAN variables lead to a rejection of the null hypothesis: the provider's status as an ophthalmologist, optometrist, or optician bears the expected relationship to the prices charged by the provider. For plastic-frame glasses, [text cut off in scan]

mologists charged $19.40 more than responding optometrists who in turn charged $5.49 more than responding opticians. The average price difference noted between ophthalmologists and opticians, $24.89, represents a variation of more than 50 per cent of the mean price, $45.60. In the case of metal-frame glasses these trends also surfaced: ophthalmologists systematically charged $12.86 or 20 per cent more than optometrists, who in turn charged $6.54 or 10 per cent more than opticians in the sample.

These figures confirm the existence of a professional hierarchy in the opthalmic goods market, with ophthalmologists serving in the premium-eyewear market and opticians specializing in low-cost sales. At the practitioner level of analysis, the professional status of the dispenser appears to be as great an influence on the cost of ophthalmic goods as information factors like practitioner advertising, professional affiliation, and quoting prices over the telephone. The ability of optometrists to restrict opticians in some states through regulatory mechanisms clearly carries the potential of raising average prices since opticians are low-cost providers of eyewear.

## Conclusions

The eyewear industry is composed of two markets: the market for eye refracting and the market for eyeglass sales. Since the turn of the century, these markets have been served by three distinct professional groups: ophthalmologists who are primarily refractors, optometrists who are refractor-sellers, and opticians who only sell. Just as economic interests pit a coalition of refractors and sellers against refractor-sellers in those markets, so those groups have competed against each other for the benefits conveyed by market regulation. As a result, the distribution of eyeglass providers among ophthalmologists, optometrists, and opticians varies among states, with a low representation of opticians coinciding with restrictive regulations that favor optometrists. Evidence at the practitioner level confirms theoretical predictions that ophthalmologists charge significantly more for eyewear than do optometrists, who in turn charge more than opticians. Overall, professional mix may constitute at least as large an influence on eyeglasses prices as information controls like advertising restrictions and participation in restrictive professional associations. Understanding relationships between closely allied professions—including their distinct areas of competence, their referral patterns, and their respective regulatory muscle—may acquire greater importance as the professional control literature turns to analyze the other closely related professional groups including medical specialists, medical auxiliaries, and paraprofessionals.

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## CONSUMER PROTECTION REGULATION

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Jeffrey Milyo & Joel Waldfogel, *The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart*, 89 AM. ECON. REV. 1081 (1999).

**Scope of Study:** In 1996, the Supreme Court declared a Rhode Island state prohibition on the advertising of liquor prices to be illegal. Milyo and Waldfogel analyzed the impact of this decision. Milyo and Waldfogel began collecting data as soon as they learned that the Supreme Court was to hear the case, and had collected approximately one years' worth of data by the time the case was decided. They collected longitudinal data on 33 widely-available alcoholic beverage products at different liquor stores in Rhode Island. As a control, Milyo and Waldfogel also collected information on Rhode Island wholesale prices and wholesale and retail prices in Massachusetts (where advertising had always been legal).

**Conclusions:** Milyo and Waldfogel found that, after Rhode Island's ban on liquor store advertising was lifted, prices of advertised products fell by more than 20 percent at the stores that advertised them. Similarly, stores that advertised in newspapers tended to cut their own prices for a particular product in the face of a rival advertising the same product. Significantly, there was a greater effect when more than one store advertised – when a product was advertised by a rival, a store advertising the same product set its price substantially lower than if one store alone advertised the product.

# The Effect of Price Advertising on Prices: Evidence in the Wake of *44 Liquormart*

By Jeffrey Milyo and Joel Waldfogel*

*The 44 Liquormart decision, eliminating Rhode Island's ban on liquor price advertising, made Rhode Island the subject of a natural experiment for measuring the effect of advertising on prices. Using Massachusetts prices as controls, we find that advertising stores substantially cut only prices of the products that they advertise. Prices of other products, at both advertising and nonadvertising stores, do not change. Advertising stores cut their prices on products advertised by rivals, while nonadvertising stores do not. We find no reductions in price dispersion across stores. Newspaper-advertising stores appear to draw a higher share of customers after they advertise.* (*JEL* L11, L51, L66)

Over the past four decades two views have emerged on the effects of price advertising on prices. The first one originates in the theoretical work of George J. Stigler (1961). In this view, advertising reduces the cost of consumer search and, in equilibrium, results in a lower mean and variance of prices. More recent models, such as Steven C. Salop and Joseph E. Stiglitz (1977), emphasize firms' decisions on how to set prices, given heterogeneity among consumers in their ability to acquire information.[1] While price advertising reduces the cost for consumers to become informed about prices, if consumers still face different costs of becoming informed, they can remain differentially informed in the post-advertising equilibrium. Consequently, price advertising may affect different firms' demand curves differently. Compared with traditional precursors, models emphasizing heterogeneous consumers predict different effects of price advertising on prices. The introduction of price advertising need not have the same effect across all firms. In particular, price advertising need not reduce the mean of prices or its variation across firms.[2]

Empirical studies of prohibitions on advertising (e.g., Lee Benham, 1972) have consistently found the permissibility of advertising to be associated with lower prices. The approach taken in the existing literature is to compare prices in jurisdictions that forbid advertising to prices in jurisdictions that permit advertising.[3] It has commonly been inferred from the association between advertising and prices that price advertising *causes* prices to be lower; indeed,

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[1] See also Gerald R. Butters (1977), Gene M. Grossman and Carl Shapiro (1984), and Michael Peters (1984).

[2] Salop and Stiglitz (1977) model an economy with a homogeneous product in which consumers differ in their cost of becoming informed about firm prices. They demonstrate that equilibrium does not require that all firms sell at the perfectly competitive price. In equilibrium firms that sell disproportionately to uninformed consumers can profit by raising their prices above marginal cost. Advertising may serve to reallocate consumers among firms in such a way that more firms find it to their advantage to charge noncompetitive prices in equilibrium.

[3] This is the approach of Benham (1972), Roger D. Feldman and James W. Begun (1978), and John E. Kwoka (1984), who compare prices of eyeglasses and optometry services across states, and John F. Cady (1976), who compares prescription drug prices across states.

this has become a standard lesson in textbooks [e.g., Jean Tirole (1995) and Lynne Pepall et al. (1998)]. However, the attribution of cross-jurisdictional differences in prices to differences in advertising prohibitions ignores both the possible endogeneity of these regulations and the inability to control for omitted firm-specific or market-specific factors in single cross sections.

In contrast, we make use of an exogenous change in price advertising to measure its effect on prices in longitudinal data. In the *44 Liquormart* case the U.S. Supreme Court overturned a Rhode Island ban on advertising the prices of alcoholic beverages. Prior to May 13, 1996, Rhode Island retailers could not advertise prices in any way.[4] Since 1956, Rhode Island had maintained explicit prohibitions on the publication or broadcast of the prices of alcoholic beverages. While Rhode Island argued before the Supreme Court that the law was designed to promote temperance, Evan Lawson, the attorney arguing the case against the ban, claimed that "everybody in the courtroom knew that in reality the ban was a way of helping liquor dealers fix prices." Newspaper accounts (John E. Mulligan, 1995) acknowledged "little dispute that a byproduct of the ban has been to assist 'mom and pop' package stores that tend to charge higher prices than bigger retailers." The Rhode Island Liquor Stores Association's support of the ad ban, because "smaller retailers would be devastated by the kind of advertising splash that big chains would sponsor," was consistent with Lawson's claim.[5] The Supreme Court rejected Rhode Island's defense of the law, in part because temperance could be advanced by more direct means, such as highe[r] taxes.

This decision made Rhode Island the subjec[t] of a natural experiment for testing the effects o[f] price advertising on both the level and variatio[n] of market prices. For our study we collecte[d] longitudinal data on Rhode Island retail price[s] of alcoholic beverages, as well as two control[s] for retail prices, Rhode Island wholesale pric[es] and retail prices in neighboring Massachusetts, where price advertising had been legal and remained so.

In addition to measuring the overall effect o[f] advertising on prices, we also attempt to document the mechanism by which advertising affect[s] prices. Does advertising only reduce prices o[f] advertised products and only at the stores tha[t] advertise? Or does advertising reduce averag[e] prices of products at advertising stores, regardles[s] of whether the products are advertised? Does th[e] effect of advertising propagate across stores, s[o] that all stores, including nonadvertising stores reduce their prices? This is the mechanism suggested by Stigler (1961). Furthermore, how d[o] prices vary with rivals' price advertising? W[e] address these questions by estimating separate effects of the change in the law on prices at advertising and nonadvertising stores. We also measur[e] how the effects vary according to whether products are advertised at a rival's store. By showin[g] whether the effects of advertising differ acros[s] stores and products, our answers shed light on th[e] importance of consumer heterogeneity in the post-advertising equilibrium.

We do find that the association betwee[n] changes in prices at a particular store and th[e] presence of advertising by rival stores varie[s] across advertising and nonadvertising stores. Newspaper-advertising stores charge lowe[r] prices on products advertised elsewhere, while nonadvertising stores do not. This association between store prices and rival advertising suggests that different stores servic[e] different types of customers (in terms of thei[r] price elasticity of demand), so that thes[e] stores react differently to the ability to advertise. However, even though price advertisin[g] has little effect on overall prices charged, price advertising may nevertheless provid[e] valuable information. Stores that ultimatel[y] advertise in the newspaper have lower price[s] than other stores both before and after price

[4] Not only could they not advertise in the media, they could not post prices in their windows or on signs outside their stores. Stores were forbidden even from sending or faxing price information to customers. John Haronian, owner of 44 Liquormart, initially challenged the advertising restriction when he was cited for using the word "wow" in an ad that included prices of peanuts and potato chips along with pictures of various liquor products. At the urging of Haronian's competitors, the State of Rhode Island interpreted the ad as an illegal suggestion about prices (interview with John Haronian). See also Andrews Publications (1996).

[5] Notwithstanding this reference to chain stores, Rhode Island law prohibits ownership of multiple liquor stores.

advertising becomes legal. Further, consumers apparently heed the signals provided by price advertising. Indirect information on quantities sold, based on Rhode Island lottery ticket sales, indicates that advertising stores draw a higher share of customers after they advertise than before.

The paper proceeds in four sections. Section I describes the existing empirical literature, its appeal, and the shortcomings inherent in the data researchers have examined. Section II describes the data employed in the current study. Section III presents our measurement strategy, results, and some speculation about interpretation. A brief conclusion follows.

## I. Empirical Literature on Advertising Prohibitions

Most empirical work on the effect of advertising on prices relies on cross-sectional comparisons of prices in jurisdictions allowing and forbidding price advertising. This is the approach of Benham (1972), who compares eyeglass prices across states, Cady (1976), who compares prescription drug prices across states, and Feldman and Begun (1978, 1980) and Kwoka (1984), who compare prices of optometry services across states. These studies find that prices are higher and exhibit greater variation in jurisdictions that forbid advertising.

Identifying the effect of advertising in cross-sectional data requires a strong assumption: that advertising restrictions are exogenous to prices. It is difficult to know whether estimated relationships between advertising permissibility and prices reflect an effect of advertising on prices or the influence of some third factor on both.[6]

Amihai Glazer's (1981) study of the effect of advertising on grocery prices is a significant exception to the cross-sectional studies discussed above.[7,8] He identifies the effect of advertising using exogenous variation in advertising provided by a newspaper strike. He compares the evolution of prices at stores that generally advertise, but are unable to advertise during the strike, with the evolution of prices at "control" advertising stores that continue to advertise, unaffected by the strike. He finds that the stores that stop advertising raise their prices, relative to the controls, during the strike and reduce them again afterward.

By design Glazer's study includes only commonly advertised produce and meat products. Hence, Glazer's results address the question of how advertising affects the prices of advertised products at the stores advertising them. In an environment such as a grocery (or liquor) store, which carries many products and advertises prices of relatively few products, this distinction is important. He finds that advertising reduces the price of advertised products at stores that advertise but that advertising has no effect on the prices of the advertised products at smaller stores that do not normally advertise. Because Glazer includes only commonly advertised products in his sample, his results do not measure the effect of a store's advertising on its prices of products that it does not advertise. Our measurement approach is similar to Glazer's. However, our sampling approach is quite different. We sample prices of a broader group of products, including both some that do, and

[6] Benham (1972) cautions that advertising restrictions may be correlated with other market conditions or regulations that may themselves cause higher prices. He therefore recommends that future research examine the effects of changes in advertising regimes, an approach taken here.

[7] William Luksetich and Harold Lofgreen (1976) take a related approach. They examine retail prices of alcoholic beverages before and after lifting of a ban on price advertising in Minnesota in 1973. However, their pre- and postchange data are not collected by the same agencies and can not be linked, so their data are not truly longitudinal.

[8] D. Grant Devine and Bruce W. Marion (1979) analyze the effects of state-sponsored experiment in which the Canadian Food Price Review Board collected grocery price data from stores in a test and a control market. The Board then publicized prices—through newspaper ads and direct mail—in the test market. They find that this exogenous increase in consumers' information causes the mean and variance of food prices to decline in the test market relative to the control market. The contrast between what they measure and what we measure is important, however. Their interesting study documents the effect of forced exogenous advertising, while we are measuring the effects of the *permissibility* of price advertising.

predominantly those that do not, become commonly advertised.

## II. Data

The basic information for this study are a longitudinal data set consisting of 5,480 observations on the retail prices of 33 alcoholic beverage products at 115 different liquor stores in Rhode Island and Massachusetts between June 1995 and June 1997. We also collected information on wholesale prices in both states, as well as information on advertising and state lottery sales in Rhode Island.

### A. *Price Data Collection Procedure*

Liquor stores sell hundreds of different products and few stores in Massachusetts or Rhode Island employ checkout scanners, so it is not feasible to collect data on the prices of all products. Recognizing this, we solicited the advice of some liquor retailers in order to devise a list of widely available products. Our sample includes the national top-selling brands of beer (Budweiser), whiskey (Jack Daniels), gin (Tanqueray), rum (Bacardi), and sparkling wine (Korbel); the full product sample is listed in Table 1.[9] However, during our first efforts to collect price information, we discovered that many retailers strongly object to the gathering of price data in their stores.[10] For this reason, we collected price information surreptitiously; at times, we were forced to narrow our product list to a subset of roughly ten products whose prices we could collect by memorizing.[11]

TABLE 1—PRODUCTS IN THE SAMPLE

| Product | Number of observations | Average price |
|---|---|---|
| Liquor | 2,667 | $16.55 |
| Bacardi 80 proof rum (0.75 liter) | 224 | $ 9.43 |
| Bacardi 80 proof rum (1 liter) | 298 | $12.13 |
| Jack Daniels Tennessee Whiskey (0.75 liter) | 281 | $14.94 |
| Jack Daniels Tennessee Whiskey (1 liter) | 457 | $19.00 |
| Kahlúa (0.75 liter) | 283 | $15.07 |
| Kahlúa (1 liter) | 436 | $20.49 |
| Stolichnaya Vodka 80 proof (0.75 liter) | 130 | $15.42 |
| Stolichnaya Vodka 80 proof (1 liter) | 134 | $19.03 |
| Tanqueray Gin (0.75 liter) | 180 | $15.91 |
| Tanqueray Gin (1 liter) | 244 | $20.08 |
| Beer | 1,706 | $ 7.15 |
| Amstel Light 6-pack | 56 | $ 6.64 |
| Budweiser 12-pack (cans) | 491 | $ 8.44 |
| Coors 12-pack (cans) | 173 | $ 8.79 |
| Heineken 6-pack (bottles) | 195 | $ 6.61 |
| Labatts Blue 6-pack (bottles) | 56 | $ 5.67 |
| Miller High Life 12-pack (cans) | 138 | $ 6.76 |
| Molson 6-pack (cans) | 78 | $ 5.78 |
| Narragansett 6-pack (cans) | 28 | $ 3.16 |
| Sam Adams 6-pack (bottles) | 491 | $ 6.27 |
| Wine | 915 | $ 5.68 |
| E & J Gallo Cabernet Sauvignon | 81 | $ 4.68 |
| E & J Gallo Chardonnay | 394 | $ 4.76 |
| Fetzer Cabernet Sauvignon | 41 | $ 7.47 |
| Fetzer Sundial Chardonnay | 53 | $ 7.27 |
| Glen Ellen Chardonnay | 57 | $ 5.76 |
| Glen Ellen Merlot | 46 | $ 5.81 |
| Mouton Cadet (red) | 54 | $ 8.48 |
| Mouton Cadet (white) | 56 | $ 8.37 |
| Sutter Home Cabernet Sauvignon | 60 | $ 5.38 |
| Sutter Home Chardonnay | 73 | $ 5.54 |
| Champagne | 1,192 | $15.45 |
| Freixenet Cordon Negro Brut | 431 | $ 8.07 |
| Korbel Brut | 361 | $10.80 |
| Moet & Chandon Brut | 156 | $30.07 |
| Moet & Chandon White Star | 244 | $26.04 |
| All | 6,480 | $12.34 |

We began collecting data in June of 1995, shortly after learning that the U.S. Supreme Court had agreed to hear the *44 Liquormart* case in its next term. We knew that a decision would arrive sometime between the fall of 1995 and summer of 1996, but we did not

[9] Information on top-selling national brands is from the *Massachusetts Beverage Price Journal* (formerly, the *Massachusetts Beverage Journal*) and the *Rhode Island Beverage Journal*.

[10] When asked, one store manager said, "I don't allow that kind of thing in my store." Even when the owner was not present, store employees were generally reluctant to grant us permission to gather price data.

[11] As the numbers of observations in Table 1 indicate, the short-list products always include: Jack Daniels (1 liter), Budweiser 12-pack (cans), Samuel Adams 6-pack (bottles), E & J Gallo Chardonnay, Kahlúa (1 liter), and Freixenet Cordon Negro Brut and Korbel Brut sparkling beverages (all 0.75 liter).

know how the Supreme Court would rule.[12] When the advertising ban was found unconstitutional in May 1996, we were positioned to produce a unique data set on retail prices from both before and after the Court's ruling. However, unless prices were expected to remain constant in the absence of a change in the law, we could not measure the effect of the change in the law using only data on Rhode Island retail prices. Rather, we needed some other controls that might show how retail prices would have evolved in the absence of a change in the law.

We obtained three additional controls for Rhode Island retail prices. First, we obtained retail price data for Massachusetts, where liquor price advertising was already legal. These prices were collected in the same manner as those in Rhode Island. We selected Massachusetts, both because it is adjacent to Rhode Island and because the Providence metropolitan area is essentially contiguous with that of Boston. Hence, we expected factors apart from the possible law change—and therefore retail prices—to evolve similarly in both places.[13] Second, we collected information on wholesale liquor prices in Rhode Island; these data are published each month in the *Rhode Island Beverage Journal*.[14] Since wholesalers in Rhode Island enjoy statewide exclusive territories for nearly every product in our sample, we were not confronted with multiple wholesale prices for each product.[15] Finally, we also collected monthly wholesale prices in Massachusetts, from the *Massachusetts Beverage Business*. However, because multiple wholesalers may offer any particular product in Massachusetts, we use the average of the listed wholesale prices as our measure of a product's wholesale price.[16]

An important caveat must be made regarding the wholesale price data. We observe only posted prices, not actual exchange prices. Published wholesale prices do not reflect quantity discounts and therefore may be inaccurate in their levels. However, if the Rhode Island markup (retail price − wholesale price) is stable during the period prior to the change in law, then we can use Rhode Island wholesale prices as a control for retail prices. If, on the other hand, the markup varies over time but is otherwise similar in the two states, then we can use the markup in Massachusetts as a control for the markup in Rhode Island.

Our retail price data were collected on 540 store visits in the two states. We visited 58 different stores in Rhode Island (one-quarter of the 232 liquor stores in the state)[17] and 57 stores in Massachusetts. Our store visits took place at approximately quarterly intervals (see Table 2). The Supreme Court decided *44 Liquormart* on May 13, 1996 by a 9–0 vote for the plaintiff, immediately lifting Rhode Island's ban on price advertising; several stores began advertising that same month. In June of 1996 we visited most of the stores in both states, and we continued our quarterly visits through the following June. Although time and budget constraints prevented us from collecting a balanced panel, we did make multiple visits to every store.

Our sample includes stores in three areas of Rhode Island and Massachusetts:

(1) *Southern Rhode Island*. All stores in Warwick, Cranston, North Kingstown, East Greenwich, West Warwick, and Exeter, as well as stores adjacent to these towns in Johnston, South Kingstown, and Coventry.
(2) *Northwest Boston Suburbs*. Stores in the northwest-of-Boston towns of Bedford, Billerica, Burlington, Everett, Lexington,

[12] We spoke to several retailers who were members of the Rhode Island Liquor Store Association; they did not expect to lose the case.

[13] Of course, wholesale and retail liquor sales are regulated (taxed) at the state level and this regulation (taxation) is different in Rhode Island and Massachusetts. However, with the exception of the possible change in Rhode Island advertising, there is no reason to expect differences across state regulation (taxation) to affect the time pattern of prices in Massachusetts relative to Rhode Island (no other state regulations or taxes changed during the period of our study).

[14] This is a common practice for the industry in this region; similar price journals are published in Connecticut, Massachusetts, and New York. State laws in Connecticut and Massachusetts require wholesalers to post the prices of alcoholic beverages each month.

[15] The exceptions were Kahlúa, Heineken, Amstel Light, and Narragansett beer; in each of these cases we used the average posted wholesale price in Rhode Island.

[16] There is very little price variation across Massachusetts wholesalers. For example, in June 1995 all wholesalers charged the same price on 29 of 33 sample products.

[17] The source for the total number of liquor stores in Rhode Island is the GTE Superpages (http://www.superpages.net).

TABLE 2—TIMING OF PRICE SURVEYS AND ADVERTISING

| | Number of stores visited | | Number of stores advertising in Rhode Island | | Number of newspaper advertisements Rhode Islanc |
|---|---|---|---|---|---|
| Dates | Rhode Island | Massachusetts | Sample | All | Sample |
| June 1995 | 22 | 18 | 0 | 0 | 0 |
| September 1995 | 30 | 39 | 0 | 0 | 0 |
| February 1996 | 15 | 11 | 0 | 0 | 0 |
| June 1996 | 49 | 39 | 3 | 10 | 4 |
| September 1996 | 21 | 41 | 1 | 3 | 1 |
| December 1996 | 52 | 46 | 5 | 15 | 27 |
| March 1997 | 52 | 27 | 6 | 17 | 16 |
| June 1997 | 26 | 44 | 0 | 13 | 4 |

*Note:* Sample refers to all stores in the Rhode Island sample, not just those visited on a particular date.

Malden, Reading, Stoneham, Winchester, and Woburn.

(3) *Rhode Island/Massachusetts Border.* All stores in the town of East Providence, Rhode Island, and four stores in adjacent Seekonk, Massachusetts.[18]

While we do not directly observe quantities sold, we do observe a relevant proxy, sales of Rhode Island lottery tickets. The Rhode Island Lottery Commission provided us with lottery ticket sales, by agent, for five separate time periods surrounding the period of our study, one entirely before the law change and three entirely after (see Table 8). While lottery ticket sales may not be proportional to liquor sales across stores, we propose to proxy a store's change in liquor sales with its change in lottery revenue.

B. *Sample Characteristics*

Table 1 shows the 33 products included in the sample, the number of observations for each product and their average prices. Products in the sample range in price between an average of $3.16 for a 6-pack of Narragansett beer and $30.07 for a 0.75-liter bottle of Moet & Chandon Brut champagne. Because of this variation across products, we analyze the natural logarithm of prices and we include product dummies in all of our regressions. For similar reasons, define the markup to be the natural logarithm the retail price less that of the wholesale pr (the percentage markup ranged from 8 perc on champagnes in the sample to 15–20 perc on beers). In all, we collected 2,844 retail pr (and markup) observations in Rhode Island 3,636 in Massachusetts.

C. *Advertising After the Ban*

After the ban on advertising was lifted Rhode Island, only some of the retailers in sample chose to advertise. We collected syste atic data on two forms of price advertisi signs displayed at the stores themselves (e window displays) and print advertisements newspapers. Both of these forms of advertis were illegal in Rhode Island prior to M 1996.[19] Information on window advertising v obtained during our store visits. By the end our data collection in June of 1997, 32 of the sample stores in Rhode Island had employ some form of window advertising, compared all but one of the sample stores in Massacl setts. The data on print advertisements w collected from the area's only major newspap the *Providence Journal-Bulletin*.[20] We mo

[18] It is important to note that, with the exception of the four Massachusetts stores near the border, the remaining Massachusetts stores are too far from Rhode Island to be affected by Rhode Island market conditions.

[19] Retailers in Rhode Island were always allowed display price information inside their stores, provided th displays were not visible from outside the store.

[20] We also monitored several town-specific weekly p lications, but found no advertisements placed by liq stores for the months in which we collected price data.

tored all regional editions of the *Providence Journal-Bulletin* for liquor store ads during the months of data collection from the time that the advertising ban was lifted until June of 1997. We collected information on newspaper price advertising by all liquor stores, not only for advertisements placed by the stores in our sample. That allows us to measure the association between rivals' newspaper advertisements and own prices, as well as that between own advertisements and own prices. In most of the following analysis, we distinguish only between newspaper advertisers and nonadvertisers.[21] Unless otherwise noted, all references to advertisements concern newspaper advertisements.

Of the 58 stores in the Rhode Island sample, only nine ran advertisements in the newspaper in the year following the change in law, but most advertising stores ran multiple advertisements during the year. Table 2 shows the number of stores in Rhode Island running newspaper advertisements and the number of ads run. The information is presented for the month of each survey wave, for stores in the sample and for all stores advertising in the newspaper.[22]

## III. The Effect of Price Advertising on Prices

### A. *Do Low-Price Stores Advertise?*

Before turning to the effect of advertising on prices, it is interesting to ask whether the Rhode Island stores that ultimately choose to advertise already had lower prices under the ban. This is an important question because advertising can convey valuable information to consumers even if stores' prices do not change. Because we have information on stores both before and after the advent of advertising in Rhode Island, our data allow us to answer this question. In effect, we ask whether stores use advertising to communicate that they have low prices. We test for this by regressing (log) prices in Rhode Island prior to the change in the law on product dummies, time dummies, and two mutually exclusive dummies indicating whether and how a store chooses eventually to advertise. The first dummy variable is one for prices at stores that eventually employ window, but not newspaper, advertising. The other dummy is one for prices at stores that eventually advertise in the newspaper. Those Rhode Island stores that eventually choose to advertise prices in their windows (24 of 58 stores) had significantly lower prices (5.61 percent lower, $t = 9.92$) prior to May of 1996, than did nonadvertising stores in Rhode Island. Stores that eventually advertise in the newspaper had prices which were 7.71 percent lower than prices at nonadvertising stores prior to June 1996 ($t = -9.83$). The fact that stores that eventually choose to advertise had lower initial prices is consistent with the notion that advertising provides a valuable signal to consumers.[23] If advertising diverts customers from high- to low-price stores, then the mean and variance of prices *paid* can decline, even if no store changes the prices that it *charges*.

### B. *Measuring the Effect of Price Advertising on Prices Charged*

We now turn to the main question of the paper, whether advertising affects prices that stores charge. We first ask whether there are aggregate effects on prices of alcoholic beverages. Because the sample is unbalanced in both stores and products, we must control for products and stores to isolated time effects. We allow for state-specific product effects because stores face different wholesale prices and possibly different demand conditions in the two states. We therefore estimate price and markup regressions with store effects, state-specific product fixed effects, and state-specific time effects:

[21] We found no difference between the pricing behaviors of nonadvertisers and window-only advertisers, so window-only advertisers are grouped with nonadvertisers in the analysis in the text.

[22] Some nonsample Massachusetts stores located near the Rhode Island border also place advertisements in the Rhode Island newspaper.

[23] Of course, this alone does not demonstrate the value of advertising as a signal. In fact, the information signaled by advertising may be redundant if other signals exist. For example, in our store visits, we quickly noticed that large stores had lower prices. As an informal test of this, we recorded subjective evaluations of store size; these size ratings are closely associated with both initial price levels and whether stores choose to advertise. Even when price advertising was prohibited, stores could conceivably have achieved coordination through advertising their size, as in Kyle Bagwell and Garey Ramey (1994a, b), but we did not observe this sort of advertising.

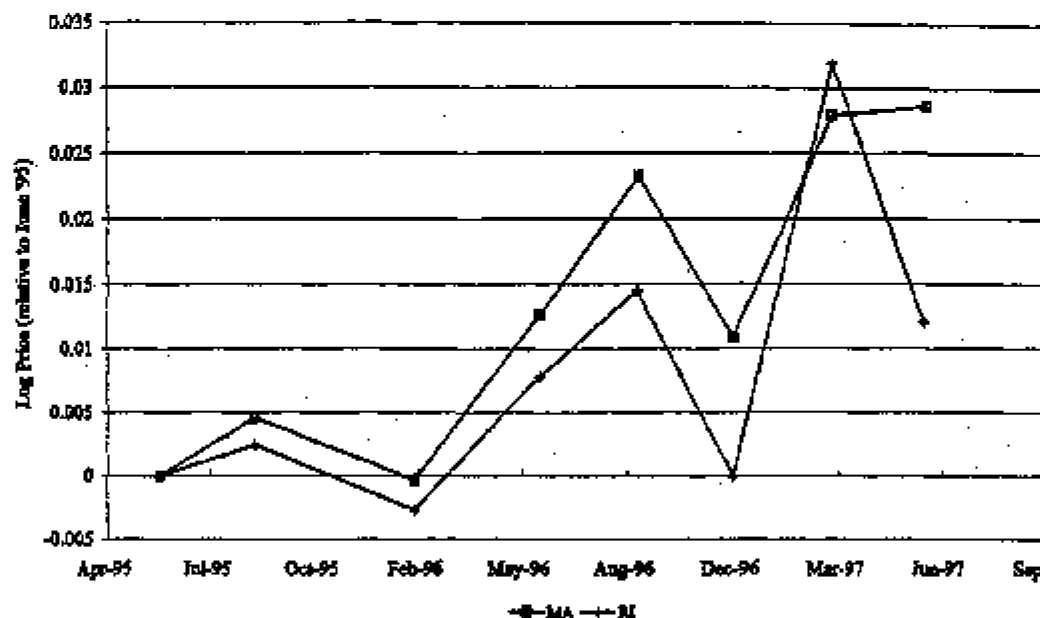


FIGURE 1. TIME EFFECTS IN RHODE ISLAND AND MASSACHUSETTS (LOG PRICE) STORE AND STATE-PRODUCT FIXED EFFECTS

$$p_{sdt} = \theta_s + \gamma_d + \gamma'_d\delta^{RI} + \alpha_t + \alpha'_t\delta^{RI} + \epsilon_{sdt},$$

where $p_{sdt}$ is either the log price or the percentage markup [measured as log(retail price/wholesale price)] on product $d$ at store $s$ at time $t$; $\theta_s$ is a store effect; $\gamma_d$ is a product effect; $\gamma'_d$ is the deviation between the Massachusetts and Rhode Island effect for product $d$; $\alpha_t$ is a time effect; $\delta^{RI}$ is an indicator that is 1 for prices at Rhode Island stores; $\alpha'_t$ is the difference between the time $t$ effect in Rhode Island and Massachusetts; and $\epsilon_{sdt}$ is an idiosyncratic error. The time periods run from 1 (June 1995) to 8 (June 1997), and time periods 4 through 8 fall after the change in the law. With a spanning set of store dummies, we set $\alpha_1 = \alpha'_1 = 0$.

Figure 1 presents the Massachusetts and Rhode Island time effects from the log price regression. While more formal tests follow, a number of things are clear from Figure 1. First, prices are not stable over time. Prices rise by 2 to 3 percent in the two states over the two-year period, although almost all of this increase occurs in both states after the change in Rhode Island law. This immediately suggests that the change in Rhode Island price will provide a poor measure of the effect of the law. Even though Rhode Island prices are stable pr to the change in the law, the subsequent pr changes in both states undermine the assumpti of stable prices in the absence of the change in law. Second, prices in the two states do appear move together. This suggests that Massachuse prices provide a reasonable control for Rhc Island prices. Third, there is no clear effect of lifting of the ad ban on Rhode Island prices. Wh Rhode Island prices rise relative to their o history, in four of five postlaw-change perio Rhode Island prices have risen less far than M sachusetts prices, suggesting a negative effect price advertising on prices.

Figure 2 shows the pattern of markups time analogous to the log prices in Figu 1. While the Rhode Island markup is lov after the ban is lifted than before, the Mas chusetts markup declines as well. This su gests that the change in the Rhode Isla markup provides a misleading measure of t effect of price advertising. Because Mas chusetts and Rhode Island markups move gether, however, the Massachusetts mark appears to be a suitable control for the Rhc Island markup. We move now to more form measurement approaches.

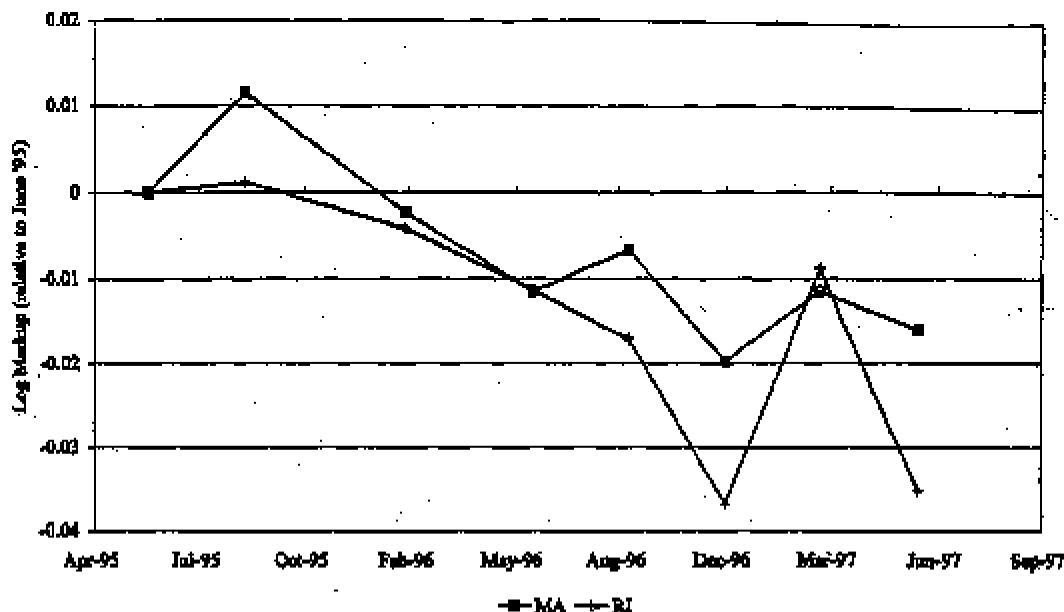


FIGURE 2. TIME EFFECTS IN RHODE ISLAND AND MASSACHUSETTS (MARKUPS) STORE AND STATE-PRODUCT FIXED EFFECTS

Given the evidence in Figures 1 and 2, we propose to measure the aggregate effect on prices using a difference in difference approach, identifying the effect as the deviation between Rhode Island and Massachusetts time patterns in prices or markups following the change in the law. Because we have data on prices and markups in multiple periods prior to the change in the law, we can test the control by asking whether Rhode Island prices or markups follow the time patterns of their Massachusetts analogues before the law changes, or whether $\alpha_2' = \alpha_3' = 0$. We estimate the overall effect by constraining $\alpha_4' = \alpha_5' = \alpha_6' = \alpha_7' = \alpha_8'$. In addition to estimates with store and state-product fixed effects, we also perform estimates allowing the pattern of prices across products to vary across stores by including store-product fixed effects.

### C. *Testing the Controls*

Table 3 reports $F$-tests for the null hypotheses that log prices and markups in Massachusetts track those in Rhode Island prior to the change in the law. The first two columns are based on regressions including store and state-product effects. The last two columns are based on regressions with store-product effects. We can not reject any of these control approaches under any of the three specifications of store and product effects.[24]

### D. *Overall Effects of Advertising on Prices*

Table 4 reports estimates of the overall effect of advertising using two different specifications for product and store effects. The first two columns report estimates that include store and product effects. The last two columns report estimates including store-product effects. Estimates vary between −0.39 percent and −0.80 percent, and none are significantly different than zero.

These results stand in contrast to what has been previously inferred from cross-sectional comparisons of prices. While the literature has found that jurisdictions permitting advertising

[24] We also attempted to use the Consumer Price Index for malt beverages, imported and domestic vodka, and wine in the Northeast as controls for Rhode Island prices. However, we rejected the constancy of the ratio of Rhode Island prices to average Northeast alcoholic CPI indices prior to the change in the Rhode Island law.

TABLE 3—TEST OF CONTROLS

| Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island | Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island |
|---|---|---|---|
| 0.65 (0.52) | 0.47 (0.63) | 0.45 (0.64) | 0.77 (0.46) |
| State-product and store fixed effects | | | Store-product fixed effects |
| $F_{(2,6317)}$ | | | $F_{(2,4047)}$ |

*Notes*: These are test statistics of the hypotheses that, prior to the change in the law, Massachusetts and Rhode Island prices and markups move together. Regressions in columns 1 and 2 include separate product effects for each state, as well as store fixed effects. Regressions in columns 3 and 4 include store-product effects All regressions include 6,480 observations. Coefficients are in percentages. Probability values appear in parentheses.

TABLE 4—OVERALL EFFECT OF ADVERTISING ON PRICES

| Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island | Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island |
|---|---|---|---|
| −0.51 (−1.15) | −0.73 (−1.58) | −0.39 (−1.02) | −0.80 (−1.94) |
| State-product and store fixed effects | | | Store-product fixed effects |

*Notes*: Coefficients are in percentages. *T*-statistics are in parentheses. Regressions in columns 1 and 2 include separate product effects for each state, time effects, and store fixed effects. Regressions in columns 3 and 4 include time effects and store-product effects. All regressions are based on 6,480 observations.

have prices substantially below jurisdictions allowing advertising, we find no significant effect.[25] A few caveats are in order, however. First, as we have mentioned above, our data concern prices charged. Prices paid may decline—if customers shift toward low-price stores—even if prices charged remain constant. Second, our sample is not necessarily representative of products sold.

We estimate this overall effect of advertising on prices by grouping all stores and products together. However, if advertising and nonadvertising stores behave differently, then the aggregate effect may obscure some more complex behavior. Consequently, in the subsequent tables, we decompose the advertising effect by whether products are advertised and by whether stores advertise.

[25] For example, Benham (1972) finds that consumers pay 20 to 30 percent less for eyeglasses in states allowing price advertising than in those forbidding it.

### B. *Estimating the Separate Effects of Price Advertising on Prices*

We have information on products advertise and whether particular stores advertise or no Consequently, we are able to decompose th overall effect of advertising on prices into thre separate effects corresponding to three mutuall exclusive sets of price observations:

(1) prices of products at stores that do n advertise in the newspaper. We term th the "nonadvertising store effect";
(2) not-currently advertised prices of products stores that currently advertise other product We term this the "advertising store effect"; a
(3) currently advertised prices of products stores that currently advertise them. W term this the "advertised product effect."

The last of the three is the effect that Glaz (1981) measures with longitudinal data c

TABLE 5—EFFECT OF ADVERTISING ON PRICES, BY STORE TYPE

| | State-product and store fixed effects | | Store-product fixed effects | |
|---|---|---|---|---|
| | Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island | Log price in Massachusetts and Rhode Island | Markup in Massachusetts and Rhode Island |
| Nonadvertising Rhode Island store [1,328] | −0.15 (−0.38) | −0.56 (−1.37) | −0.26 (−0.58) | −0.48 (−1.03) |
| Nonadvertised product at an advertising Rhode Island store [124] | −0.19 (−0.23) | −0.41 (−0.48) | −0.13 (−0.14) | −0.28 (−0.29) |
| Own-advertised product at an advertising Rhode Island store [22] | −21.43 (−11.83) | −22.14 (−11.41) | −24.16 (−13.14) | −24.84 (−12.94) |
| $H_0$: Same coefficient for all nonadvertised products (Probability value) | 0.00 (0.86) | 0.00 (0.96) | 0.02 (0.88) | 0.05 (0.83) |

*Notes:* Coefficients are in percentages. *T*-statistics are in parentheses. Number of price observations by category in brackets reported in heading column. Regressions in columns 1 and 2 include separate product effects for each state, time effects, and store fixed effects. Regressions in columns 3 and 4 include time effects and store-product effects. All regressions are based on 6,480 observations.

prices of commonly advertised produce and meat products at grocery stores during and after a newspaper strike. If retailers advertise low prices on selected "loss leaders" solely to attract consumers to the store, then the advertised product effect may be very different from the overall effect of advertising on prices.[26]

Table 5 reports three separate effects of advertising on prices for the three mutually exclusive sets of prices. The results are striking. First, under each measurement approach, stores running ads reduce the advertised products' prices by about 20 percent. This "advertised product effect" is similar in magnitude to that found by Glazer (1981), but we find no consistent evidence that this effect of price advertising propagates across products or stores. Prices of products in the other two categories, by contrast, remain constant relative to prices in Massachusetts.[27] Indeed, under each measurement approach, one cannot reject the hypothesis that all effects, save the "advertised product effect," are identical.[28]

### F. *Own and Rival Advertising*

One question we can address is how firms price when rivals advertise, which we term the "rival advertised price effect" to distinguish it from the own "advertised price effect." The question is whether the "own store" charges lower prices on a product (e.g., Korbel Brut), when a rival advertises its price on that same product. Because stores face customers with different mixes of price elasticities of demand, different stores may change their prices differently in the presence of rival price ads. Consequently, we decompose the effect of a rival advertising the price of a particular product according to whether the own store is an advertising store as well as whether it is advertising its Korbel Brut price. We accomplish this decomposition by interacting a dummy variable indicating the presence of rival advertising on a product with dummies for each of the three mutually exclusive groups of prices defined above.

[26] For example, Rajiv Lal and Carmen Matutes (1994) show that loss-leader pricing can lead to an increase in the prices of nonsale items (see also Bagwell and Ramey, 1994a, b).

[27] Prices in these two categories are also statistically indistinguishable from a fourth category, prices at stores that advertise in the window but not in the newspaper.

[28] To see that the results in Table 5 are consistent with the small overall effects in Table 4, note that advertised products make up a small fraction of the sample.

TABLE 6—EFFECT OF ADVERTISING ON PRICES, BY STORE TYPE AND THE PRESENCE OF RIVAL ADVERTISIN

| | State-product and store fixed effects | | | | Store-product fixed effects | | |
|---|---|---|---|---|---|---|---|
| Definition of rival store: | Any store advertising in Rhode Island newspaper | Any store advertising in Rhode Island newspaper | Only stores within five miles | Only stores within two miles | Any store advertising in Rhode Island newspaper | Any store advertising in Rhode Island newspaper | Only stores within five miles |
| Nonadvertising store in Rhode Island [N = 1,328] | −0.24 (−0.53) | −0.37 (−0.80) | −0.39 (−0.88) | −0.22 (−0.71) | −0.15 (−0.37) | −0.23 (−0.57) | −0.26 (−0.66) |
| Nonadvertised product at an advertising store [N = 124] | −0.11 (−0.12) | 0.63 (0.63) | 0.49 (0.51) | 0.64 (0.68) | −0.18 (−0.23) | −0.003 (−0.004) | 0.24 (0.28) |
| Own-advertised product at an advertising store [N = 22] | −24.14 (−13.05) | −16.42 (−6.38) | −16.50 (−6.42) | −16.69 (−7.76) | −21.43 (−11.59) | −13.77 (−5.11) | −13.73 (−5.10) |
| Rival advertised product [N = 355] | −0.08 (−0.14) | | | | −0.001 (−0.003) | | |
| Rival advertised product × nonadvertising Rhode Island store | | 0.56 (0.95) [N = 312] | 1.15 (1.79) [205] | 1.25 (1.17) [62] | | 0.32 (0.62) | 0.73 (1.20) |
| Nonadvertised product at an advertising store in Rhode Island | | −2.74 (−1.81) [N = 31] | −3.31 (−1.81) [22] | −5.66 (−2.49) [13] | | −0.51 (−0.33) | −2.14 (−1.21) |
| Own-advertised product at Rhode Island advertising store | | −13.79 (−4.20) [N = 12] | −13.76 (−4.19) [12] | −23.10 (−6.57) [7] | | −12.41 (−3.63) | −12.75 (−3.93) |

*Notes:* Coefficients are in percentages. *T*-statistics are in parentheses. Number of price observations by category ir reported in heading column. Regressions in columns 1–4 include separate product effects for each state, time effects, fixed effects. Regressions in columns 5–8 include time effects and store-product effects. All regressions are based observations.

Prior to the change in the Rhode Island law, we asked store owners how they expected the possible change in the law to affect their businesses. Most said they would not advertise in the paper. Asked how he would respond to possible advertising by a large nearby store (that ultimately advertised heavily), the owner of a small store that did not ultimately advertise colorfully responded, "If he lowers his price, I'll lower mine. I ain't gonna roll over and play dead, for nobody."[29] Here we attempt to measure the relationship between own pricing and rival advertising more systematically.

In Table 6, we report results only for the differences in differences in log price measurement approach. We observe sim terms of results with markups as the de variable. The specification described in column of Table 6 is similar to that o 5, but for the addition of one variable, th advertised product." This dummy var one whenever a product is advertised newspaper (by any other store). The e in Table 6 show that own prices of a pro not systematically different when rivals tise the product. Recall that the own-ad product effect is −20 percent, suggest prices of rivals' advertised products are percent below their customary levels.

In the second column of Table 6, we rival advertising with the three mutuall sive categories of prices: prices at nons ing stores, nonadvertised prices at new advertising stores, and advertised price

[29] Interview with anonymous Rhode Island liquor store owner, June 25, 1995.

stores that advertise them. Our goal is to see whether prices in these three categories vary differently when rivals advertise. The results show different own-price changes when rivals run price ads, depending on own-store advertising status. An own-advertised product is priced 13.79 percent lower when it is also advertised by a rival. (Note that the effect of own advertising of the product, over 20 percent in Table 5, falls to −16.42 percent in Table 6 because of the correlation between own and rival advertising). When a rival runs a price ad, a newspaper-advertising store not currently advertising the product charges 2.74 percent less (although this difference is only marginally significant). Nonadvertising stores' prices are not significantly different in the presence of rival advertising.

If these rival advertised product effects reflect responses to rival behavior, then they should be more pronounced when we restrict the definition of rival to include only stores in the immediate vicinity. In the third and fourth columns, we define rival stores as all those within five or two miles, respectively. The pattern of responses documented above becomes more pronounced for narrower definitions of rivals. Prices of products advertised by both a store and rivals within 2 miles are 23 percent lower than products advertised only by that store (this estimate is significant despite the small cell size of seven price observations). The "play dead" result is also more pronounced: nonadvertising stores raise prices on products advertised by rivals by 1 percent, although this result is not significant. The strengthening of the result pattern with more narrow definitions of rivalry supports the interpretation of these effects as responses to rival behavior.[30]

The important result in Table 6 is that different stores price differently in the presence of rival advertising. This is not consistent with the predictions of Stigler (1961), in which all stores would be compelled to reduce their prices to meet the competition, reducing the mean and variance of prices. Indeed, because nonadvertising stores, which charge higher prices, do not reduce their prices, while lower-price stores do reduce their prices, the variance of prices appears to increase. However, the results are consistent with models such as Salop and Stiglitz (1977). When different stores face demand curves with different elasticities, they will optimally charge different prices.

### G. *Do Advertisers Sell More?*

Like previous studies of advertising prohibitions, we have thus far focused on the effects of advertising on posted prices. However, unlike previous studies, we can not infer that advertising leads to lower prices for consumers, since we do not observe a uniform decrease in posted prices. Nevertheless, there are two reasons to believe that consumers may indeed pay lower prices. First, consumers may substitute across products and time toward (deeply discounted) advertised products. Second, since advertising is a signal of lower average prices, more consumers may frequent lower-priced advertising stores.

We do not have information on quantities sold, by product or store, so we can not answer the question of whether consumers pay lower prices. However, we do have some indirect information on sales volume, by store, in the form of Rhode Island lottery sales. Virtually all Rhode Island liquor stores are also Rhode Island lottery outlets, and we were able to get lottery sales data, by store, for various time periods before and after the change in the law. We do not require the level of lottery sales to be a good proxy for quantities sold; we only require the change in lottery sales to be associated with the change in quantities sold. Further, we expect the change in lottery sales to somewhat understate changes in sales. To the extent that lottery buyers are loyal to certain stores, they will be relatively price insensitive in their alcohol purchases compared to the average customer.

We have lottery sales data for five time periods:

(1) Entire year 1995;
(2) Early 1996 (January 1, 1996 to September 30, 1996);

[30] An alternative explanation that we tested and rejected is that our rival-advertised price effects reflect large stores' stocking up and discounting products in anticipation of impending wholesale price increases. We tested this hypothesis by regressing log wholesale prices for the eight sample time periods on 33 product fixed effects and a dummy indicating whether some retailer is currently advertising the product in the newspaper. The coefficient on the ad variable is insignificant.

TABLE 7—PERCENT OF RHODE ISLAND LOTTERY SALES AT ADVERTISING AND NONADVERTISING STORES IN THE SAMPLE

| | Number of stores | Entire year 1995 | Early 1996 (1/1–9/30) | Late 1996 (10/1–12/31) | Early 1997 (1/1–4/22) | Mid-199 (4/23–9/ |
|---|---|---|---|---|---|---|
| Advertising stores | 9 | 16.38 | 16.44 | 17.14 | 17.35 | 18.40 |
| Nonadvertising stores | 42 | 83.62 | 83.56 | 82.86 | 82.65 | 81.60 |

*Notes*: "Advertising stores" refers to stores ever employing newspaper price ads in effect during months of price da collection (through June 1997). "Nonadvertising stores" are stores that do not employ newspaper advertising, although the may post prices in their windows.

(3) Late 1996 (October 1, 1996 to December 31, 1996);
(4) Early 1997 (January 1, 1997 to April 22, 1997); and
(5) Mid-1997 (April 23, 1997 to September 1, 1997).

The first period, entire year 1995, is prior to the change in the law. The second period, unfortunately, spans the pre- and postperiod. Roughly two-thirds of the period occurs before the change in law and the remainder after. The latter three periods are all after the prohibition on price advertising was lifted. Table 7 reports the fraction of Rhode Island lottery tickets sold, among tickets sold by liquor stores in our sample, by whether they ever employ newspaper price ads after the law change.

The pattern of sales by stores that run newspaper advertisements suggests that sales volume increased at stores that advertise. While the nine sample stores that eventually advertise prices in the newspaper sell 16.38 percent of the lottery tickets in the sample in 1995, they sell 18.40 percent in mid-1997. The increase in share occurs almost exclusively after the law change. Between late 1996 and mid-1997, lottery ticket volumes at advertising stores increase by 7.4 percent.

We find this evidence of increased quantities sold at advertising stores even though most prices at advertising stores do not fall (relative to prices at nonadvertising stores). Nevertheless, stores which ever advertise in the newspaper did have lower initial prices than nonadvertising stores, so increased sales at price-advertising stores may arise because price advertising allows stores to communicate their low average prices. This is the mechanism that Bagwell and Ramey (1994a, b) use to explain a theoretical effect of price advertising on prices. However, stores that ever employ window advertising (but not newspaper advertising) also had lower initial prices, but these store did not realize an increase in lottery sales after th change in the law.

TABLE 8—PRICE DISPERSION IN RHODE ISLAND AND MASSACHUSETTS BEFORE AND AFTER ADVERTISING

| | Rhode Island | Massachusett |
|---|---|---|
| | A. Standard deviation of store effects | |
| Preadvertising | $0.620 | $0.689 |
| Postadvertising | $0.735 | $0.783 |
| | B. Standard error of regression o prices on product and time dummies | |
| Preadvertising | $1.018 | $1.248 |
| Postadvertising | $1.283 | $1.320 |

*Notes*: Panel A standard dev[illegible]ions are calculated as th standard deviations of store fixed effects from regressions c prices on store, product, and time dummies. Four separa regressions are run for Massachusetts and Rhode Islan before and after the change in the law. The standard erro in Panel B are based on four separate regressions of price on product and time dummies.

### H. *Effects on Variance of Prices*

As noted above, Stigler (1961) predicts tha advertising should lead to a reduction in pric dispersion across stores; this claim has foun some support in cross-sectional studies cite above. Below we test the effect of advertisin on the dispersion of prices. In a world of on product, it would be straightforward to test thi claim by comparing the variance in price across stores before and after the advent o advertising. However, our task is somewha more complicated by the fact that we observ multiple products.

We measure interstore price variance i two ways. First, we calculate the interstor

variation in store fixed effects. Store fixed effects are calculated from separate pre- and postlaw-change regressions of the price level on product dummies, store dummies, and time dummies; we report these standard deviations for each state in Table 8. The standard deviation of the estimated store effects in Rhode Island rises from $0.620 before the law changed to $0.735 afterwards (an increase of over 11 percent). This is not consistent with the claim that advertising reduces price dispersion, but we do not know if the variance in prices would have increased in the absence of the change in law. Therefore, we compare these results to the same in Massachusetts. The standard deviation of store fixed effects in Massachusetts also rises, from $0.689 to $0.783 (both increases are statistically significant). Both the absolute and relative increases in the standard deviation of store effects is greater in Rhode Island than in Massachusetts ($0.069 vs. $0.048 and 11.1 percent vs. 6.5 percent), so it is clear even without formal statistical tests that price dispersion does not decline with the advent of advertising.

Our second test compares regression standard errors from regressions of price levels on product dummies and time dummies. This "unexplained variation" in prices reflects not only interstore price variation but also within-store variation. We run four separate regressions: one for the time period before advertising in each state, and one for the postadvertising period in each state. The results are also reported in Table 8. The standard errors of these regressions increase in both states, but more so in Rhode Island ($0.230 vs. $0.037 and 22.6 percent vs. 2.9 percent). Again, there is no evidence of a reduction in price dispersion.

It is possible that the increased Rhode Island dispersion arises because of the difference between advertised and nonadvertised prices. To test this, we ran regressions of Rhode Island postlaw-change prices on time dummies, product dummies, and indicators for whether the product's price is advertised (a) anywhere and (b) here. The residual variation declines only slightly with the inclusion of these advertising dummies and remains far above its Rhode Island preadvertising level.

## IV. Conclusion

Price advertising has traditionally been expected to increase customers' demand elasticities, causing all stores to reduce their prices toward competitive levels and thereby reducing the mean and variance of prices. This has been the consistent finding of an empirical literature based almost exclusively on cross-sectional comparisons of prices in jurisdictions allowing—and those forbidding—price advertising. A more recent theoretical literature posits that consumers face different costs of obtaining information, so that price advertising may differentially inform potential customers at different stores. In the postadvertising equilibrium, stores may face different demand curves and may therefore price differently.

Using unique longitudinal data on liquor products, we find that Rhode Island prices decline insignificantly, relative to Massachusetts prices, after Rhode Island's ban on liquor price advertising is lifted. While the prices of advertised products fall by over 20 percent at the stores that advertise them, other prices do not change on average under the advertising regime. We find that stores' responses to rival price ads vary by their own advertising status. Newspaper-advertising stores tend to reduce their prices of rival-advertised products, while nonadvertising stores do not. When a product is advertised by a rival, a store advertising the same product sets its price substantially lower than if the store alone advertised the product's price.

Our results are interesting in two ways. First, using longitudinal data on an exogenous policy change, we find no significant overall effect of the price-advertising regime on prices charged in the first year that price advertising is allowed. This result stands in sharp contrast with existing results based on cross-sectional studies. Second, our results on stores' heterogeneous responses to rival stores' ads suggest that price advertising affects different stores differently.

Two important caveats are in order. First, our data describe prices charged, not average prices paid. While stores do not change the prices they charge, we present suggestive evidence, based on lottery ticket sales, that the lower-priced newspaper-advertising stores attract more business after they begin to advertise. Second, although we have data on prices for a full year

after the change in the law, the long-run effects may require more time. The long-run impact of the lifting of the ad ban may eventually entail failure and exit of small, high-priced stores. Similarly, customers may become more informed over time, leading to the effects envisaged by Stigler (1961). We believe that additional studies using panel data and broad coverage of products would be useful.

## REFERENCES


**Andrews Publications, Inc.** "*44 Liquormart, Inc. v. Rhode Island*; High Court Ruling on Liquor Ads May Affect Casino Advertising." *Gaming Industry Litigation Reporter*, June 1996, p. 3.

**Bagwell, Kyle and Ramey, Garey.** "Advertising and Coordination." *Review of Economic Studies*, January 1994a, *61*(1), pp. 153–72.

______. "Coordination Economies, Advertising, and Search Behavior in Retail Markets." *American Economic Review*, June 1994b, *84*(3), pp. 498–517.

**Benham, Lee.** "The Effect of Advertising on the Price of Eyeglasses." *Journal of Law and Economics*, October 1972, *15*(2), pp. 337–52.

**Butters, Gerard R.** "Equilibrium Distributions of Sales and Advertising Prices." *Review of Economic Studies*, October 1977, *44*(3), pp. 465–91.

**Cady, John F.** "An Estimate of the Price Effects of Restrictions on Drug Price Advertising." *Economic Inquiry*, December 1976, *14*(4), pp. 493–510.

**Devine, D. Grant and Marion, Bruce W.** "The Influence of Consumer Price Information on Retail Pricing and Consumer Behavior." *American Journal of Agricultural Economics*, May 1979, *61*(2), pp. 228–37.

**Feldman, Roger D. and Begun, James W.** "The Effects of Advertising: Lessons from Optometry." *Journal of Human Resources*, 1978, Supp., *13*, pp. 247–62.

______. "Does Advertising of Prices Reduce the Mean and Variance of Prices?" *Economic Inquiry*, July 1980, *18*(3), pp. 487–92.

**GTE Superpages.** http://www.superpages.net.

**Glazer, Amihai.** "Advertising, Information, an Prices—A Case Study." *Economic Inquiry* October 1981, *19*(4), pp. 661–71.

**Grossman, Gene M. and Shapiro, Carl.** "Informative Advertising with Differentiated Products." *Review of Economic Studies*, Januar 1984, *51*(1), pp. 63–81.

**Kwoka, John E.** "Advertising and the Price an Quality of Optometric Services." *American Economic Review*, March 1984, *74*(1), pp 211–16.

**Lal, Rajiv and Matutes, Carmen.** "Retail Pricing and Advertising Strategies." *Journal of Business*, July 1994, *67*(3), pp. 345–70.

**Luksetich, William and Lofgreen, Harold** "Price Advertising and Liquor Prices." *Industrial Organization Review*, 1976, *4*(1) pp. 13–25.

*Massachusetts Beverage Business*. Boston, MA New Beverage Publications, 1996–1997 various issues.

*Massachusetts Beverage Price Journal*. Boston, MA: New Beverage Publications, 1995–1996, various issues.

**Mulligan, John E.** "R.I. Curb on Liquor Ads Argued; The State's Ban on Advertising Prices Reaches the U.S. Supreme Court." *Providence Journal-Bulletin*, November 2, 1995, p. 1A.

**Pepall, Lynne; Richards, Daniel J. and Norman, George.** *Industrial organization: Contemporary theory and practice*. New York: South-Western College Publishing, 1998.

**Peters, Michael.** "Restrictions on Price Advertising." *Journal of Political Economy*, June 1984, *92*(3), pp. 472–85.

*Providence Journal-Bulletin*. 1995–1997, various issues.

*Rhode Island Beverage Journal*. Hamden, CT: Beverage Publications, 1995–1997, various issues.

**Salop, Steven C. and Stiglitz, Joseph E.** "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion." *Review of Economic Studies*, October 1977, *44*(3), pp. 493–510.

**Stigler, George J.** "The Economics of Information." *Journal of Political Economy*, June 1961, *69*(3), pp. 213–25.

**Tirole, Jean.** *The theory of industrial organization*. Cambridge, MA: MIT Press, 1995.

Robert H. Porter, *The Impact of Government Policy on the U.S. Cigarette Industry*, in EMPIRICAL APPROACHES TO CONSUMER PROTECTION ECONOMICS 446 (Pauline M. Ippolito & David Scheffman eds., 1986).

**Scope of Study:** Porter examined the impact of the 1971 ban on television and radio advertising in the cigarette industry. He used structural econometric methods to estimate demand, price, and advertising equations to determine how producers and consumers responded to the advertising ban. The banned advertising did not mention price, and billboard advertising was still permitted.

**Conclusions:** Porter concluded that demand fell by 7.5 percent as a result of the ban. Real expenditures on advertising fell from 33 to 41 percent. During the ban, price increases ranged from three to six percent.

ing patterns. In as much, their work is a crucial predecessor to an examina- of how firms will structure their promotions to maximize profits. Such an nination appears essential to answering the important question of whether ures, coupons and displays are employed in the best interest of consumers. has been suggested in the industrial organization literature that coupons it be used by incumbent firms to deter entry. The idea is that coupons can e credible threats by incumbents to maintain low prices after entry has oc- ed. It would be interesting to test whether incumbent firms tend to issue e coupons when entry is deemed more likely. A related test of interest would hether incumbent firms increase promotional expenditures in response to , and whether the effect is to drive new entrants from the market. Similarly, uld be helpful to know whether entrants are afforded the same access to ay and feature promotions that incumbents enjoy.

empirical investigation of whether multiproduct firms employ coupons and r promotions differently from firms that market a single product would also luable. For example, do multiproduct firms alternate the brands they pro- so as to limit effective competition among the different brands? Our ledge of the strategies and performance of multiproduct firms is sorely in- uate, and might well be enhanced by a careful analysis along these lines. would also be interesting to examine empirically the different effects of dif- t types of coupons. Katz and Shapiro have accurately identified functions upons that are printed in newspapers. Coupons that come bundled with roduct purchased have different functions. With data that permits distinc- among the various types of coupons, future empirical analysis should be tive to these distinctions.

## References

y, Richard, "Non-Cooperative Price-Setting by Asymmetric Multiproduct ns," Bell Communications Research Working Paper, 1984.

# The Impact of Government Policy on the U.S. Cigarette Industry*

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## 1. Introduction

This paper describes an empirical study of the U.S. cigarette industry from 1947 to 1982. The cigarette industry was very unstable in this period, due to several health information "shocks" and a variety of government policy interventions. This study attempts to determine the effects of these shocks and policy measures on the industry. For example, I shall examine the impact of the ban on television and radio advertising that became effective on January 1, 1971. Structural econometric methods, which estimate demand, price and advertising equations, are employed in order to measure how both producers and consumers responded to the developments in the industry for purposes of comparison with previous studies.

The plan of the paper is as follows. Section 2 contains a brief account of the U.S. cigarette industry since 1946, and the various changes it has undergone. Previous empirical work is reviewed and revised in Section 3. These earlier studies focused, for the most part, on the demand for cigarettes. A second purpose of this study is to examine in detail the decision rules of cigarette manufacturers, so that a simultaneous equation model of the industry as a whole can be estimated. Part of the revision of the earlier studies, then, is a correction for simultaneity bias in their estimates. In particular, if the actions of cigarette companies are considered, how are the estimates of changes in consumer demand in response to the health shocks affected? If, for example, cigarette companies cut prices in response to the publicity about the adverse health effects of smoking, then such a price cut should be viewed as a result of that publicity. The net effect on cigarette consumption will be less than that measured by shifts in aggregate demand. Section 4 then turns to estimation of the firms' decision rules, with emphasis on the determination of prices and advertising levels. Section 5 concludes with a list of caveats and qualifications, as well as suggestions for further research.

* I have benefited from the research assistance of Cristina Mazon and the financial support of

## 2. The Cigarette Industry Since 1945 [1]

1946, the Supreme Court upheld the conviction of the major cigarette com-ies of conspiracy in restraint of trade and of monopolization under Sections id 2 of the Sherman Act. However, no structural remedies were adopted. her, fines of only $250,000 were assessed.

ince the 1946 decision, six firms have dominated the industry: Reynolds, ip Morris, Brown and Williamson, American Brands, Lorrilard and Liggett. ether they have accounted for all cigarette sales, for practical purposes. Other ipanies have occasionally captured a negligible share of the market (less than per cent), and imported cigarettes have not been a factor. Furthermore, irette sales have been dominated by a subset of the major firms. Table 1 ws the evolution of various concentraction indices over five year intervals e 1947. $CR_n$ is the percentage market share of the n largest companies, H is the Herfindahl index, the sum of the squared percentage market shares he six major companies. The two largest firms have always had market shares xcess of 50%.

'he entries in Table 1 would seem to indicate a stable industry. The Herfin-l index declined after 1946 to a low of 2061 in 1958, remained between 2060 l 2270 until 1976, and then increased slightly each year to its 1982 figure. at is unusual about cigarettes, however, is the instability of individual firm rket shares. Table 2 lists individual firm market shares for the period covered Table 1. This table indicates that there have been large swings in market re, particularly between 1957 and 1972. While Table 1 alone might be in-ative of a stable oligopoly which is immune from entry, interfirm market share vements have been dramatic, which could be characteristic of a highly com-itive industry. Whether the cigarette industry has behaved competitively is ypothesis the empirical work will attempt to test.

Much of this instability may be attributable to government policy and health ormation shocks. In 1953, a report by the American Cancer Society and the itish Medical Research Council concluded that mortality rates were significantly her for smokers than for non-smokers. A 1964 Surgeon General's report, nmarizing existing research, concluded that cigarette smoking causes lung ncer. These were the two most prominent reports in a succession of studies ich pointed out the health problems associated with smoking. As a conse-ence of these studies, the federal government intervened in a number of ways. e Federal Cigarette Labelling and Advertising Act of 1965 required that the rning "Caution: Cigarette smoking may be hazardous to your health" be played on packages. The FCC required that one anti-smoking commercial aired for every four pro-smoking advertisements, under the Fairness Doc-ne. This campaign was in effect from July 1, 1967 through December 31, 1970.

[1] A more complete, if somewhat dated, description of the industry is given by Tennant (1971)



In 1967 the FTC began its program which annually publishes the tar and nicotine content of each cigarette brand (as well as carbon monoxide levels after 1981). The Public Health Cigarette Smoking Act of 1970 strengthened the health warnings on packages, to read "Warning: The Surgeon General has determined that cigarette smoking is dangerous to your health." In addition, this Act banned all radio and television advertising as of January 1, 1971. Agreements between the companies and the FTC in 1971 and 1972 ensured that tar and nicotine contents and a "clear and conspicuous" health warning appeared in remaining advertising messages. In addition, there have been a number of federal, state and local measures which restricted areas in which people could smoke.

Further, federal, state, county and city governments have imposed per pack excise taxes on cigarettes. Federal taxes were 7¢ per pack from November 1942 through October 1951, and 8¢ per pack until the end of 1982. State taxes ranged from 2¢ to 25¢ per pack in 1982, with an average levy of 13.1¢ per pack.[2] County and City taxes varied from 1¢ to 15¢ per pack in 1982, with an average levy of 0.56¢ per pack for the U.S. as a whole. Figure 1 plots the variable TAX, the sum of federal, state and local excise taxes collected, divided by total U.S. cigarette consumption and converted to 1967 dollars. (The units of TAX are 1967 cents per pack.) Evidently, real taxes increased until 1969 but declined thereafter, as inflation outstripped excise tax increases. According to the Tobacco Institute (1983), state and federal taxes as a percentage of average retail price peaked at 51.4% in fiscal year 1965, and declined to 26.8% in fiscal year 1982. While cigarettes are very heavily taxed, the real burden decreased after 1969. (That trend was reversed in 1983, when federal taxes increased to 16¢ per pack.)

What has been the impact of these policies and shocks on the industry? Before turning to econometric evidence, we examine the trends of the variables displayed in Figures 2 through 9. Figure 2 plots C, per capita cigarette consumption, for the noninstitutional population 16 and older, in packs per year. (A list of variables appears in Table 3.) It experienced a drop in 1954-55, then grew until 1963, after which it has declined, although not smoothly. PTC in Figure 3 is the percentage of tobacco consumed as cigarettes (as opposed to hand-rolled cigarettes, cigars or pipe tobacco). This percentage has increased since 1947, with temporary drops in 1954-55, 1964 and 1969-70. Figures 4 and 5 show F and L, the percentage market shares of filter and low tar (15 mgs. or less) cigarettes, respectively. Filter cigarettes appeared in 1953, and eventually dominated the market. Low tar cigarettes appeared in 1964, but did not capture 5% of the market until 1972. Their share then increased rapidly until 1981, and declined slightly in 1982. (This decline continued in 1983.) TPC, the weight in pounds of tobacco per cigarette consumed, is displayed in Figure 6. This has declined from 1953 to 1982 by 38%, as manufacturers put less tobacco (and more air, since tobacco was less tightly packed) in individual cigarettes. TPC

[2] Total gross state collections divided by U.S. cigarette sales. The exception is New Hampshire,

ery highly correlated with average tar and nicotine content per cigarette, in these figures are available. A retail price index for cigarettes, P in Figure s converted into 1967 dollars, and P equals 100 in 1967. Roughly speaking, retail prices increased until 1972 and declined after that. Of course, much he variation in retail prices is attributable to real tax rate movements.
igure 8 shows ADV, real advertising expenditures. These grew until the , fell for a few years, and have since grown to record highs. The industry ertising/sales ratio averaged 5% from 1955 through 1967, but it has fallen pproximately 3% in 1981. At their peak in 1967, radio and television adver-g accounted for 78.5% of total cigarette advertising expenditures (and 69.1% 970). Thus the ban prohibited access to the advertising media favored by rette companies, and almost certainly reduced the effectiveness of adver-ig expenditures thereafter.
inally, T, per capita consumption of tobacco (for the noninstitutional popula- 16 and older) is graphed in Figure 9. Unlike per capita cigarette consump-, T peaked in 1952 and has declined ever since. To the extent that the de-id for cigarettes is a reflection of the demand for tobacco, this is the most vant consumption series. As discussed in the next section, C may not have ined as much as T because TPC, tobacco per cigarette, fell, and so con-iers increased their consumption of a relative to T in order to maintain their ired tobacco consumption levels.
nother notable statistic is the number of cigarette brands being marketed. s series is available since 1967, when the FTC tar and nicotine measure-it program began. For example, 134 brands were marketed in 1972, and in 1982. While the number of brands has increased dramatically, the ma-y have not been successful, in that few have captured a market share of % or more.[3] To some extent, this increase in brands is illusory, as many r brands simply employ existing trademarks (*e.g.*, Camel "Lights").
i summary, the following changes in the cigarette industry are evident from raw data series displayed in Figures 1 through 9. Cigarette consumption capita has fallen 10.7% from 1963 to 1982, although not as much as tobacco sumption per capita, which fell 33.2% in the same time period and 37.5% n 1953 to 1982. Producers have reduced the amount of tobacco per cigarette l so tar and nicotine contents), and filter and low-tar cigarettes have come prominence. Real advertising expenditures fell temporarily after the ban. haps more importantly, they have been diverted into less effective media. d retail prices have fallen since 1972, but so have real excise taxes.
i order to obtain quantitative rather than qualitative estimates of these vements, and in order to infer causality, structural econometric techniques employed in the following sections.

See, for example, the annual industry studies in *Business Week*, which tabulate market shares the leading brands.



## 3. The Demand for Cigarettes

This section summarizes previous research on the demand for cigarettes and, with some modification, applies the methodology of that research to the post-1946 sample. The principal modification is the use of simultaneous equations techniques, so that the results presented in this section consist of a subset of a system of equations describing behavior in the cigarette industry. While this section concentrates on consumer demand, the next section examines firm behavior, particularly pricing and advertising rules.

The data employed are annual observations from 1947 to 1982 inclusive. Besides data availability considerations, the sample period was selected to follow the 1946 Supreme Court decision, and to precede the disruptions associated with the 1983 federal excise tax increase. In 1983, a low price generic brand was introduced by Liggett, and an effective price cut was initiated by Reynolds which offered 25 cigarettes for the price of 20 (their Century brand). Although there were price differences between king-size and regular brands, for the 1947-82 sample the cigarette market equalibrium can be modelled as a situation where comparable brands had the same price at any location or point of sale.

A list of variables is provided in Table 3. Apart from the variables discussed in the previous section, a number of exogenous variables are available. Of particular interest are the dummy variables, which reflect the 1953 and 1964 health information shocks (DA and DB respectively), the Fairness Doctrine period of anti-smoking commercials (DF), and the radio and television advertising ban (DC). When simultaneous equations techniques are called for, I employ two-stage least squares (2SLS), which provides consistent single equation parameter estimates even when other equations in the system are misspecified, unlike three-stage least squares or full information maximum likelihood estimators. As will become apparent, specification issues figure prominently in the ensuing discussion.

A number of studies have examined various aspects of the demand for cigarettes. For example, Lewit, Coate and Grossman (1981) studied a panel data set of teenagers from 1966 to 1970. They found that, unlike adults, teenagers had responsive smoking demand and smoking participation rates with respect to price (elasticities of -1.4 and -1.2, respectively). Also, the Fairness Doctrine had a substantial negative impact on their participation rates. They cite evidence that individuals are much less likely to start smoking after age twenty-five, so that the FCC doctrine may have had a long-term impact as well. They did not present any evidence on the effect of the advertising ban, apart from noting that teenage smoking participation rates rose from 15.2% in 1970 to 15.6% in 1974, but fell to 11.7% in 1979. They attributed the 1970-74 increase to falling real retail prices.

In a study of a 1976 cross-section, Lewit and Coate (1982) estimated the adult price elasticity of demand for cigarettes to be -0.42. This elasticity had two components. The elasticity of smoking participation (-0.26) exceeds that of demand

mokers (-0.10). They also found that the decision to begin smoking regularly ice elastic for young adults, especially males. Income elasticities were signifi- and positive, but very small (0.08). In conjunction with the results of their er study with Grossman, they conclude that higher cigarette prices "ap- to effect cigarette demand by affecting the decision to smoke or not rather by causing existing smokers to reduce the amount of cigarettes they smoke" 136).

mong the studies which employ aggregate annual time series data are those lamilton (1974), Ippolito, Murphy and Sant (1979), and Schneider, Klein Murphy (1981). Hamilton's sample covered 1926-70. He estimated that per ta cigarette consumption fell 8.9% in 1953-70 due to the first health scare, dditional 21.1% in 1964-70 due to the second scare, and a further 20% dur- he Fairness Doctrine period. Since this latter effect exceeded the positive ct of advertising on consumption by a factor of six, he predicted that the ertising ban would result in an increase in consumption, because anti-smoking mercials were also eliminated. He also predicted that the ban would reduce petition in the industry, as a principal channel for rivalrous product promo- expenditures would be closed, and companies would not fully shift their idcasting expenditures into other media.

more recent study is that of Ippolito, Murphy and Sant (1979). In a 1926-75 ple, using Cochrane-Orcutt techniques to correct for serial correlation, they ined the estimates:

$$_t = K_t + 0.021\,t - 0.176\,DA_t - 0.035\,DB_t(t\text{-}1963) - 0.811\,lnP_t + 0.7\,lnY_t$$
$$(4.8) \quad (5.6) \quad (4.0) \quad (4.6) \quad (8.0)$$

$$^2 = .986$$

re the notation corresponds to that of Table 3,[4] t refers to calendar year, idicates natural logarithm and t-statistics are displayed in parentheses. The n $K_t$ includes a constant term and insignificant variables ($DA_t$(t-1952), $DB_t$, and a dummy variable which equals one for 1968-75). Here $DB_t$(t-1963) time counter which equals one in 1964, zero before that and four in 1967, example.

hese results indicate that the 1953 health scare lowered per capita con- nption 16% permanently (since 1-exp(-0.176) = 0.16). Consumption had been wing 2.1% per annum before 1964; thereafter it fell at a rate of 1.4% per um. The 1964 scare did not immediately depress consumption. Rather, the id growth pattern was reversed. Neither the Fairness Doctrine nor the adver- ng ban had a significant effect. However, this equation does not forecast very l out of sample. An associated problem is that the estimated coefficients are robust to changes in sample selection. When a similar equation is estimated

[4] They used total population 17 years and older to create C, and GNP rather than NNP to create



for the 1947-82 sample, with an advertising stock variable (A) included,[5] the trend and dummy variables have comparable coefficients, but the price elasticity is much smaller in absolute value and the income elasticity is negative. (*See* equation 1 in Tables 4, 5 and 6 and equation 2 in Table 5.) The estimates are virtually identical whether estimation is by ordinary least squares (OLS), 2SLS, or single equation maximum likelihood (MLE) with first-order autoregressive (AR(1)) or first-order moving average (MA(1)) errors. The problem is that the specification is somewhat arbitrary. The dummy and trend variables explain most of the variation in *ln*C, yet there is not a good economic justification for the inclusion of the trend variables.[6]

Schneider, Klein and Murphy (1981) explicitly account for the underlying decision rules of consumers. In a 1930-78 sample, they obtain the following OLS equation:[7]

$$\widehat{lnC}_t = K + 0.462\,lnY_t - 1.22\,lnP_t + 0.97\,ln\widehat{PTC}_t + 0.046\,lnA_t$$
$$(5.5) \quad (10.5) \quad (0.7)$$
$$-0.075\,DF_t - 0.0021\,F_t - 0.24\,L_t - 1.39\,lnTPC_t$$
$$(1.4) \quad (0.8) \quad (4.1) \quad (2.0)$$
$$\bar{R}^2 = 0.948 \qquad D.W. = 0.98$$

where the *ln*Y coefficient is prespecified, and obtained from a tobacco demand equation for the same sample. The variable $ln\widehat{PTC}$ is an instrument obtained from the predicted values of a nonlinear regression of *ln*PTC on a function of income Y. It is included to capture the secular trend of consumers to switch from hand-rolled cigarettes to factory cigarettes as incomes increase, thereby increasing cigarette demand. The advertising variable is obtained by the equation $A = A_1 + .264A_2$ where $A_1$ is pre-ban advertising stock and $A_2$ is post-ban advertising stock. In both cases the stock is a distributed lag of past real advertising expenditures where a depreciation rate of ⅓ is used.[8] The coefficient of $A_2$ is estimated and has a t-statistic of 0.11. Schneider et al. argue that the impact of the health scares was cumulative rather than instantaneous, which is consistent with the Ippolito et al. results for the 1964 scare. The filter and low-tar market shares are intended to proxy the cumulative impact of the 1953 and 1964 scares, respectively. In addition, the TPC variable fell as a result of the health scare, and in response consumers increased their consumption of cigarettes in order to

[5] An explanation of how A is calculated is given in the discussion of Schneider, Klein and Murphy (1981). The results are similar when A is excluded.

[6] For further details of this line of criticism, *see* Schneider, Klein and Murphy (1981). *See*, however, the penultimate paragraph of this section.

[7] They employ total population age 14 and older to calculate C. Again, the distinction is not important.

[8] One problem with the advertising data is that cigarette marketing has evolved into new forms (*e.g.*, free samples, coupons and sponsorship of music and sports events) that are now a non-trival part of marketing expenses. Traditional advertising series do not include these expenses.

ntain desired tobacco consumption. However, the estimated absolute value he elasticity of C with respect to TPC is greater than 1, which seems im- ısibly large.

'he impact of the advertising ban was two-fold. First, real advertising ex- iditures fell, as indicated in Figure 9. Second, the advertising stock that was sequently created ($A_2$) was much less effective than the previous advertis- stock ($A_1$) in stimulating demand, 26.4% according to the estimated coeffi- nt. (Two caveats are in order. First, the estimated standard error for the fficient of $A_2$ is relatively large. Second, there is an implicit assumption of ıstant marginal effectiveness of advertising stock on demand. Presumably, ; should diminish with increases in stock.) However, the coefficient of *ln*A he consumption equation is small and insignificant, so that neither effect was imated to be very important.

'his equation is also characterized by poor out-of-sample forecasts. For ex- ple, the coefficient of L is quite large, and predicts a 57% fall in C from 1978 1982 as L increases from 27.5% to 58%. A fall of this magnitude did not :ur. Equation 2 in Table 4 displays estimated OLS coefficients for the 1947-82 nple for white noise errors. The coefficients are not directly comparable to ıse of Schneider et al., in that the income elasticity is estimated, and the ac- l value of PTC is used. For this sample, the estimated coefficients of Y in : tobacco demand equations of Table 7 are negative (although not significant- so), which conflicts with the estimate from their sample. In general, the imated coefficients are somewhat different, most notably the smaller (and nce more reasonable) coefficient of L, and the much smaller price elasticity.

Although the impact of the health scares and government policy on the variables ', F, L, TPC and A are recognized, for estimation purposes they were treated exogenous variables. In addition, price is assumed to be exogenous, and unaf- :ted by these events. Neither of these assumptions is very satisfactory. Equa- n 2 of Table 6 shows 2SLS estimates of the parameters, in which F, L, TPC, PTC and P are treated as endogenous and replaced by instrumental variables. A comparison of 2SLS with OLS estimates reveals some distinctions. In par- ular, advertising is estimated to have a much larger effect. However, so does 'C. Its coefficient is much too large in absolute value. It indicates that as TPC l by 38%, cigarette consumption rose by a factor of 2.07.

If one examines the residuals from equation 2 in Table 6, it is apparent that is specification misses something captured in equation 1. There was a signifi- nt permanent fall in demand after 1953. Filter market share changes were ıt rapid enough to capture this effect. Equations 3 and 4 in Tables 4, 5 and :herefore include DA as an explanatory variable. (The latter also includes PC, price index for cigars, to see whether the price of this substitute good in- ıenced cigarette demand.) The coefficients in these equations seem more plausi- e, and both the adjusted $R^2$ and the Durbin-Watson statistic are satisfactory. Equations 3 and 4 in Table 5 indicate that the OLS estimates are not affected ery much when either AR(1) or MA(1) errors are permitted.) The estimated



price and income elasticities, while small in comparison with those obtained in the other time series analyses which used pre-1947 data, are roughly consistent with the 1976 cross-sectional estimates of Lewit and Coate (1982). (Recall that the estimated impact of income on cigarette demand is two-fold. PTC captures the secular shift from hand-rolled to factory cigarettes as income increases. The slightly negative additional impact of income on C, although insignificant, may reflect the fact that cigarettes have been an inferior good since 1946, and particularly since the 1953 health scare.) The estimated effect of advertising on demand, while small, is double that obtained by Schneider, Klein and Murphy (1981).

In order to estimate the cumulative effect of policy and health scares on demand, consider equation 3 in Table 6, for example. Suppose that the changes in the filter and low tar market shares and in the amount of tobacco per cigarette are entirely attributable to the health scares. Also consider the permanent drop in demand reflected by DA. Then, from 1953 to 1982, demand for cigarettes fell only 4.7% because of the health scare. However, a similar calculation for equation 2 of Table 7 reveals that the demand for tobacco fell 40% in the same period. To some extent, cigarette demand did not fall as much because consumers appear to have increased their consumption in order to compensate for the reduced amount of tobacco per cigarette. (The elasticity of C with respect to TPC is estimated to be -0.23.) Tobacco per cigarette fell 37% from 1953 to 1982, causing an increase in cigarette demand of 11.4%. The net effect was a relatively larger decrease in tobacco demand.

An alternative explanation of these particular results is that female smoking behavior differs from that of males, and that these differences affect the empirical results. In particular, female smoking participation has been increasing since the turn of the century, and much of the "trend" in demand captured by Ippolito et al. may be associated with the growth of this segment of the market, rather than a switch from hand-rolled to factory cigarettes, especially since 1946. The negative and significant TPC coefficient may reflect female preference for cigarettes with relatively less tobacco and their growing significance in the market. In an effort to control for this effect, I re-estimated equation 3 of Table 6 and included the U.S. labor force participation rate (LFP) as an explanatory variable. Much of the movement in LFP is attributable to females entering the labor force, which may be correlated with smoking rates. However, the estimated coefficient of LFP was negative, reflecting a secular decline in C since 1946. Furthermore, the estimates of the other coefficients were quite similar. Although most were 20 per cent smaller in absolute value, all retained their original sign and approximate significance. (The estimated price elasticity increased to -0.36.) Nevertheless, the specified demand equation does not adequately proxy the distinction between female and male smoking behavior.

In addition, cigarette demand was affected by the Fairness Doctrine period and the advertising ban. The coefficient of DF in equation 3 of Table 6 indicates that demand was 5.9% lower during the Fairness D[illegible]

res any effects on A.) The radio and television ban affected cigarette de-d by reducing the effectiveness of advertising expenditures, and by reduc-he amount of advertising done by firms. If one attributes the fall in A from l to 1982 entirely to the ban,[9] then demand fell 7.5% as a result. The figures obacco demand are similar; tobacco demand fell 7.5% during the Fairness trine period, and 10% due to the advertising ban. However, the advertising also ended the Fairness Doctrine period of anti-smoking commercials, so the net effect of the ban was a modest decrease in per capita cigarette and icco demand (1.6% and 2.5%, respectively).

he next section considers the effect of government policies and the health es on firms' behavior.

### 4. The Impact on Firms' Decisions

his section examines how prices and advertising expenditures were affected he health scares and government policy. First, I briefly review previous lies of the cigarette industry, none of which addresses these issues directly. he best known earlier studies are those of Telser (1962) and Schmalensee 72). Both of these focused on interbrand competition and the effect of adver-ig on individual market shares. Neither attempted to estimate the deter-ants of prices. Whitten (1979) examined brand introductions, how their suc-s is related to advertising, and whether there was an advantage to early en-Vernon, Rives and Naylor (1969) estimated an industry model, but concen-ed on the tobacco leaf market. They did not estimate a cigarette manufac-r supply function.

arzel (1976) examined cigarette prices and state excise taxes for a panel a set consisting of states and fiscal years, and found that cigarette prices ponded more than proportionately to state tax rate variations (the estimated ticity was 1.065, which was significantly greater than one). He concluded this reflected unmeasured quality variations across states. Sumner (1981) wed that these results could arise in a noncompetitive industry with an elastic demand curve. Unfortunately, neither Barzel nor Sumner attempted control for the effects of bootlegging between low-tax and high-tax states, did they devote much effort to estimating inter-state cost variations, other n a distance from North Carolina variable, so that their interpretations of results are not necessarily correct. (Bulow and Pfleiderer (1983) argued a correction for specification errors may alter their conclusions.)

ppelbaum (1982) attempted to estimate the degree of oligopoly power in eral industries, including the cigarette industry. He used full information max-im likelihood techniques for 1947-71 annual data to estimate an industry model. s model consisted of a demand equation, a price equation and cost share ations for each of three factors (labor, capital and an intermediate input



(presumably tobacco)). In order to specify marginal cost in the price equation and the cost share equations, he employed a generalized Leontief cost function. Profit maximization implies the price equation. He derived the equation $(1-\theta/E)P = MC(\overline{W},Q)$, so that a markup $(1-\theta/E)$ times price equals marginal cost, which depends on a factor price vector, $\overline{W}$, and output Q. Both $\theta$, the degree of oligopoly power, or conjectural variation, and E, the absolute value of the price elasticity of demand, affect the markup. Here $\theta$ equals zero for a competitive industry (and so price equals marginal cost), the fractional Herfindahl index for an industry of Cournot quantity-setting firms, and one for a perfectly collusive industry (the monopoly outcome). In estimation, $\theta$ is identified both by the cross-equation parameter restrictions implied by maximizing behavior, and by the specification that $\theta$ varies linearly with factor prices.[10]

The estimated values of $\theta$ vary from 0.41 in 1947 to 0.39 in 1971. (The estimate of E is 0.62.) The estimates of $\theta$ exceed zero, as well as the Herfindahl index, in both cases significantly. Thus the industry acted more collusively than a Cournot industry would, according to these estimates. In addition, the correlation between $\theta$ and H is 0.8 in this sample (both decline monotonically), which is consistent with theories which postulate that non-cooperative schemes are easier to enforce the more concentrated is an industry. However, the sample variation in $\theta$ is very small, so these results may not be very significant.

Two caveats are worth noting. First, the demand equation is very simple (total U.S. consumption as a loglinear function of prices and GNP), and so probably misspecified. This could have an important bearing on the estimate of $\theta$, which depends directly on the estimated demand elasticity. Second, the data set is not very rich. As we shall see, taxes are an important determinant of retail prices, and they varied significantly over 1947-71 (*see* Figure 1). Also, advertising was ignored altogether.

Nevertheless, most researchers seem to agree with Appelbaum's conclusion that the cigarette industry is not perfectly competitive (*see*, for example, Geroski (1983)). In that case, prices could respond to demand shocks. For example, a change in the price elasticity of demand would alter the optimal markup of price over marginal cost.

The analysis of this section bears some resemblance to that of Appelbaum. It uses as a starting point the fact that competitive firms should produce to equate price and marginal cost. The hypothesis of perfect competition can then be tested using an approach suggested by Rohlfs (1974). If price is regressed on a list of the determinants of marginal cost, then the residuals of this regression should be uncorrelated with exogenous variables which only affect demand, for competitive firms. As far as competitive firms are concerned, price is a sufficient statistic for exogenous demand variations when they choose quantities. One can test whether these residuals, which are essentially price-cost margins, are uncorrelated with exogenous demand variables by using simultaneous equations

cification test techniques, which are reviewed by Hausman (1983).
Equation 1 in Table 8 reports the results of regressing *ln*P on several poten- determinants of marginal cost. These include CONS, total U.S. consump- ; F, the filter market share, as king-size cigarettes are typically more ex- nsive than shorter cigarettes, and are more likely to have filters; TPC, as ts should fall as tobacco content does; TAX, since P is a retail price; PT, e tobacco is the principal input; and W, the real wage rate for tobacco pro- tion workers. While the fit is reasonably good, the Durbin-Watson statistic ow. Most of the explanatory power of the regression is provided by taxes l wages. The PT series is a noisy one, and costs probably depend on a tributed lag of past tobacco prices, rather than just the contemporaneous price, much of the tobacco crop is stored for some time.

When the residuals from this regression are regressed on a complete list of ogenous variables of the system, as suggested by Hausman (1983, p. 433) null hypothesis of no explanatory power is rejected. The $R^2$ of this regres- n is 0.338, which is 12.16 when multiplied by the number of observations 5). When compared to a chi-squared distribution with 5 degrees of freedom,[11] null hypothesis that the specification suggested by a model of perfect com- tition is correct is rejected at a 5% significance level. Two caveats are impor- t here. One is that other kinds of specification errors could be responsible this result. The second is the absence of a cost of capital or capital stock riable. It is notable that much of the explanatory power in the regression of e residuals on the exogenous variables comes from demand side variables, tably PC, DC and DF. PC may be serving as a proxy for the true cost of bacco used in cigarettes.[12] It is conceivable that DC and DF are correlated th movements in cost factors that were not included as explanatory variables g., capital costs), but not very likely.

Equations 2, 3, and 4 in Table 8 show the results of 2SLS regressions of price cost determinants and a subset of demand factors. While neither the adjusted nor the Durbin-Watson statistic are very meaningful for 2SLS regressions, th indicate that these equations provide a better specification than that of equa- n 1. Note that neither the Herfindhal index (H) nor advertising capital (A) ve much explanatory power. One worry here is that the price of tobacco (PT), d so also the price of cigars (PC), are not exogenous, in that tobacco used cigarettes is a major component of total tobacco demand. Specifications with T and PC treated as endogenous yielded similar results, and so are not reported

[11] There are 12 exogenous variables in the system, and seven explanatory variables in this equa- n (including the constant term). This statistic has a chi-squared distribution with 12-7 = 5 degrees freedom under the null hypothesis.

[12] When Equation 1 of Table 8 is re-estimated with PC as an additional explanatory variable, and e residuals from this regression are regressed on the vector of exogenous variables, one obtains $R^2$ of 0.2748. The value of the test statistic, 36 x 0.2748 = 9.89, when compared to a chi-squared stribution with four degrees of freedom, also leads one to reject the null hypothesis of perfect [illegible]



here. (The same is true of estimation with H endogenous.)

It is also possible that prices are more responsive to federal excise tax changes than they are to state and local tax changes. To the extent that the latter are not uniform across states or municipalities, bootlegging may prevent as large a price response than if tax changes were uniform. This is in fact borne out by the data, in that the elasticity of price with respect to the real federal excise tax exceeds that with respect to real state and local taxes. However, this specification did not significantly alter the other estimated coefficients, and so is also not reported here.

What effect did the advertising ban and the health scares have on prices? Consider equation 3 in Table 8. Again suppose that movements in F and TPC are entirely attributable to the health scares. Then the effect of the health scares on price, as reflected by DA, DB, F and TPC, is negligible, a decrease of less than one percent, and not statistically significant. If one also accounts for the 4.7% fall in C, and hence CONS, obtained from demand estimates, this conclusion is not affected. The health scares seem to have had little direct impact on cigarette prices. Of course, if real excise tax rate increases from 1954 to 1970 were prompted by governmental reaction to the results of the health studies, then the large real price increases in this period were indirectly attributable to the health information shocks.

There is also little evidence of any impact of the Fairness Doctrine anti-smoking advertising campaign on prices. The estimated effect, obtained from the coefficients of DF and ADV, is a price increase of 2-3%, and this figure is not statistically significant. The estimated price increase is slightly smaller if one also accounts for the indirect effect of the Fairness Doctrine on prices via a fall in consumption.

There does appear to be some effect of the advertising ban on prices, as indicated by the significant coefficients of DC and *ln*ADV. Real advertising expenditures fell dramatically after the ban, as indicated by the ADV series depicted in Figure 8, and by the advertising regressions in Table 9, which are discussed in more detail below. The estimated effect on prices appears to have been an increase of 3-6%. Since specification issues are a concern, I employed a number of different specifications of the price equations. While the estimated coefficients vary significantly from one equation to another, the conclusion about the impact on prices of the advertising ban is fairly robust, in terms of sign, magnitude and significance.

This conclusion is consistent with a theoretical model in which advertising generates information about products, and thereby facilitates entry of new brands. Under this theory, the effect of the cigarette advertising ban would be to create barriers to entry, and so to solidify or magnify any monopoly power wielded by existing successful brands. Hence prices would increase as non-competitive firms increased their markups.

One alternative explanation might be that the advertising ban coincided with a change in the characteristics of a typical smoker, as the cumulative impact of the health scares and the Fairness Doctrine was realized. The results of Lewit,

and Grossman (1981, 1982) suggest that much of the decrease in cigarette nd was caused by reductions in the smoking participation rate, as opposed luctions in cigarette consumption by smokers. If those smokers who quit more price elastic demand for cigarettes, for whatever reason, then the gate demand curve would not only decrease but also become more inelastic quitters left the market. Then optimal markups would have increased. mpted to test whether this occured by reestimating equation 3 in Table 6 n additional DCxlnP term, to allow for a change in aggregate price elasticity dent with the advertising ban. The coefficient of this term, although positive edicted, was small and insignificant, so that this explanation is probably portant.

other possible explanation is that the advertising ban precluded the use most efficient advertising technology, and so firms switched to a higher echnology (print, billboards, etc.). In a competitive equilibrium, the price arettes could have increased, if one views the product as a bundle of cigar- and advertising services, since the marginal costs of supplying the bundle ased. To some extent, the inclusion of ADV or A as explanatory variables res this effect, but a price of advertising services variable would be more priate.

now turn to the determinants of advertising expenditures and the estimated t of various shocks on them. Estimated advertising expediture equations isplayed in Table 9. TV is the percentage of households owning a televi- Premultiplying this variable by 1-DC creates a variable that falls from 93.5 70 to zero in 1971. Hence, (1-DC) x TV captures both the growing attrac- ess of television as an advertising medium until 1970 and, together with he effect of the advertising ban. Other explanatory variables include CONS, pture the extent that advertising expenditures follow total consumption; L, in case cigarette companies advertise more to promote new cigarette cteristics; H, to capture the influence of market concentration; and the us demand dummy variables. Also included are price P or M, the price uals from equation 1 of Table 8, which correspond with movements in price cannot be explained by cost changes. Advertising expenditures might be ted by prices or margins, in that they affect the expected marginal return lvertising.

e results in Table 9 should be regarded as preliminary. The fit is good, ome of the coefficients are difficult to interpret. As expected, advertising nditures are positively influenced by total consumption, and the advertis- an had a large impact. The increases in advertising at the end of the sam- night be attributable to the growth of low tar cigarette market shares, as brands were heavily promoted. However, the large negative coefficients and M are implausible, unless one believes that over the sample there were ges in oligopoly power that resulted in price increases (or decreases) ther with advertising decreases (increases). Such a story is consistent with negative coefficient of H, which indicates that advertising decreases as con-



centration increases, although this effect is not statistically significant.

Any impact the health scares had on advertising appears to be indirect. Neither DA nor DB have significant explanatory power. However, to the extent that the health scares caused a fall in CONS, advertising expenditures fell. Similarly, L has a significant positive sign, so advertising expenditures may have increased at the end of the sample as companies promoted their new brands more than they had existing brands.

The coefficient of DF is insignificant in both equations, so that the Fairness Doctrine also apparently had no direct effect. However, CONS fell in this period, and so advertising expenditures may also have been indirectly reduced as a result.

Not surprisingly, the advertising ban had a large negative impact on advertising expenditures. These expenditures fell by 33% according to equation 1, or 41% according to equation 2. (These estimates are obtained from the coefficients of DC and (1-DC) x TV.) As noted in the previous section, the post-ban expenditures were much less effective in generating demand.

## 5. Summary

This section summarizes the findings of the previous sections, points out some caveats, and provides suggestions for future research.

At this point, it is legitimate to ask why I did not employ reduced form methods in the previous sections, and just regress each of the endogenous variables on the complete list of exogenous variables. There are several reasons for using a structural approach. First, I do not capture all of the exogenous factors which could conceivably affect the industry (*e.g.*, either cost of capital or capital stock), and so omitted variables problems might bias the results. Second, by estimating structural equations one estimates parameters which can be compared to those of previous studies, as well as a priori micro-economic predictions (*e.g.*, the sign and magnitude of the price elasticity of demand). For example, by estimating a demand equation one has some idea whether the results are reasonable. Also, one can determine whether the health scares affected consumers' or firms' behavior, or both. Finally, the zero-one dummy variables may inadequately proxy the effects of the health scares and government policy on consumers' perceptions and so on aggregate demand. Both Ippolito et al. (1979) and Schneider et al. (1981) found that the 1964 health scare had a cumulative, rather than instantaneous, effect on the demand for cigarettes, a conclusion supported by the estimates reported in Section 3. Nevertheless, I estimated a reduced form system for purposes of comparison. The qualitative results were very similar to those obtained from the structural equations.

In summary, the 1953 health scare resulted in a permanent drop in the level of demand. In addition, after 1953 filter cigarettes emerged and the amount of tobacco per cigarette (and so the average tar and nicotine content) fell. The net effect was a drop of 12.5% in demand. Neither prices nor advertising were affected very much.

ne 1964 Surgeon General's report also had little or no effect on prices or ertising, but had a more gradual effect on demand, affecting the growth rate er than the level. Low-tar cigarettes appeared as a result, but were not ninent until the late 1970s. The growth in the share of filters accelerated ntly, and tobacco per cigarette continued its drop.

he FCC period of anti-smoking commercials resulted in a 6% drop in de- d, and a somewhat larger fall in advertising. Prices also increased 2-3%. of these effects served to reduce total consumption, on the order of 9%. he ban on advertising resulted in a large drop in advertising levels, and in effectiveness of these expenditures in stimulating aggregate demand. Fur- r, prices appear to have increased 3-6%, probably because successful brand oductions were more difficult to achieve, and so the monopoly power of ex- ng brands increased. In other words, barriers to entry for new brands became her. Together, these two effects served to reduce total consumption, on the er of 12%. Taking into account the end of the Fairness Doctrine period, the effect of the ban on consumption was a modest fall of 3%.

This study does not directly measure the effect of the FTC tar and nicotine asurement and labelling program. However, by creating a readily observable tric for firms to differentiate their products, the reduction in the amount of acco per cigarette, and hence tar and nicotine levels, was undoubtedly par- lly attributable to this program. To some extent, the effect of this program y be reflected in the cumulative effect attributed to the 1964 health scare.

The quantitative conclusions of this study should be viewed with some skep- ism. For example, aggregate annual data for a relatively short period (36 years) is employed. As a result, the conclusions which are most in accord with evious studies of aggregate time series or cross-sectional data are probably e most reliable. These are the demand equation estimates. Enough work has en done that the appropriateness of the specification is not at issue. Never- eless, simultaneous equations techniques seem to be more appropriate than e single equation methods employed in previous studies. In contrast, very tle work has been done before on pricing and advertising decisions in the garette industry (or many other industries, for that matter). As a result, these quations are best viewed as preliminary attempts to estimate these decision ules. While the functional forms are influenced by previous work by Appelbaum 1982) on pricing and Schmalensee (1972) on advertising, some of the estimated oefficients indicate that the specification is not correct. Obvious examples are ne omission of a cost of capital variable and inadequate proxies (PC or PT) for ne true cost of the tobacco leaf used in cigarettes.

As a result, it is appropriate to conclude that more work on the behavior of igarette companies is needed. A time series of firm-specific data might be more iseful to analyze their decision rules.



**Table 1**

SELECTED CONCENTRATION INDICES, 1947-82

| Year | $CR_1$ | $CR_2$ | $CR_4$ | H |
|---|---|---|---|---|
| 1947 | 34.5 | 64.2 | 92.5 | 2604 |
| 1952 | 33.0 | 60.2 | 87.8 | 2318 |
| 1957 | 29.1 | 57.8 | 83.0 | 2139 |
| 1962 | 35.0 | 60.5 | 81.3 | 2268 |
| 1967 | 32.5 | 54.7 | 81.8 | 2086 |
| 1972 | 31.4 | 51.4 | 85.6 | 2079 |
| 1977 | 33.1 | 59.8 | 87.9 | 2295 |
| 1982 | 33.6 | 66.4 | 88.6 | 2543 |

**Table 2**

INDIVIDUAL MARKET SHARES, 1947-82*

| Year | R | P | B | A | Lo | Li |
|---|---|---|---|---|---|---|
| 1947 | 29.7 | 7.0 | 3.2 | 34.5 | 4.3 | 21.3 |
| 1952 | 27.3 | 9.6 | 6.0 | 33.0 | 6.3 | 18.0 |
| 1957 | 28.7 | 9.3 | 10.7 | 29.1 | 7.7 | 14.5 |
| 1962 | 35.0 | 9.4 | 9.3 | 25.6 | 11.0 | 9.8 |
| 1967 | 32.5 | 12.7 | 14.3 | 22.2 | 10.2 | 8.1 |
| 1972 | 31.4 | 20.0 | 17.3 | 16.8 | 8.9 | 5.6 |
| 1977 | 33.1 | 26.7 | 15.8 | 12.3 | 8.7 | 3.4 |
| 1982 | 33.6 | 32.9 | 13.4 | 8.8 | 8.6 | 2.9 |

* R = Reynolds, P = Philip Morris, B = Brown and Williamson, A = American Brands, Lo = Lorrilard, Li = Liggett. Numbers may not sum to 100.0, due to rounding. Source: Schmalensee (1972) and various issues of *Business Week*.

**Table 3**

LIST OF VARIABLES*

| | |
|---|---|
| ONS | aggregate annual cigarette consumption |
| T | per capita tobacco consumption (noninstitutional population 16 and older) |
| C | per capita cigarette consumption (noninstitutional population 16 and older), in packs per year |
| P | retail price index of cigarettes, deflated by CPI |
| TPC | average annual amount of tobacco per cigarette consumed, in lbs. |
| F | market share of filter-tip cigarettes |
| L | market share of low-tar cigarettes (15 mgs. of tar or less) |
| PTC | percentage of tobacco consumed as cigarettes |
| ADV | advertising expenditures, deflated by CPI |
| A | stock of advertising capital |
| Y | per capita net national product (total population), deflated by CPI |
| H | Herfindahl index for cigarette sales, divided by $10^4$ (Source: Schmalensee (1972) and various issues of *Business Week*.) |
| TAX | average federal, state and local excise tax collection per pack, deflated by CPI (Source: Tobacco Institute (1989).) |
| PT | price index of leaf tobacco, deflated by CPI (Source: various issues of *Annual Report on Tobacco Statistics*.) |
| W | average hourly earnings for tobacco industry production workers, deflated by CPI (Source: various issues of *Survey of Current Business*.) |
| CPT | consumer price index for tobacco products, deflated by CPI |
| PC | retail price index of cigars, deflated by CPI (Source: various issues of *Handbook of Labor Statistics* and *CPI Detailed Report*.) |
| M | price-cost margin estimate (Source: residuals from equation 1 of Table 8.) |
| TV | percentage of households with television |
| DA | = 1 from 1954 to 1982<br>= 0 otherwise; reflecting the 1953 American Cancer Society report |
| DB | = 1 from 1964 to 1982<br>= 0 otherwise; reflecting the 1964 Surgeon General's report |
| DC | = 1 from 1971 to 1982<br>= 0 otherwise; reflecting the TV and radio advertising ban |
| DF | = 1 from 1968 to 1970<br>= .5 in 1967<br>= 0 otherwise; reflecting the period of anti-smoking commercials |

*The sample is annual data from 1947 to 1982. All price indices equal 100 in 1967. All data sources



**Table 4**

DEMAND EQUATIONS (ORDINARY LEAST SQUARES)*

| Variable | Equation Number | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Constant | -53.33<br>(7.05) | -15.32<br>(3.30) | -1.197<br>(2.441) | -2.547<br>(2.851) |
| *ln*P | -0.0527<br>(0.1174) | -0.2021<br>(0.1942) | -0.2709<br>(0.1391) | -0.2937<br>(0.1417) |
| *ln*TPC | --- | -0.6684<br>(0.2912) | -0.1260<br>(0.2324) | -0.1975<br>(0.2456) |
| *ln*PTC | --- | 1.438<br>(0.430) | 1.476<br>(0.307) | 1.557<br>(0.320) |
| F | --- | -0.0010<br>(0.0014) | 0.0024<br>(0.0012) | 0.0025<br>(0.0012) |
| L | --- | -0.0040<br>(0.0010) | -0.0037<br>(0.0007) | -0.0033<br>(0.0008) |
| *ln*A | -0.0429<br>(0.0240) | 0.0792<br>(0.0203) | 0.0867<br>(0.0145) | 0.0779<br>(0.0174) |
| *ln*Y | -0.1667<br>(0.0963) | -0.1473<br>(0.1142) | -0.1386<br>(0.0814) | -0.0948<br>(0.0945) |
| *ln*PC | --- | --- | --- | 0.1423<br>(0.1541) |
| DA | -0.1015<br>(0.0172) | --- | -0.1009<br>(0.0194) | -0.1007<br>(0.0194) |
| DBx(t-1963) | -0.0368<br>(0.0051) | --- | --- | --- |
| DC | 0.0130<br>(0.0382) | --- | --- | --- |
| DF | -0.0039<br>(0.0261) | -0.0481<br>(0.0212) | -0.0580<br>(0.0152) | -0.0558<br>(0.0155) |
| t | 0.0303<br>(0.0037) | --- | --- | --- |
| $\bar{R}^2$ | 0.912 | 0.826 | 0.912 | 0.911 |
| D.W. | 1.14 | 0.88 | 1.52 | 1.54 |

*Estimated standard [illegible]

**Table 5**

DEMAND EQUATIONS (AR(1) OR MA(1))*

| | Equation Number | | | |
|---|---|---|---|---|
| | 1. AR(1) | 2. MA(1) | 3. AR(1) | 4. MA(1) |
| nstant | -51.38<br>(6.56) | -52.62<br>(6.92) | -1.065<br>(2.121) | -1.247<br>(2.544) |
| *ln*P | -0.1089<br>(0.825) | -0.0626<br>(0.0839) | -0.2842<br>(0.1234) | -0.2527<br>(0.1469) |
| nTPC | --- | --- | -0.2109<br>(0.1788) | -0.1859<br>(0.2212) |
| nPTC | --- | --- | 1.345<br>(0.290) | 1.392<br>(0.333) |
| F | --- | --- | 0.0016<br>(0.0010) | 0.0019<br>(0.0012) |
| L | --- | --- | -0.0036<br>(0.0007) | -0.0036<br>(0.0007) |
| *ln*A | -0.0571<br>(0.0195) | -0.0609<br>(0.0197) | 0.0798<br>(0.0156) | 0.0821<br>(0.0167) |
| *ln*Y | -0.0937<br>(0.0829) | -0.1341<br>(0.0850) | -0.1037<br>(0.0766) | -0.1300<br>(0.0879) |
| DA | -0.0865<br>(0.0168) | -0.0815<br>(0.0173) | -0.0718<br>(0.0174) | -0.0804<br>(0.0202) |
| Bx(t-1963) | -0.0371<br>(0.0041) | -0.0371<br>(0.0042) | --- | --- |
| DF | --- | --- | -0.0426<br>(0.0144) | -0.0480<br>(0.0171) |
| t | 0.0294<br>(0.0034) | 0.0300<br>(0.0036) | --- | --- |
| $\bar{R}^2$ | 0.934 | 0.941 | 0.921 | 0.922 |
| | $\rho = 0.488$<br>(0.145) | $\theta = -0.641$<br>(0.134) | $\rho = 0.470$<br>(0.147) | $\theta = -0.405$<br>(0.163) |

*Estimated standard errors in parentheses.



**Table 6**

DEMAND EQUATIONS (TWO-STAGE LEAST SQUARES)*

| | Equation Number | | | |
|---|---|---|---|---|
| Variable | 1 | 2 | 3 | 4 |
| Constant | -52.99<br>(7.76) | -11.55<br>(5.23) | -2.191<br>(3.929) | -3.253<br>(4.797) |
| *ln*P | -0.0502<br>(0.1205) | -0.2589<br>(0.2477) | -0.2774<br>(0.1537) | -0.2902<br>(0.1589) |
| *ln*TPC | --- | -1.524<br>(0.535) | -0.2332<br>(0.4510) | -0.3192<br>(0.5057) |
| *ln*PTC | --- | 1.919<br>(0.575) | 1.559<br>(0.367) | -1.622<br>(0.4051) |
| F | --- | -0.0043<br>(0.0023) | 0.0019<br>(0.0010) | 0.0017<br>(0.0021) |
| L | --- | -0.0058<br>(0.0015) | -0.0040<br>(0.0010) | -0.0039<br>(0.0011) |
| *ln*A | -0.1016<br>(0.0173) | 0.1201<br>(0.0312) | 0.0936<br>(0.0203) | 0.0909<br>(0.0217) |
| *ln*Y | -0.1669<br>(0.0971) | -0.2285<br>(0.1424) | -0.1461<br>(0.0905) | -0.1300<br>(0.1003) |
| *ln*PC | --- | --- | --- | 0.0688<br>(0.1737) |
| DA | -0.1016<br>(0.0173) | --- | -0.1010<br>(0.0239) | -0.0989<br>(0.0247) |
| DBx(t-1963) | -0.0365<br>(0.0056) | --- | --- | --- |
| DC | 0.0132<br>(0.0394) | --- | --- | --- |
| DF | -0.0047<br>(0.0268) | -0.0614<br>(0.0262) | -0.0607<br>(0.0163) | -0.0599<br>(0.0166) |
| t | 0.0301<br>(0.0041) | --- | --- | --- |
| $\bar{R}^2$ | 0.912 | 0.767 | 0.911 | 0.908 |

**Table 7**

TOBACCO DEMAND EQUATIONS*

| | Equation Number | |
|---|---|---|
| | 1 (OLS) | 2 (2SLS) |
| Constant | 3.436<br>(0.744) | 3.965<br>(0.945) |
| F | -0.0015<br>(0.0006) | -0.0014<br>(0.0007) |
| L | -0.0048<br>(0.0009) | -0.0054<br>(0.0011) |
| *ln*A | 0.1217<br>(0.0159) | 0.1260<br>(0.0171) |
| *ln*Y | -0.1436<br>(0.0888) | -0.1078<br>(0.0927) |
| *ln*CPT | -0.3375<br>(0.1774) | -0.4694<br>(0.2202) |
| DA | -0.0590<br>(0.0223) | -0.0645<br>(0.0228) |
| DF | -0.0782<br>(0.0190) | -0.0778<br>(0.0203) |
| $\bar{R}^2$ | 0.978 | 0.978 |
| D.W. | 1.39 | 1.45 |

timated standard errors in parentheses. CPT is a consumer tobacco retail price index.



**Table 8**

PRICE EQUATIONS (TWO-STAGE LEAST SQUARES)*

| | Equation Number | | | |
|---|---|---|---|---|
| Variable | 1 | 2 | 3 | 4 |
| Constant | 3.91<br>(0.90) | 0.495<br>(2.834) | 1.90<br>(3.53) | -0.331<br>(3.124) |
| *ln*CONS | -0.078<br>(0.070) | 0.087<br>(0.145) | 0.172<br>(0.181) | 0.039<br>(0.160) |
| F | 0.0008<br>(0.0005) | -0.0004<br>(0.0015) | -0.0002<br>(0.0019) | -0.0011<br>(0.0018) |
| *ln*TPC | 0.0460<br>(0.1104) | -0.169<br>(0.313) | -0.090<br>(0.395) | -0.306<br>(0.380) |
| *ln*TAX | 0.445<br>(0.020) | 0.367<br>(0.053) | 0.304<br>(0.077) | 0.384<br>(0.059) |
| *ln*PT | -0.014<br>(0.079) | -0.039<br>(0.092) | -0.080<br>(0.113) | 0.057<br>(0.145) |
| *ln*W | 0.325<br>(0.061) | 0.345<br>(0.103) | 0.450<br>(0.141) | 0.309<br>(0.116) |
| *ln*ADV/*ln*A | --- | --- | -0.091<br>(0.059) | 0.030<br>(0.034) |
| H | --- | --- | -0.486<br>(0.567) | 0.145<br>(0.413) |
| *ln*PC | --- | 0.305<br>(0.156) | 0.178<br>(0.204) | 0.229<br>(0.184) |
| DA | --- | 0.014<br>(0.028) | 0.034<br>(0.035) | 0.016<br>(0.029) |
| | | 0.032 | 0.007 | 0.031 |
| DB | --- | 0.009<br>(0.015) | 0.009<br>(0.018) | 0.005<br>(0.016) |
| DC | --- | 0.033<br>(0.028) | -0.048<br>(0.063) | 0.055<br>(0.038) |
| DF | --- | 0.032<br>(0.022) | 0.007<br>(0.031) | 0.031<br>(0.023) |
| $\bar{R}^2$ | 0.983 | 0.981 | 0.973 | 0.979 |
| D.W. | 1.20 | 1.61 | 1.71 | 1.84 |

**Table 9**

ADVERTISING EXPENDITURE EQUATIONS
(TWO-STAGE LEAST SQUARES)*

| | Equation Numbers | |
|---|---|---|
| Variable | 1 | 2 |
| Constant | 4.680<br>(7.203) | -3.884<br>(6.171) |
| *ln*CONS | 1.631<br>(0.998) | 1.533<br>(1.077) |
| F | 0.0019<br>(0.0058) | -0.0011<br>(0.0060) |
| L | 0.0067<br>(0.0059) | .0176<br>(0.0036) |
| H | -3.321<br>(3.663) | -3.441<br>(3.953) |
| *ln*P/*ln*M | -2.104<br>(1.015) | -4.187<br>(2.167) |
| DA | 0.2068<br>(0.2295) | 0.1611<br>(0.2484) |
| DB | 0.1676<br>(0.1064) | 0.0618<br>(0.1028) |
| DC | 0.2823<br>(0.4944) | 0.0703<br>(0.5182) |
| (1-DC)*TV | 0.0071<br>(0.0045) | 0.0062<br>(0.0048) |
| DF | 0.0158<br>(0.1352) | -0.0856<br>(0.1317) |
| $\bar{R}^2$ | 0.958 | 0.952 |
| D.W. | 1.23 | 1.28 |

…timated standard errors in parentheses. Equation 1 employs *ln*P; equation 2 uses *ln*M, the …ials from equation 1 in Table 8. The dependent variable is *ln*ADV.



*Figure 1*

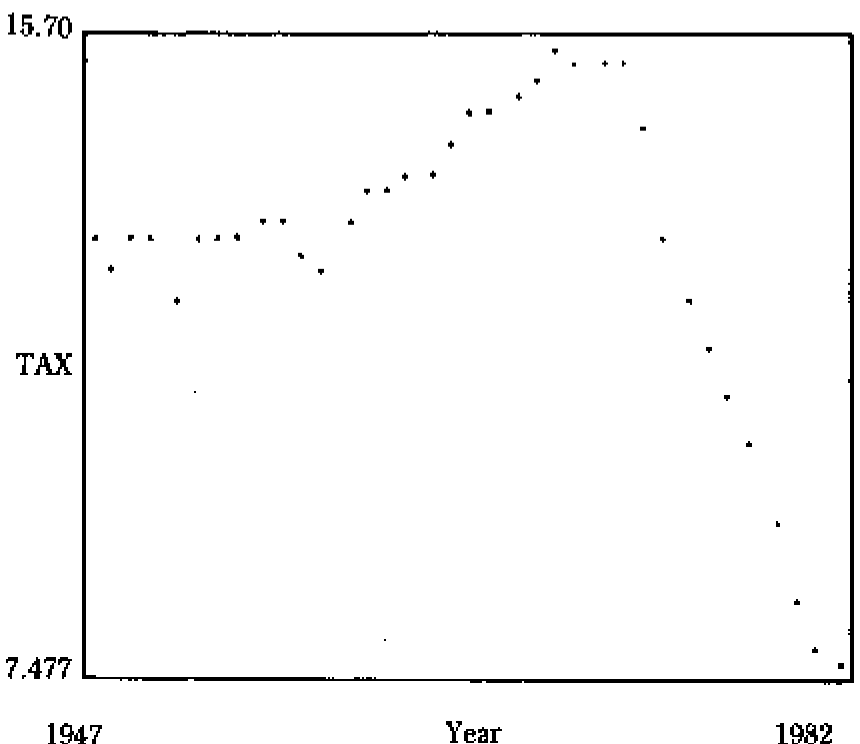


*Figure 2*

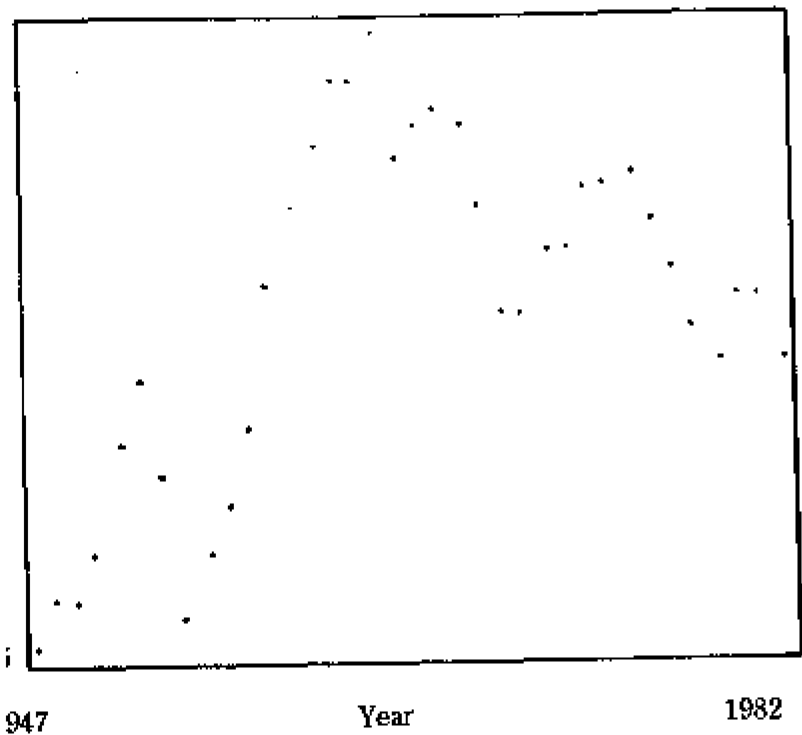





*Figure 3*

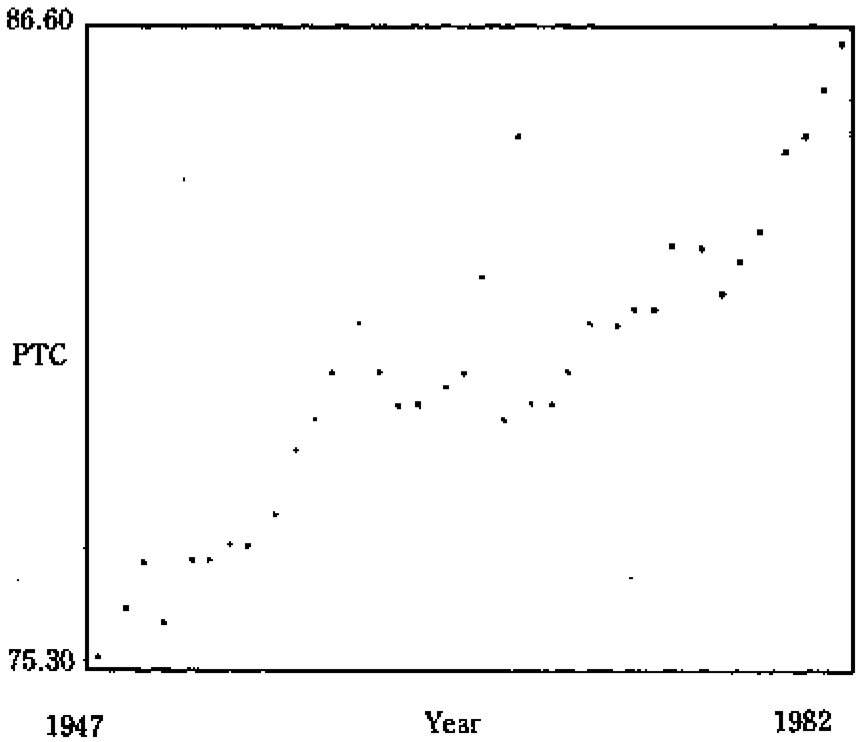


*Figure 4*

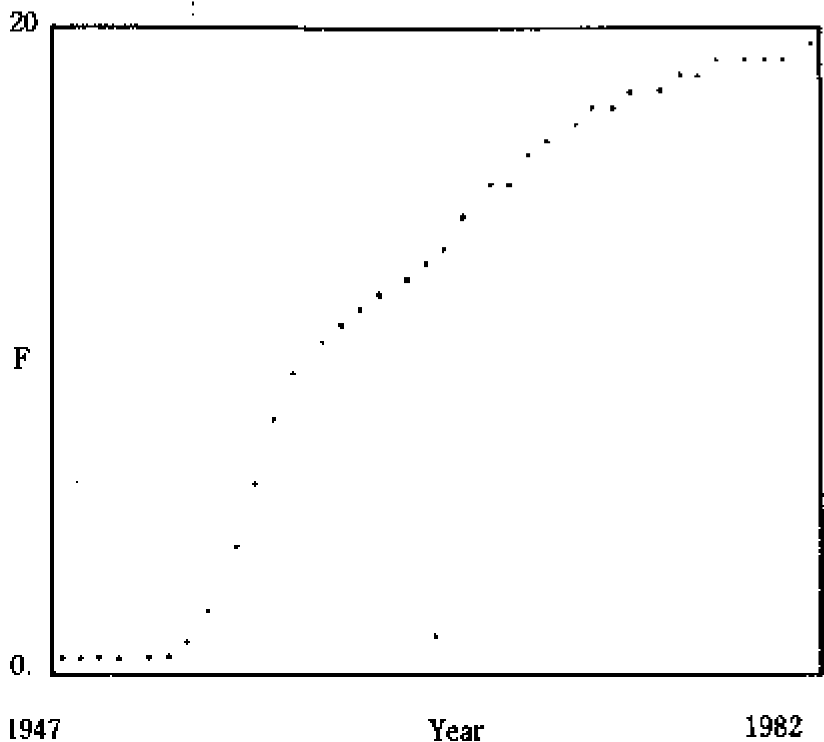





*Figure 5*

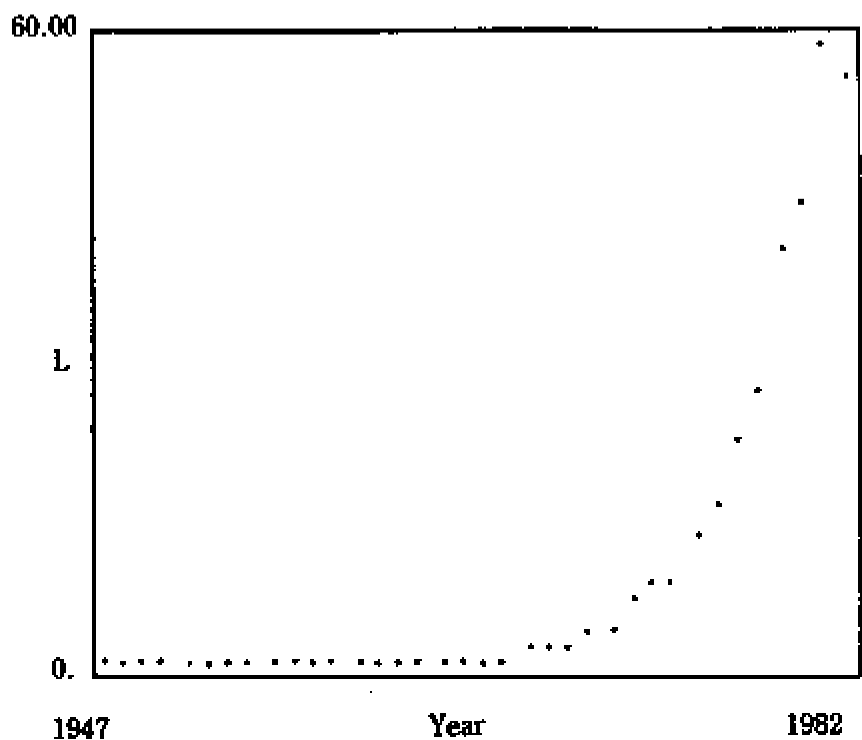


*Figure 6*

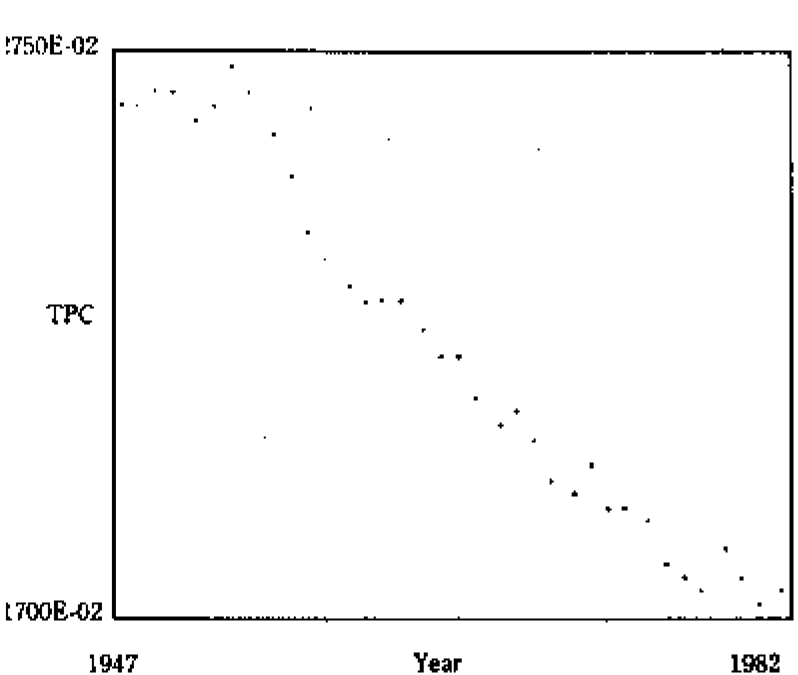





*Figure 7*

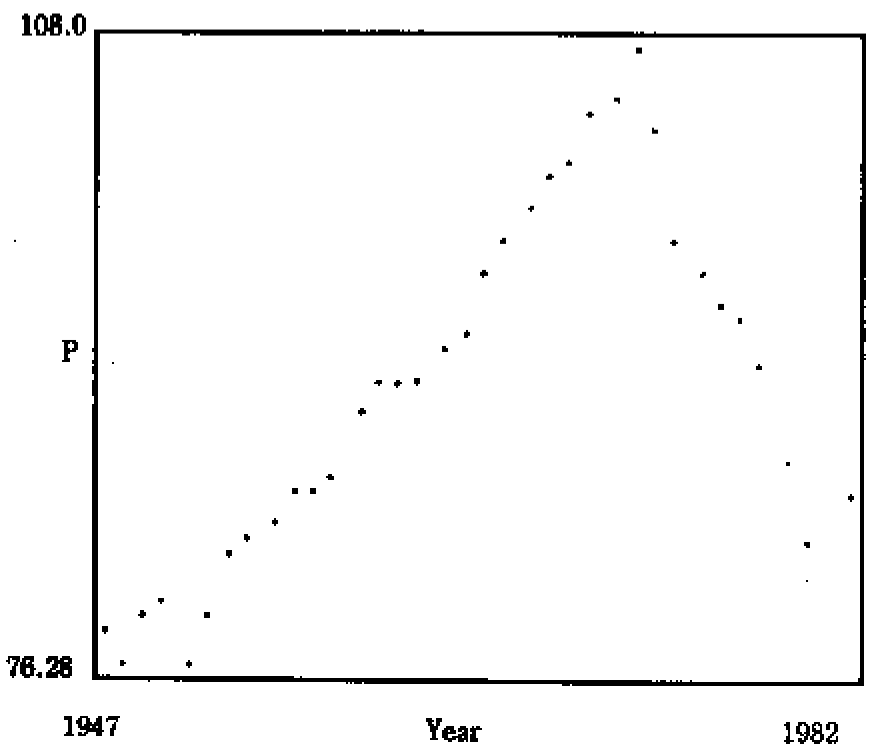


*Figure 8*

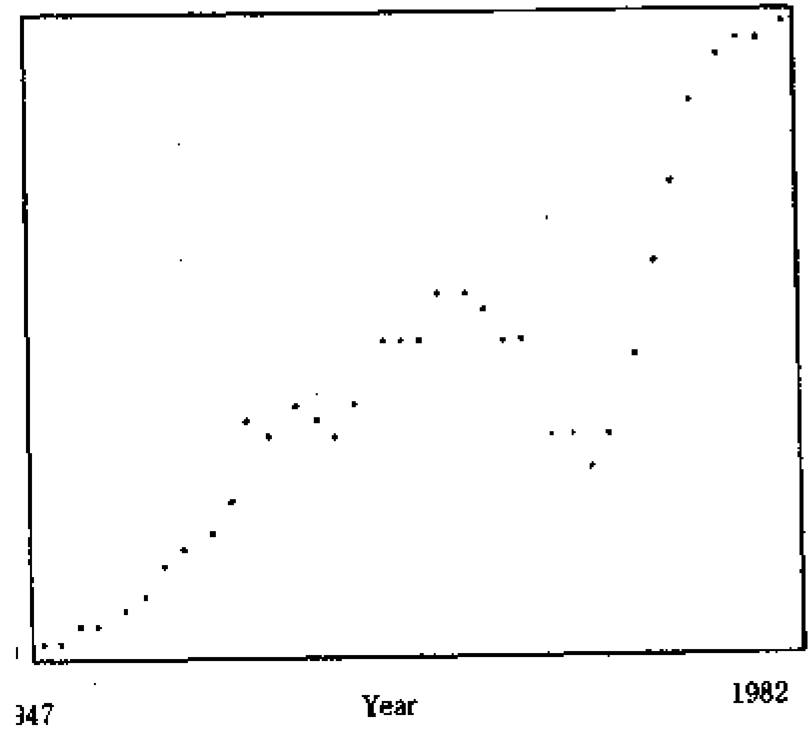
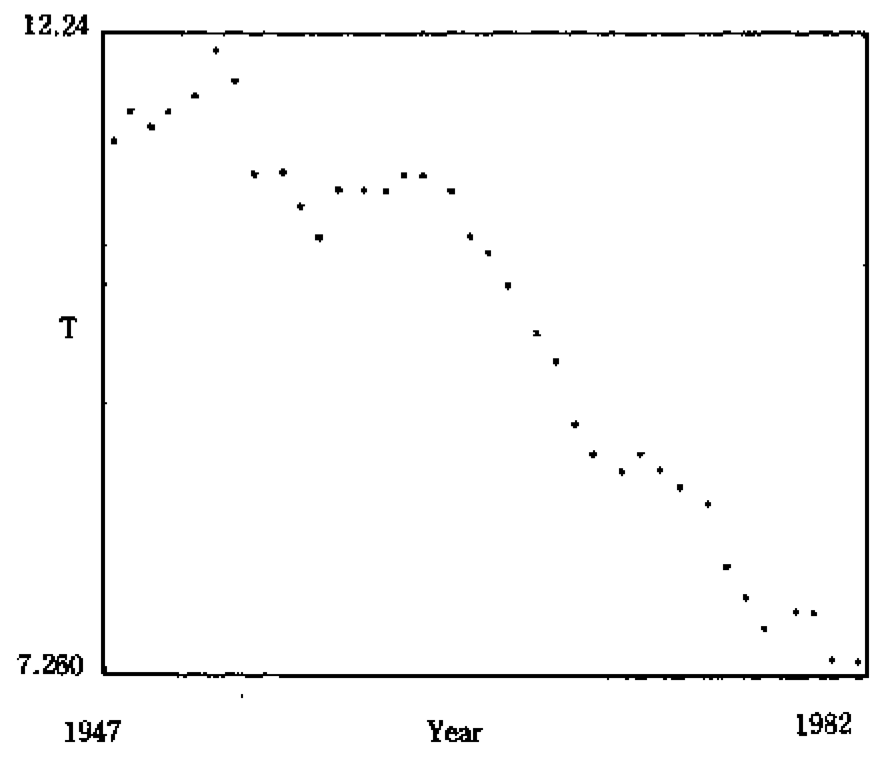





*Figure 9*



## References

aum, Elie, "The estimation of the degree of oligopoly power," *Journal of Econometrics* 19 (1982), 287-299.

, Yoram, "An alternative approach to the analysis of taxation," *Journal of Political Economy* 84 (1976),1177-1198.

, Jeremy I., and Pfleiderer, Paul, "A note on the effect of cost changes in prices," *Journal of Political Economy* 91 (1983), 182-185.

ki, Paul A., "Some reflections on the theory and application of concentration indices," *International Journal of Industrial Organization* 1 (1983), 79-94.

on, James L., "The demand for cigarettes: Advertising, the health scare and the cigarette advertising ban," *Review of Economics and Statistics* 54 (1974), 401-411.

ian, Jerry A., "Specification and estimation of simultaneous equation models," Chapter 7 in Z. Griliches and M. Intriligator, eds., *Handbook of Econometrics*, Volume 1, Amsterdam: North-Holland (1983), 391-448.

o, Richard A., Murphy, Dennis R., and Sant, Donald, *Consumer Responses to Cigarette Health Information*, Federal Trade Commission Staff Report, Washington, D.C., August 1979.

, Eugene M., and Coate, Douglas, "The potential for using excise taxes to reduce smoking," *Journal of Health Economics* 1 (1982) 121-145.

, Eugene M.; Coate, Douglas; and Grossman, Michael, "The effects of government regulation on teenage smoking," *Journal of Law and Economics* 24 (1981), 545-569.

, Jeffrey, "Econometric analysis of supply in concentrated markets," *International Economic Review* 15 (1974),69-74.

alensee, Richard, *The Economics of Advertising*, Amsterdam: North-Holland, 1972.

ider, Lynne; Klein, Benjamin; and Murphy, Kevin M., "Government regulation of cigarette health information," *Journal of Law and Economics* 24 (1981), 575-612.

er, Daniel A., "Measurement of monopoly behavior: An application to the cigarette industry," *Journal of Political Economy* 89 (1981), 1010-1019.

r, Lester G., "Advertising and cigarettes," *Journal of Political Economy* 70 (1962), 471-499.

ant, Richard B., "The cigarette industry," Chapter 7 in W. Adams, ed., *The Structure of American Industry*, 4th edition, New York: Macmillan (1971), 216-255.

cco Institute, *The Tax Burden on Tobacco: Historical Compilation*, Volume 18, Washington, D.C., 1983.

on, John M.; Rives, Norfleet W., Jr.; and Naylor, Thomas H.,"An econometric model of the tobacco industry," *Review of Economics and*



Whitten, Ira Taylor, *Brand Performance in the Cigarette Industry and the Advantage of Early Entry*, Federal Trade Commission Staff Report, Washington, D.C. June 1979.

John R. Schroeter et al., *Advertising and Competition in Routine Legal Service Markets: An Empirical Investigation*, 36 J. INDUS. ECON. 49 (1987).

**Scope of Study:** The authors collected survey data from a random sample of attorneys in 17 metropolitan areas across the US. They used the data to estimate the effect of market advertising intensity on firm demand elasticities, holding other possible influencing factors constant. The survey asked for information about the nature of the responding attorney's law practice. It also requested price quotations for three simple legal services: a simple will, an uncontested personal bankruptcy, and an uncontested dissolution of marriage. Lastly, the survey asked if the firm had advertised in some medium over the past six months.

**Conclusions:** The results obtained for all three routine legal services examined are consistent with the hypothesis that advertising increases competition among sellers in a market. The results showed that advertising made demand more elastic, meaning consumers were more responsive to price differences.

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# ADVERTISING AND COMPETITION IN ROUTINE LEGAL SERVICE MARKETS: AN EMPIRICAL INVESTIGATION

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This study's findings, together with the results of earlier studies of the relationship between advertising and market prices, provide considerable empirical support for the pro-competitive view of seller advertising. Data on attorney fees and advertising practices in seventeen metropolitan areas across the US were used to estimate the effect of market advertising intensity on firm demand elasticities, holding other possible influencing factors constant. The results obtained for all three routine legal services examined are consistent with the hypothesis that advertising increases competition among sellers in a market.

## I. INTRODUCTION

THE RELATIONSHIP between advertising and competition, in one manifestation or another, has been explored in dozens of empirical studies.[1] A subset of these studies has concentrated on advertising's effects on price in professional service markets (see Benham [1972], Cady [1976], and Kwoka [1984]), and one (Jacobs *et al.* [1984]) has dealt specifically with routine legal service markets, which is the subject of our study.[2] The bulk of empirical evidence from this subset of studies supports the hypothesis that prices in professional service markets in which sellers advertise are lower, relative to costs, than they would be if such advertising were banned. One important mechanism through which this relationship can arise is the connection between advertising and sellers' individual demand elasticities.[3]

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[1] For a review of these, see the excellent survey article by Comanor and Wilson [1979].

[2] The work done by Jacobs *et al.* [1984] was conducted independently of our own. While it uses the same data set (to be described in note 13), it implements different modeling and estimation procedures. A routine legal service may be defined as one for which the time needed to complete it, while random, has small variance. See Cox *et al.* [1982, pp. 306–7].

[3] The observed inverse relationship between advertising intensity and price may also be due to the fact that advertising is the only means whereby a seller can attract enough patrons to realize production economies of scale (see Benham [1972]). We disregard this possibility in the case of legal services since we believe that their personalized nature would render scale economies relatively unimportant. Indeed, according to Comanor and Wilson ([1979, p. 458]) advertising's effect on price elasticities is the essential issue in the advertising/competition controversy.

One view of this nexus, the "information/search theoretic" view, traces its origins to the important works of Stigler [1961] and Nelson [1970]. Stigler considers the role of advertising in the low-price search process. Consumers confronting a distribution of prices for a homogeneous commodity will engage in costly search for a low price as long as the marginal benefits of continued search exceed the marginal cost. Advertising conveys information that reduces the cost of searching for low prices and, thus, stimulates search activity.[4] Since an increase in search activity will lead to a greater reduction in demand for any seller who raises price, the effect of advertising is to render sellers' demand curves more elastic.

Nelson's work, on the other hand, emphasizes the importance of information in markets for non-homogeneous commodities. His contention is that demand elasticity depends primarily upon the range of substitute brands for which quality information is available. Here, the information conveyed by advertising serves to familiarize the representative consumer with a wider variety of options. Thus, in Nelson's model of quality search under imperfect information, as in Stigler's low-price search scenario, advertising serves to make sellers' demand curves more elastic and, consequently, price-cost margins lower than they otherwise would be.[5]

If advertising is to occur, however, individual sellers must have incentives to engage in it. To the extent that a given firm's advertising effort is effective, it serves to insulate the firm from competition with rivals. Specifically, the advertising firm's product is differentiated from those of its competitors. As a result, its demand curve becomes somewhat less elastic. Hence, the "product differentiation" view of advertising's effects suggests that advertising firms enjoy lower demand elasticity (in absolute value) and correspondingly higher price-cost margins than non-advertising firms.[6]

According to economic theory, then, there are two hypotheses concerning the relationship between advertising and demand elasticities. The informa-

[4] In extending first amendment protection to attorneys' right to advertise their fees for routine legal services, the U.S. Supreme Court in *Bates v. State Bar of Arizona* [1977] assumed that certain benefits to consumers, like the increased ability to shop for prices, would follow from such advertising.

[5] As long as low price is among the criteria used by customers in selecting a seller, greater search activity will also tend to reduce the average *paid* price for any given distribution of *quoted* prices.

[6] Two caveats to this product differentiation view deserve mention. First, as Dorfman and Steiner [1954] and others have shown, the optimal level of advertising is characterized by equality between the marginal revenue product of advertising and the absolute value of the firm's price elasticity of demand. If, as is plausible, returns to advertising are eventually diminishing, optimality requires high levels of advertising in markets where firms face quite inelastic demand curves. Thus, the direction of causality between the level of a firm's advertising intensity and the price elasticity of its demand is not clear. Second, if a representative firm can obtain greater market power and higher profit margins through advertising, one would expect that all firms would advertise in the long run, and the inevitable result would be a profitless Chamberlinian equilibrium. If long-run benefits are to be derived, therefore, advertising must also involve entry barrier effects. See Scherer [1980] and Comanor and Wilson [1974] for further discussion of these points.

tion/search theoretic view predicts that individual demand curves will be more elastic the greater is the general level of advertising in a market. The product differentiation view implies that firms which advertise will have less elastic demand curves than those that do not. The purpose of this paper is to test these two hypotheses using data from routine legal service markets. The methodology we employ assumes that profit maximizing attorneys set prices optimally in view of individual demand elasticities, which in turn depend on the attorney's own advertising effort and the level of advertising intensity in the relevant market area. Our estimation technique enables us to infer at least the qualitative effects of these two advertising variables on price-cost margins and, indirectly, price elasticities of demand.[7]

## II. BASIC MODEL

The focus of this inquiry is the relationship between routine legal service demand elasticities and advertising practice. Each routine legal service market examined is assumed to conform to the familiar Chamberlinian model of monopolistic competition. Caves and Williamson [1985] outline the two theoretical models that provide sufficient conditions for the existence of downward sloping demand curves for individual producers. One relies upon the inherent complexity of the commodity and the diversity of buyers' preferences for product attributes. The other is founded upon the imperfection of consumer information and implies that, in equilibrium, consumers will make choices based on different information sets. Important features of both of these models are obviously present in routine legal service markets.

The arguments presented in the introduction to this paper suggest that the price elasticity of demand for a specific legal service performed by the $i^{th}$ attorney in the $j^{th}$ market, $\varepsilon_{ij}$, should be taken to be a function of variables representing the attorney's own advertising effort, $OWNAD_{ij}$, and the general level of advertising intensity in the $j^{th}$ market, $MARAD_j$. Allowing that individual demand elasticities may also depend on additional characteristics of the seller or market, we write

$$\varepsilon_{ij} = \varepsilon(OWNAD_{ij}, MARAD_j, Z_{ij}) \tag{1}$$

where $Z_{ij}$ is a vector of variables reflecting these additional characteristics. The product differentiation view of advertising's effects can be identified with the hypothesis that $\partial\varepsilon/\partial OWNAD$ is positive, while the information/search theoretic view maintains that $\partial\varepsilon/\partial MARAD$ is negative.

We assume that legal services are produced using the fixed factor, capital,

[7] Due to data deficiencies, few empirical studies have explored directly the relationship between advertising and demand elasticities. The careful and comprehensive work of J. J. Lambin [1976] is one exception. Also, not many econometric investigations of advertising's effects consider firm and industry advertising variables separately. One exception is a paper by Vernon and Nourse [1973].

and the variable factors of attorney, paralegal, and clerical worker time.[8] For a given capital stock, the attorney is assumed to combine the variable factors in a manner that minimizes the total cost of achieving any given output level. Moreover, marginal cost is assumed to be constant in a neighborhood about the profit maximizing output level. This constant unit cost is taken to be a translog function of the opportunity costs of the variable factors.[9] Specifically, if $C(w^a, w^p, w^c)$ is the unit cost of a legal service where $w^a$, $w^p$, and $w^c$ are the opportunity costs of attorney, paralegal, and clerical work time, respectively, we have

$$\text{(2)} \qquad \ln C(w^a, w^p, w^c) = \alpha_0 + \sum_{k=a,p,c} \alpha_k \ln w^k + \frac{1}{2} \sum_{k=a,p,c} \sum_{l=a,p,c} \gamma_{kl} \ln w^k \ln w^l$$

Sufficient conditions for the linear homogeneity of $C(.,.,.)$ defined by equation (2) are

$$\sum_{k=a,p,c} \alpha_k = 1, \gamma_{kl} = \gamma_{lk} \text{ for } k, l = a, p, c \quad \text{and}$$

$$\sum_{l=a,p,c} \gamma_{kl} = 0 \text{ for } k = a, p, c$$

When these are imposed, equation (2) becomes

$$\text{(3)} \qquad \ln C(w^a, w^p, w^c) = \ln w^c + \alpha_0 + \alpha_a \ln (w^a/w^c) + \alpha_p \gamma_{kl} \ln w^k \ln w^l$$
$$+ \tfrac{1}{2}\gamma_{aa}[\ln (w^a/w^c)]^2 + \tfrac{1}{2}\gamma_{pp}[\ln (w^p/w^c)]^2$$
$$+ \gamma_{ap}[\ln(w^a/w^c)] [\ln (w^p/w^c)]$$

Assume that $P_{ij}$, the price charged for a specific legal service by the $i^{\text{th}}$ attorney in the $j^{\text{th}}$ market, is set so as to maximize the profits associated with the provision of the service. Invoking the profit maximization condition, marginal revenue equals marginal costs and solving for $P_{ij}$, one obtains

$$\text{(4)} \qquad P_{ij} = \frac{C(w_{ij}^a, w_{ij}^p, w_{ij}^c)}{1 + 1/e_{ij}}$$

Equation (4) will be the basis for econometric estimation.

## III. ECONOMETRIC IMPLEMENTATION AND DATA

To estimate equation (4), it is first necessary to specify a functional form for equation (1). A particularly convenient choice, as we shall see, is to take

[8] This is essentially the approach taken by Feinberg [1984] in his study of substitutability among law firm labor inputs. We assume that the contribution to cost of the variable factor "materials" is negligible.

[9] The translog cost function can be shown to provide a second order approximation to any unit cost function which is everywhere positive for factor price vectors in the positive orthant, concave, and homogeneous of degree one. See Diewert [1974].

$\varepsilon(.,.,.)$ to be implicitly defined by

$$-\ln(1+1/\varepsilon_{ij}) = \beta_0 + \beta_1 \cdot \text{OWNAD}_{ij} + \beta_2 \cdot \text{MARAD}_j + B \cdot Z_{ij} \tag{5}$$

where $\beta_0$, $\beta_1$, and $\beta_2$ are unknown scalar parameters and $B$ is an unknown parameter vector conformable with $Z_{ij}$.[10] For the other attorney or market characteristics affecting elasticities, the components of $Z_{ij}$, we make the relatively conventional choices of a firm size variable, $\text{SIZE}_{ij}$, and a variable reflecting market concentration, the number of attorneys *per capita* in the market, $\text{ATPC}_j$. Thus, we have

$$B \cdot Z_{ij} = \beta_3 \cdot \text{SIZE}_{ij} + \beta_4 \cdot \text{ATPC}_j \tag{6}$$

where $\beta_3$ and $\beta_4$ are unknown scalar parameters.

Taking logs of both sides of equation (4), substituting from equations (3), (5), and (6), and rearranging, one obtains

$$\begin{aligned} \ln(P_{ij}/w_{ij}^c) = {} & \alpha_0 + \beta_0 + \alpha_a \ln(w_{ij}^a/w_{ij}^c) + \alpha_p \ln(w_{ij}^p/w_{ij}^c) \\ & + \tfrac{1}{2}\gamma_{aa}[\ln(w_{ij}^a/w_{ij}^c)]^2 + \tfrac{1}{2}\gamma_{pp}[\ln(w_{ij}^p/w_{ij}^c)]^2 \\ & + \gamma_{ap}[\ln(w_{ij}^a/w_{ij}^c)]\,[\ln(w_{ij}^p/w_{ij}^c)] \\ & + \beta_1 \cdot \text{OWNAD}_{ij} + \beta_2 \cdot \text{MARAD}_j + \beta_3 \cdot \text{SIZE}_{ij} + \beta_4 \cdot \text{ATPC}_j \end{aligned} \tag{7}$$

As can be seen from equation (7), the advantage of the functional form in equation (5) is that it allows transformation of the model to a version that is linear in the parameters of interest. This feature will facilitate estimation. Of course, equation (7) is best viewed as one within a larger system of equations that simultaneously determines individual prices and other endogenous variables such as individual and area-wide advertising activity and attorneys' opportunity cost of time.[11]

Using equation (5), it is easy to show that the derivatives of $\varepsilon(.,.,.)$ with respect to each of the determinants of price elasticity of demand are given by

$$\partial\varepsilon/\partial X = \beta_k \cdot \varepsilon_{ij}(\varepsilon_{ij}+1) \tag{8}$$

where $k = 1$ when $X = \text{OWNAD}$, $k = 2$ when $X = \text{MARAD}$, $k = 3$ when $X = \text{SIZE}$, and $k = 4$ when $X = \text{ATPC}$. Since $\varepsilon_{ij}$ will always be less than $-1$ at an optimum for a profit maximizing firm, equation (8) reveals that each derivative has the same sign as the corresponding $\beta_k$ parameter. The information/search theoretic view of advertising's effects is, therefore, consistent with the hypothesis that $\beta_2 < 0$, while the product differentiation view predicts that $\beta_1 > 0$.

[10] Equation (5) amounts to the assumption that the log of the ratio of price to marginal cost is a linear function of the variables appearing on the right hand side of (5). The economically meaningful range of values for $\varepsilon$, $(-\infty, -1)$, corresponds to values for the expression on the right hand side of (5) between 0 and $+\infty$.

[11] Specification of such a system of equations would involve an ambitious modeling effort that we will not attempt here. The fact that equation (7) involves jointly determined variables will, of course, have implications for the estimation strategy.

In general, one would expect that large firm size would, if anything, confer market power, thereby rendering demand curves less elastic for attorneys in the firm. In this case, one would expect $\beta_3 > 0$. It is less clear what sign should be expected for $\beta_4$. The conventional wisdom regarding market structure and firm performance suggests that an increase in the number of sellers *per capita* would cause all sellers' demand curves to become more elastic. In this event, $\beta_4$ would be negative. Satterthwaite [1979], however, has presented a model of a market for "reputation goods", such as personal legal services, which admits the seemingly perverse result that an increase in the number of suppliers can render individual demand curves less elastic.[12] Hence, we have no confident *a priori* expectation regarding the sign of $\beta_4$.

Most of the data used for empirical analysis were collected via surveys of random samples of attorneys in private practice, in 1981 and 1982, in seventeen metropolitan areas across the US.[13] Attorney advertising regulations, and consequently advertising practices, differed widely among the seventeen sampled markets.[14] The survey questionnaire solicited responses to numerous questions about the nature of the attorney's practice, and price quotations for each of three routine legal services: a simple will, an uncon-

[12] In Satterthwaite's model, the efficiency of consumer search diminishes as the number of sellers increases. This is because, with a large number of sellers in a market, consumers will typically have accurate information on the reputations of only a few. Consequently, an individual's inquiries regarding the qualifications of a particular seller will tend to be unproductive.

[13] In 1980, the National Science Foundation funded a study, entitled "The Market Effects of Attorney Advertising". The major purpose of that study was to compare attorneys' fees and advertising practices across a sample of areas with widely different attorney advertising regulations. Sufficient funding was granted to a team of researchers at Arizona State University, headed by the senior author of this paper, to survey attorneys in six different cities across the US. Those surveys were conducted in early 1981 in: (1) Birmingham, Alabama; (2) Phoenix, Arizona; (3) Fresno, California; (4) Indianapolis, Indiana; (5) Jackson, Mississippi; and (6) Milwaukee, Wisconsin. One year later in early 1982, Louis Harris and Associates on behalf of the Federal Trade Commission conducted similar attorney surveys, using the research design developed by the Arizona State University researchers, in eleven additional cities. These cities included: (1) Hartford, Connecticut; (2) Wichita, Kansas; (3) Baltimore, Maryland; (4) Boston, Massachusetts; (5) Detroit, Michigan; (6) Springfield, Missouri; (7) Albuquerque, New Mexico; (8) Columbus, Ohio; (9) Oklahoma City, Oklahoma; (10) Nashville, Tennessee; and (11) Seattle, Washington.

[14] The US Supreme Court's decision in *Bates v. State Bar of Arizona* not only gave attorneys the right to advertise but it also left to the states the right to regulate attorney advertising practices (subject only to the requirement that some attorney advertising be permitted in every US jurisdiction). Following that decision, then, states adopted widely different attorney advertising regulations. In a few states, highly restrictive regulations were adopted that virtually limited the *Bates* ruling to its own facts, or nearly so. In a few others, highly permissive regulations were adopted which prohibited only that attorney advertising which is false or misleading. In most states, however, attorney advertising regulations were adopted that fell somewhere between these two extremes in terms of their relative restrictiveness (or, permissiveness) but that differed from state to state with respect to: (1) the specific legal services attorneys were allowed to advertise, (2) the information attorney advertisements could or must contain, and (3) the media attorneys were permitted to use in the promotion of their services and fees. The seventeen metropolitan areas in which attorneys were surveyed were purposely selected to provide a sample representative of the entire regulatory spectrum which developed in the early years after *Bates*.

tested personal bankruptcy, and an uncontested dissolution of marriage. The survey questionnaire presented detailed descriptions of each of these stylized services.[15] In each case, the hypothetical circumstances of the client's situation and the nature of the client's intentions were designed to be such that attorney skill, beyond minimum competence, would be a relatively insignificant factor in the performance of the service.

The design of the survey instrument used together with the routine nature of the legal services priced provide considerable assurance of actual service homogeneity across attorneys. To provide additional assurance, however, we restricted our samples for each service to areas in which pertinent state laws were comparable at the time the attorney surveys were conducted. For the simple will service, for example, we distinguished geographic areas on the basis of their community property status. Four of the seventeen states represented in our study's area sample had a community property law, while the other thirteen did not. The cities located in the former states, therefore, were eliminated from our analysis of the simple will case.[16] Six of the study's seventeen states prohibited the application of federal bankruptcy exemptions at the time the attorney surveys were conducted, while eleven permitted the application of either state or federal bankruptcy exemptions. Again, the cities located in the former states were eliminated from our sample in order to maximize sample size.[17] Finally, only one state in our area sample did not permit no-fault divorces when the study's attorney surveys were conducted, and so the city located in that state was omitted from our analysis of the uncontested divorce service.[18]

In the analysis of each of the three routine services, $P_{ij}$ was taken to be the price that the $i^{th}$ responding attorney in the $j^{th}$ area said that he or she would charge for the service.[19] Obviously, no direct measurement of the attorney's own opportunity cost of time was available. Indeed, even data on attorney earnings is relatively sparse. However, annual survey data collected by Altman and Weil, Inc. did provide us with 1981 and 1982 median income figures for law firm associates and partners for several geographic areas of the

[15] The factual circumstances of, and the work to be performed for, each case were spelled out in substantial detail in the survey instrument used in order to ensure that all attorney respondents priced equivalent services. A copy of that questionnaire may be obtained by writing to Professor Steven R. Cox at the Department of Economics, Arizona State University, Tempe, Arizona 85287.

[16] Albuquerque, Fresno, Phoenix, and Seattle are the areas which were eliminated from our analysis of the simple will case.

[17] The six cities eliminated are Birmingham, Columbus, Indianapolis, Nashville, Phoenix, and Wichita.

[18] The one city is Baltimore.

[19] The percentage of attorney respondents who said they personally would perform the legal service priced and who quoted some flat fee for doing so ranged from a low of about 65 for the uncontested divorce case to a high of about 90 for the uncontested bankruptcy. The remaining attorneys who said they, too, would perform the service quoted an hourly rate for doing so. For these attorneys, a "price quotation" was calculated by multiplying their hourly rate quotation by the time each estimated it would take them to perform the service.

United States.[20] These figures were used to construct an index for our $w^a$ variable.[21] The same surveys also produced median income figures for paralegals which allowed construction of an index for $w^p$. The variable $w^c$ was taken to be an index of clerical wages in non-manufacturing industries based on US Census Bureau Area Wage Surveys. The three labor input cost variables were then scaled by their sample mean values.

The variable ATPC, as previously noted, was measured as the number of attorneys *per capita* in area *j*. $SIZE_{ij}$ was taken to be the number of attorneys in the firm of which attorney *i* in area *j* is a member. MARAD, our index of area-wide advertising intensity, was taken to be the proportion of survey respondents, within an area, who responded that their firm had advertised in some medium sometime during the six months prior to the survey.[22] OWNAD, our variable reflecting the attorney's own advertising effort, was simply taken to be a dummy variable equal to one if the attorney's own firm had advertised within the previous six months and zero otherwise.

TABLE I
NONLINEAR TWO-STAGE LEAST-SQUARES ESTIMATES OF THE ELASTICITY COEFFICIENTS[a]

| *Coefficient* | *Simple Will* | *Uncontested Bankruptcy* | *Uncontested Divorce* |
|---|---|---|---|
| $\beta_1$ | 0.246 | −0.089 | 0.933 |
| | (0.659) | (0.490) | (2.479) |
| $\beta_2$ | −1.673 | −0.471 | −1.602 |
| | (3.075) | (1.359) | (2.886) |
| $\beta_3$ | 0.011 | 0.012 | 0.015 |
| | (4.748) | (5.332) | (4.331) |
| $\beta_4$ | −0.092 | −0.010 | −0.005 |
| | (1.769) | (0.232) | (0.086) |
| *Number of Observations* ($n$) | 1297 | 458 | 1368 |
| $F^b_{9,n-9}$ | 14.21 | 5.86 | 3.92 |

[a] Asymptotic t-statistics in parentheses.
[b] Asymptotically relevant to a test of the hypothesis that the model reduces to a constant term.

[20] The management consulting firm, Altman and Weil, Inc., conducts an annual Survey of Law Firm Economics. The major purpose of their survey is to measure law firm gross receipts, expenses, and income per lawyer. A few highlights of each year's survey appears in the annual edition of *The Lawyer's Almanac*. The data used in this study were generously provided by Altman and Weil, Inc.

[21] Attorneys in individual practice were treated as "partners" if they had six or more years of experience and "associates" otherwise.

[22] Each survey respondent was asked a set of questions about his/her firm's advertising practices. From the answers provided to two questions, it was possible to determine whether a particular law firm had done any advertising in the six months prior to the survey and in what media (e.g., Yellow Pages of a local telephone directory, local newspaper, TV, radio, etc.). As long as a respondent indicated that his/her law firm had done any advertising in any media, he/she was counted as an advertising attorney. The measure of area advertising intensity used for this study, then, was the ratio of the number of advertising attorney respondents to the number of total attorney respondents in each city examined.

## IV. ESTIMATION RESULTS

As mentioned earlier, equation (7) contains jointly determined variables. For this reason, versions of equation (7) for each of the three routine legal services were estimated by nonlinear, two-stage least squares.[23] Table I reports estimates and asymptotic t-statistics for the elasticity parameters for each service.[24] The reported F statistics are asymptotically relevant to tests of the hypotheses that the models reduce to constant terms. Each of these is significant at the 1% level.

In each of the three cases, the estimates of $\beta_3$, the coefficient of *SIZE*, are significantly positive. Apparently attorneys who are members of large firms have, other things equal, less elastic demand curves than do their counterparts in small firms or in individual practices. Firm size appears to confer market power. All three point estimates of $\beta_4$, the coefficient of *ATPC*, are negative, but only one approaches significance at conventional levels. Given lower marginal significance levels, these negative estimates would support the conventional wisdom relating to market structure and competitiveness and are not consistent with Satterthwaite's hypothesis.

The estimates of $\beta_1$ and $\beta_2$ reveal advertising's effects on individual demand elasticities. In two of the three cases, simple will and uncontested divorce, $\beta_2$, the coefficient of *MARAD*, is negative and significant at the 1%

[23] Consistency and asymptotic normality of the nonlinear two-stage least-squares estimator are established by Amemiya [1974]. Since the model is linear in the parameters to be estimated, the estimator reduces to Kelejian's estimator [1971]. The estimation was conducted using instruments reflecting the respondent's status in the firm (partner or associate), number of years of experience, sex and race. Also included were the number of attorneys in the respondent's firm, the logarithm of the clerical wage index, the population and income *per capita* of the market area. Finally, dummy variables reflecting the degree of restrictiveness of the area's advertising regulations and a selection of area specific dummy variables were included.

[24] Estimates and asymptotic t-statistics (in parentheses) for the cost function parameters are as follows:

| | *SW* | *UB* | *UD* |
|---|---|---|---|
| $\alpha_0 - \beta_0$ | −0.776 | −0.179 | −0.284 |
| | (6.284) | (1.519) | (2.134) |
| $\alpha_a$ | 4.391 | 0.853 | 1.091 |
| | (7.079) | (2.850) | (2.356) |
| $\alpha_p$ | −4.937 | −0.393 | −1.779 |
| | (6.631) | (0.953) | (2.377) |
| $1/2\gamma_{aa}$ | 7.154 | 1.512 | 1.706 |
| | (7.128) | (2.774) | (2.158) |
| $1/2\gamma_{pp}$ | 11.703 | 3.625 | 13.810 |
| | (1.199) | (1.045) | (2.625) |
| $\gamma_{ap}$ | −15.413 | −6.611 | −18.690 |
| | (2.451) | (3.239) | (4.100) |

The translog unit cost function is linearly homogeneous by construction. There is no simple set of conditions on the parameters that guarantee that it is increasing in each factor price and concave. In fact, at the sample means of factor costs ($w^a = w^p = w^c = 1$), the three estimated cost functions are not increasing in the cost of paralegal time nor are they concave. Due to data limitations, the cost function parameters could not be estimated subject to the restrictions implied by factor demand functions. Nonetheless, the estimated cost functions may still provide reasonably good second-order approximations to the actual cost functions in a neighborhood about representative values for factor prices.

level. In the third case, uncontested bankruptcy, $\beta_2$ is negative with a marginal significance level of 9%.[25] These results are consistent with the hypothesis that advertising conveys information that facilitates buyer search, for quality or low-price, and thus renders individual demand curves more elastic. Only in the uncontested divorce case is the estimate of $\beta_1$, the coefficient of OWNAD, significant and here the point estimate is positive. Again, a positive value for this parameter is consistent with the product differentiation view of advertising's impact: namely, an attorney's own advertising effort serves to differentiate his or her product and, thus, makes demand less elastic. Of course, a failure to find a significantly positive value for $\beta_1$ in a particular market does not imply that attorneys' use of advertising is unproductive and therefore irrational. Since the nature of the advertising is not necessarily service specific, it may pay dividends in terms of increased market power in markets for other than simple will and uncontested bankruptcy services.

In order to quantify the impact of advertising on the general level of competitiveness in these markets, it would be useful to estimate the magnitudes of the elasticities or, equivalently, price-cost ratios. Regrettably, neither of these indexes of competitiveness is identified given our model because, as can be seen from equation (8), the assumed functional forms do not allow separate estimation of $\alpha_0$ and $\beta_0$. This is a manifestation of a problem discussed by Sumner (1981).[26] Something can be said, however, about the relative effect of market-wide advertising intensity on, for example, the price-cost ratio. From equation (4), it is clear that the ratio of price to marginal cost for a profit maximizing monopolistic competitor is given by $(1+1/\varepsilon)^{-1}$, which, given equation (5), can be seen to equal $\exp(\beta_0+\beta_1 \cdot \text{OWNAD}+\beta_2 \cdot \text{MARAD}+\beta_3 \cdot \text{SIZE}+\beta_4 \cdot \text{ATPC})$. Thus, the elasticity of the price-cost ratio, with respect to advertising intensity, is $\beta_2 \cdot \text{MARAD}$. The seventeen surveyed cities had a mean value of MARAD of 0.14 with a standard deviation of 0.087. The estimation results suggest that a representative value for $\beta_2$ for the simple will and uncontested divorce services is $-1.6$. Hence, advertising elasticities of price-cost ratios, evaluated at the mean value of market-wide advertising intensity, might be approximately $-0.224$.

Collins and Preston [1968] have used accounting data to estimate price-cost ratios for 288 4-digit SIC manufacturing industries.[27] The median of this

[25] One possible reason for the weak statistical significance in this case is that low-price search, and hence advertising's effect on the search process, may be relatively unimportant in this market. A bankruptcy client may have no incentive to search for a low price since acceptance of a high price may serve only to reduce the amount that the client's creditors are able to recover.

[26] Sumner [1981] points out that a fundamental identification problem plagues attempts to use data on price and variables affecting marginal cost to infer the price-cost ratio. Identification of this ratio could be achieved, of course, but it would be contingent upon a maintained hypothesis of a specific, nonlinear functional form.

[27] The Collins and Preston estimates are not entirely satisfactory for purposes of comparison since their sample was comprised of manufacturing rather than service industries. The Sumner study, referred to in note 26, estimated price-cost ratios for cigarette manufacturers in the range of 1.09 to 1.08. We intend these estimates to serve only as rough benchmarks of competitiveness of markets.

distribution is 1.172, with a range of 1.030 to 1.513. If market-wide advertising intensity were increased from its mean value by one half of one standard deviation (a change of about 31%), then, assuming an elasticity of $-0.224$, the price cost ratio would fall by about 7%. Taking the median value of 1.172 as a representative starting point, the resulting value for the price-cost ratio would be about 1.09, which is less than the first decile point of the distribution of Collins and Preston's estimates (about 1.11). Thus, a relatively modest change in advertising intensity would appear to have the potential of bringing about an appreciable reduction in price-cost ratios.[28]

## V. SUMMARY AND CONCLUSIONS

Theoretically, there are two views of the competitive effects of advertising. The information/search theoretic view asserts that advertising increases competition among sellers in a market in that it renders the representative firm's demand curve more elastic. The product differentiation view, on the other hand, maintains that advertising firms face less elastic demand curves than non-advertising firms. Empirically, this study's findings, together with the results of earlier studies of the relationship between advertising and market prices, provide considerable support for the former view. Thus, the trend over the past decade toward fewer restrictions on seller advertising in professional service markets would appear to be a very favorable one, at least as far as consumers are concerned.

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[28] This calculation is meant to provide only a rough idea of the impact of area-wide advertising intensity in these markets. Obviously, if a change in advertising intensity were induced, perhaps as the result of an exogenous change in regulatory policy, its effects could be predicted only within the context of the complete model of which equation (7) is a part.

REFERENCES

ALTMAN and WEIL, INC., 1982 and 1983, *Survey of Law Firm Economics*.

AMEMIYA, T., 1974, 'The Nonlinear Two-Stage Least-Squares Estimator', *Journal of Econometrics*, 2 (July), pp. 105–110.

*Bates v. State Bar of Arizona*, 1977, 433 U.S. 350.

BENHAM, L., 1972, 'The Effects of Advertising on the Price of Eyeglasses', *Journal of Law and Economics*, 15 (October), pp. 337–351.

CADY, J. F., 1976, 'An Estimate of the Price Effects of Restrictions on Drug Price Advertising', *Economic Inquiry*, 14 (December), pp. 493–510.

CAVES, R. E. and WILLIAMSON, P. J., 1985, 'What is Product Differentiation, Really?', *Journal of Industrial Economics*, 34 (December), pp. 113–132.

COLLINS, N. R. and PRESTON, L. E., 1968, *Concentration and Price-Cost Margins in Manufacturing Industries* (University of California Press, Berkeley).

COMANOR, W. S. and WILSON, T. A., 1974, *Advertising and Market Power* (Harvard University Press, Cambridge).

COMANOR, W. S. and WILSON, T. A., 1979, 'The Effect of Advertising on Competition: A Survey', *Journal of Economic Literature*, 17 (June), pp. 453–476.

COX, S. R., DESERPA, A. C. and CANBY, W. C., JR., 1982, 'Consumer Information and the Pricing of Legal Services', *Journal of Industrial Economics*, 30 (March), pp. 305–318.

DIEWERT, W. E., 1974, 'Applications of Duality Theory', in M. D. INTRILLIGATOR and D. A. KENDRICK, eds., *Frontiers of Quantitative Economics*, vol. II (North-Holland Publishing Company, Amsterdam).

DORFMAN, R. and STEINER, P. O., 1954, 'Optimal Advertising and Optimal Quality', *American Economic Review*, 44 (December), pp. 826–836.

FEINBERG, R. M., 1984, 'Paralegals and Substitution Among Labor Inputs in the Law Firm', *Journal of Industrial Economics*, 33 (September), pp. 99–104.

JACOBS, W. W., *et al.*, 1984, *Improving Consumer Access to Legal Services: The Case for Removing Restrictions on Truthful Advertising* (Federal Trade Commission Staff Report).

KELEJIAN, H. H., 1971, 'Two-Stage Least Squares and Econometric Systems Linear in Parameters but Nonlinear in the Endogenous Variables', *Journal of the American Statistical Association*, 66 (June), pp. 373–374.

KWOKA, J. E., JR., 1984, 'Advertising and the Price and Quality of Optometric Services', *American Economic Review*, 74 (March), pp. 211–216.

LAMBIN, J. J., 1976, *Advertising, Competition and Market Conduct in Oligopoly Over Time* (North-Holland Publishing Company, Amsterdam).

NELSON, P., 1970, 'Information and Consumer Behavior', *Journal of Political Economy*, 78 (March/April), pp. 311–329.

SATTERTHWAITE, M. A., 1979, 'Consumer Information, Equilibrium Industry Price, and the Number of Sellers', *Bell Journal of Economics*, 10 (Autumn), pp. 483–502.

SCHERER, F. M., 1980, *Industrial Market Structure and Economic Performance*, second edition (Houghton Mifflin Company, Boston).

STIGLER, G. J., 1961, 'The Economics of Information', *Journal of Political Economy*, 69 (June), 213–225.

SUMNER, D. A., 1981, 'Measurement of Monopoly Behavior: An Application to the Cigarette Industry', *Journal of Political Economy*, 89 (October), pp. 1010–1019.

VERNON, J. M. and NOURSE, R. E. M., 1973, 'Profit Rates and Market Structure of Advertising Intensive Firms', *Journal of Industrial Economics*, 22 (September), pp. 1–20.

Robert L. Steiner, *Does Advertising Lower Consumer Prices?*, 37 JOURNAL OF MARKETING 19 (1973).

**Scope of Study:** The author used published data from the Census, Broadcast Advertiser Reports, and *Discount Merchandiser*, material from the toy trade press, individual manufacturer research studies, and data from numerous wholesalers and retailers to analyze the effect of increased advertising in the toy business.

**Conclusions:** The results showed that increased advertising did not lead to a concentrated toy industry, the average distribution margin declined from 49 percent in the 1950s to 33 percent in the 1970s, with the fastest selling toys having lower than average distribution margins and being heavily advertised. The aggregate industry margin fell dramatically with the introduction of television advertising.

# Does Advertising Lower Consumer Prices?

**ROBERT L. STEINER**

Critics of advertising maintain that advertising raises consumer prices by increasing manufacturers' selling prices in several ways. Not only must the cost of the promotion be added to the product's cost, but by limiting entry, advertising leads to concentration and oligopolistic pricing. This article contends that even if these assertions are valid, advertising lowers consumer prices. A theory of the relationship between advertising and prices is presented and is illustrated by data from the marketing experience of the toy industry.

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*Journal of Marketing*, Vol. 37 (October 1973), pp. 19-26.

A RECENT staff report to the Federal Communications Commission entitled "Advertising and the Public Interest"[1] sums up the conventional notion of the relationship between advertising and prices with admirable brevity: ". . . the consumer clearly pays for advertising (the cost of which is reflected in the price he pays)."

While, of course, advertising is a cost, it is generally recognized that the purpose of advertising is to increase consumption of the advertised product. When more units are produced, various economies of scale ordinarily ensue which in some instances exceed the cost of advertising. Whether this is true for the economy as a whole remains unclear.

A second way in which advertising may increase prices is by reducing competition among producers. Where advertising succeeds in building a powerful consumer franchise for a handful of brands in a product category, entry by other manufacturers can become an extremely difficult proposition. The result here is a classical case of oligopoly resulting in higher prices than would obtain with more producers and more perfect competition.

An opposite view is that advertising is a means of entry and of challenge, a stimulation to new product innovation which, therefore, advances the cause of competition and reduces prices. Here again one does not know where the truth lies.

For the purposes of this paper, it is conceded that advertising might result in higher manufacturers' selling prices. Even so, it is contended that advertising reduces consumer prices. How can that be?

The answer lies in the effects of advertising on the markup between factory and consumer—the distribution margin—which, as students of marketing recognize, usually comprises from 40% to 50% of a product's total cost.[2]

1. John A. Howard and James Hulbert, *Advertising and the Public Interest* (Chicago: Crain Communications, Inc., February 1973), p. 5.

2. For various computations of the distribution margin, see Reavis Cox, *Distribution in a High Level Economy* (Englewood Cliffs, N.J.: Prentice-Hall, 1965), Chapter 8.

The aim of this article is to demonstrate that advertising lowers prices to the ultimate consumer, because the magnitude of its impact on distribution margins is sufficient to overcome any possible tendency of advertising to raise manufacturers' selling prices. The following major arguments will be developed in support of this theory: *first,* advertising results in smaller distribution margins on advertised brands due to (1) the more rapid turnover of advertised products and (2) increased product price comparison through improved product identification; and, *second,* competition from advertised brands brings pressure to reduce prices on unadvertised merchandise of the same type.

### Productivity Through Marketing

A central contention of this paper is that the combination of the marketing forces of mass merchandising and strong advertising is responsible for a major increase in marketing productivity which has brought lower prices to the American consumer.

Of course, there has always been some retail price cutting and some consumer advertising. However, with the emergence of the supermarket, a pervasive marketing revolution occurred in the food and package goods industries during the two decades before World War II. Newspaper, magazine, and radio advertising created consumer demand for specific products. Supermarkets discovered that a handful of such advertised brands were accounting for perhaps 90% of their volume in category after category. These recognized brands turned over so rapidly that they could be sold at far below traditional retail markups, and consumers could be lured from traditional stores by a combination of low everyday prices and special sales advertised in the newspaper.

Beginning in the mid-1950s, a similar marketing revolution in the general merchandise field resulted from the dynamic growth of discount stores in conjunction with television and other forms of advertising. Like supermarkets, discounters based their profit concept on a return per square foot of store space rather than on percentage markup alone. An item which turned over five times at a markup of 25% won the battle for shelf space over one that turned over twice at a 40% markup.

Strong advertising created a legion of presold consumers who, in a self-service situation, eagerly plunked the advertised brands into their shopping carts. Supermarkets, discounters, and other mass merchants have become retail factories geared to purchase, process, and sell demanded merchandise to the public in the most efficient manner at closer markups than offered by traditional retailers, whom they have continually displaced.

### Establishing Product Identity

This ability of consumer advertising to make products turn over faster on the retail counter is, however, not the only property it has which depresses retail markups. A separate, but seldom understood, quality is identifiableness. Large media budgets build consumer recognition of the advertised item, enabling the public readily to identify and compare its price wherever it is sold. Realizing that, the retailer is reluctant to mark up identifiable products too high for fear that the consumer may readily catch him in the act and conclude that all items in the store are overpriced.

Identifiableness thus creates a de facto price ceiling on widely recognized brands. In addition, the very fact that the product is recognizable and its approximate prevailing price on the market is widely known creates an incentive for the retailer to splash it in the newspaper at a still lower price to engender the impression that his store offers a cornucopia of bargains.

In the case of commodity-type items, consumer comparison is relatively simple—especially when aided by government grading, as in eggs, meats, and so on. Advances in the standard of living, however, require differentiated and complex products, and in this area it is the product recognition value flowing from advertising which enables the consumer readily to make the price comparison in different stores.

Given the high rate of failure among new products, it is true that many heavily advertised consumer goods do not sell especially well. Nevertheless, if our observations are correct, these unsuccessful but strongly promoted brands will move from factory to consumer at very modest markups. Finally, items which are both strongly identifiable and turn over rapidly will have the lowest distribution margins of all, while those which are both "blind" and slow sellers will be marked up the most.

### Reduction of Markups and Prices for Nonadvertised Brands

Some retailers, while admitting that advertising drives down their margins on advertised brands, argue there is no net public benefit since they are then forced to make equivalent price increases on other items to protect their margin structure and stay in business.[3] This has not been historically true and is not presently the case, except where advertised brands must be sold at margins only slightly above (or actually below) variable costs. Even here the retailer

3. James Cooke, Chairman of the Board, Penn Fruit Co., "The President's Report" (unpublished address to the Supermarket Institute, May 7, 1973).

is unable to mark up unadvertised items as much as he did before advertising commenced.

In the typical store, all items within a product group are arrayed together for virtually simultaneous inspection by the shopper, setting up a direct and visible competition amongst them for the consumer dollar. Now, suppose the markup on selling price is 50% in a nonadvertised category of merchandise into which advertising is then successfully introduced. This causes the markup on the promoted brands to decline to, say, 25%. Suddenly the unadvertised items must face two new problems, for their advertised competitors are not only better known to the public but also appear to be better values. The retailer now finds that he must shave his markup on the unadvertised brands to perhaps 40% or 45% to erase enough of the competitive value discrepancy to enable the nonadvertised items to turn over with sufficient velocity to earn their counter space.

In the typical product category life cycle, after advertising has been introduced and has expanded the volume in the category, a second generation of nonadvertised competitors—including private labels—now appears. These nonadvertised products gain shelf space because their markups are better than the sharply discounted advertised brands, yet they must be retailed below the promoted brands to compete successfully. The resulting price squeeze virtually mandates that the margins of these new nonadvertised products be below the historic pre-advertising level. Indeed, the markup requirement is often achievable only through a debasement of product quality.

The consumer enjoys the additional purchasing options and the reduced retails. But except perhaps for community-type products, these second generation competitors came into existence as a response to advertising, flourish where advertising remains strong, and tend to disappear if the advertising stops. Therefore, advertising deserves credit for the public benefit!

Private label competition from giant retailers is especially beneficial to the consumer in that it sets up a strong countervailing force against the large manufacturing advertiser, which prevents the latter from overpricing.

### The Theory of Advertising and Prices Summarized

This theory of the relationship between advertising and prices can be briefly summarized as follows:

1. There is not enough evidence available to judge whether for the economy as a whole advertising results in a net increase or decrease in manufacturers' selling prices. However, this theory maintains that advertising stimulates product innovation by offering the rewards of very high volume per item.
2. If advertising is found to cause manufacturers' selling prices to increase, the magnitude of the price rise will be more than offset by the power of advertising to reduce distribution margins. Accordingly, on balance, advertising tends to reduce final consumer prices.
3. Advertising cuts distribution margins on advertised brands for two reasons: *first,* advertising causes goods to turn over rapidly so they can be sold profitably with smaller markups; and, *second,* advertising creates product identity—which, in differentiated products, permits the public to compare prices between stores, thus setting a limit on the retailer's freedom to mark up. Products which are both heavily advertised and are fast sellers will be pulled through the distribution channels with the lowest markups of all.
4. Within an advertised category, various competitive responses force down markups and retail prices on the nonadvertised products, causing them to be better consumer values than in nonadvertised categories.

The above construct presents what is believed to occur in the American economy, especially in areas of differentiated products. Empirical validation is obviously required. The following discussion examines the toy business, where the findings fit the theory—the theory itself being partially built on the insights developed in the course of this research.

### How the Marketing Revolution Changed the Toy Business

Until the late 1950s, the American toy industry was essentially an unadvertised business. Toy makers made only miniscule efforts to create consumer demand for their playthings. Such advertising and promotional campaigns as there were consisted of a smattering of direct mail, radio advertising, inserts in children's magazines, and department store newspaper ads and Christmas demonstrations.

Toy manufacturers quoted their customers a percentage discount from an even dollar, retail list price. The list price represented the amount the consumer was supposed to pay and almost invariably did pay. The steepest percentage trade discount, which averaged less 50% and 5% from list price, was offered to wholesalers, who accounted for about two-thirds of toy manufacturers' shipments.[4] Since he shipped the balance to retailers at discounts averaging less 48%, the toy maker's total output was sold at about a 51% discount from list.

4. "Financial and Operating Ratio Report," as compiled from reports submitted to Ernst & Ernst by members of Toy Manufacturers of U.S.A., 1958.

Giving account to estimated markdowns, the occasional off-price sale, and the permissible practice of retailing toys for a few pennies below list price, it can be said with confidence in the period 1947-58 that consumers paid prices which averaged about 4% below retail list. That is, they paid $.96 for the $1.00 list toy the manufacturer sold for $.49.

Hence, the distribution margin (or markup) in the industry as a percentage of average retail selling price was 49%. The consumer was paying about twice the manufacturer's selling price!

### The Toy Marketing Revolution

The first large-scale use of television advertising in the toy industry occurred in 1955 when the Mattel Company of California purchased network time on the Mickey Mouse Club to advertise a toy burp gun that was selling at an indifferent rate but was in large distribution. Results were astonishing! The sudden surge of consumer demand from the television commercials cleared retail shelves well before Christmas.

By the late 1950s, with the growth in the number of television homes and programs directed to children, numerous toy makers had climbed aboard the television bandwagon. Toy television spending boomed until 1970. Since then it has leveled off in the range of $75 million to $80 million annually,[5] where it represents about 3½% of toy makers' shipments.[6]

At about the same time that manufacturers were discovering television, widespread discounting of general merchandise began. Discount store sales rose from $2 billion in 1960 to a phenomenal $26.6 billion in 1971.[7] Discounters discovered that toys, especially the heavily televised ones, turned over so rapidly that they could be sold profitably far below the traditional toy retail markup. A discounter might put an everyday price of $3.49 on a $5 list toy. Beyond that, mass merchants found, especially at Christmas time, that a newspaper ad offering the toy at $2.99 drew huge crowds of toy shoppers into their stores.

By 1971, discount stores were the largest single retail outlet for toys and accounted for around 28% of retail toy sales. Their toy departments were averaging gross margins of around 26% on sales.[8]

To remain competitive, traditional retailers countered by cutting their prices and began to take the initiative on a few hot sellers on which they were determined to become the market price leaders. Merchants also discovered they could not maintain traditional markups on nonadvertised toys in the face of competition from televised items, now often being retailed at close to manufacturers' selling prices. Almost overnight the level of toy prices tumbled, with the television items being slashed the deepest!

This marketing revolution in the toy business was ignited by a combination of three elements: manufacturers' television advertising to children, retail newspaper cut-price advertising to parents, and mass merchandising. Under the influence of these three stimuli, distribution margins narrowed; at the same time, research and development budgets rose both absolutely and as a percentage of toy manufacturers' sales[9] under the incentive of the greatly expanded volume per toy which television advertising had produced.

Toy sales boomed. In fact, as Figure 1 depicts, toy manufacturers' shipments per child since the advent of the marketing revolution have far outstripped the growth in consumer goods production per capita.

### How Large-Scale Advertising Affects Toy Prices

In addition to utilizing published data from the *United States Census,* Broadcast Advertisers Reports, the National Retail Merchants Association, *Discount Merchandiser,* material printed in the toy trade press, and research studies done for individual manufacturers, the author has sought out and analyzed data from numerous wholesalers and retailers. Much of the latter information was furnished on a confidential basis, since it involves rates of sale and markups; such information cannot, therefore, be referenced.[10] The purpose of these investigations was to provide answers to the following questions in the toy business:

1. Has the great increase in advertising raised manufacturers' selling prices?
2. How has the aggregate distribution margin changed since the introduction of large-scale advertising?

5. Report from the Television Bureau of Advertising, Inc., based on "B.A.R. Network TV" and "B.A.R. National Spot TV," for the years 1970, 1971, and 1972, prepared annually by Broadcast Advertisers Reports, Inc., New York.

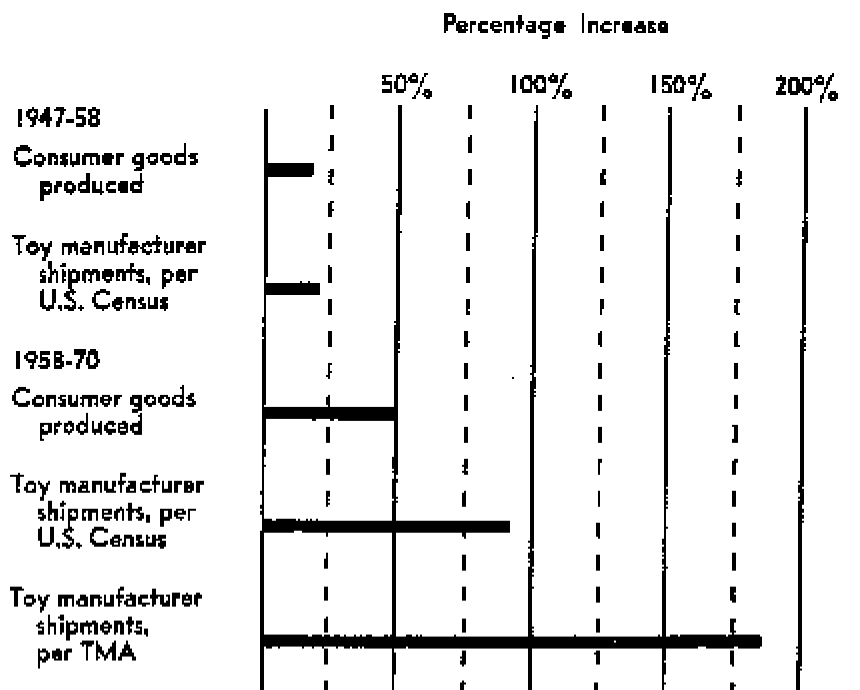
6. U. S. Department of Commerce, Bureau of the Census, *Annual Survey of Manufactures,* 1970 and 1971 (Washington, D.C.: U.S. Government Printing Office); and Toy Manufacturers of America, *Toy Industry Statistics* (annual report), 1970, 1971, and 1972.

7. "The True Look of the Discount Industry, 1971: The Twelfth Annual Marketing Study of the Status of the Discount Industry," *The Discount Merchandiser,* 1972, p. TL-3.

8. Same reference as footnote 7, p. 48-TL.

9. Same reference as footnote 4, 1956 and 1971.

10. For a more detailed description of data sources and methodology than the present space permits, see Robert L. Steiner, "How Television Advertising Affects Consumer Toy Prices," an address presented at "Children's Television: A Broadcaster's Work Shop," and reprinted in *Toy and Hobby World,* Vol. 11 (July 2, 1973), pp. 1, 13-15.




Sources: U.S. Department of Commerce, Bureau of the Census, *Census of Manufactures, Annual Survey of Manufactures,* and *Census of Population* (Washington, D.C.: U.S. Government Printing Office); U.S. Department of Labor, Bureau of Labor Statistics, *Wholesale Price Index of Toys and Sporting Goods* (Washington, D.C.: U.S. Government Printing Office); and Toy Manufacturers of America, *Toy Industry Statistics* (annual report).

FIGURE 1. Percentage increase in constant dollars of toy manufacturers' shipments per child (0-12) and final consumer goods production per capita (total population)—1947-58 and 1958-70.

3. What are the correlations between rate of sale, distribution margins, and weight of advertising?
4. What can be learned about the above relationships by studying product categories within the industry?
5. What would happen to consumer prices if toy television advertising were banned, as some groups now propose?

### How Advertising Affects Manufacturers' Selling Prices

Accurate quantification for the industry as a whole is difficult, perhaps impossible, to obtain. One is left to rely primarily on operating experience in the cost area and on overall industry concentration and earnings data as a measure of profit and the extent of competition. The conclusion reached is that the advent of strong television advertising has brought a net reduction in toy manufacturers' costs. The total marketing expenses (including advertising) of toy makers, as a percentage of their shipments, appears to have increased by 3% to 5% since 1956.[11] Offsetting savings through large-scale production may be estimated at 7% to 10%, creating a probable net cost saving on the order of 5%.

Where 100,000 units might have been a reasonable toy sales expectation prior to the marketing revolution, that same toy backed with a strong television budget easily might be forecast at 1,000,000 pieces in 1973. Increases in production quantities of this magnitude produce the classical economies in raw materials and labor per unit of output. Moreover, in the toy business expensive injection molds for the production of plastic parts are typically required. Major savings in piece price are achieved when volume projections are sufficiently great to justify building a high capacity tool.

In the toy business, advertising has not led to a degree of concentration that permits the manufacturer of advertised brands to enjoy the fruits of oligopolistic pricing. Although the num-

11. Same reference as footnote 4, 1956 and 1971.

ber of toy makers has declined since the late 1950s, there are still over 700 of them, with the largest enjoying around 9% of the market and the top four about 30%.

Competition is so keen that the return on sales and investment is well below that of the average for American manufacturing industry.[12] The risks associated with large-scale television advertising have produced bankruptcies among some of the heaviest television spenders, including Transogram, Remco, and Topper. Mattel, the largest advertiser, lost around $30 million in both 1971 and '72.

### How Advertising Affects the Distribution Margin

Based on two separate research projects, the author has concluded that the distribution margin—that is, the difference between the average consumer price and the average manufacturer's selling price as a percentage of the former—has declined by one-third, from 49% in the mid-1950s to 33% in the early 1970s.

It is important to record that these decisive consumer price savings have occurred only in those nations where all three elements of the marketing revolution were strongly present—specifically in the United States and Canada. In both Australia and England, where there has long been television advertising of toys, distribution margins only now are beginning to tumble with the growth of discounting and newspaper price advertising.

Even more fascinating is the situation in France, where toy television commercials are not yet permitted but over 200 mass merchants carry and discount toys. Unfortunately, the discounting remains confined to the mass merchants themselves. Without the unique mass appeal of television to create demand and recognition for specific items, traditional retailers have been able to ignore the discount competition and maintain their old toy markup practices. Therefore, the impressive growth of mass merchandising has not materially reduced the historic 50% distribution margin in France.

### The Relationship Between Rate of Sale and Distribution Margins

The theory holds that when consumer goods turn over rapidly, this process permits and encourages such faster sellers to be retailed at lower than average distribution margins. To test this proposition in the toy business, information was obtained on the rate of sale, manufacturers' selling prices, and actual in-store average consumer selling prices on a large list of toy items. Table 1 summarizes the results.

12. Same reference as footnote 4, 1956 and 1971.

TABLE 1
DISTRIBUTION MARGINS* BY RATE OF SALE CATEGORY, CHRISTMAS SEASON 1971

| | |
|---|---|
| Best sellers (representing top 100 toys) | 25.3% |
| Fine sellers (representing next 400 toys) | 30.7% |
| Poorer sellers (representing all the rest) | 42.1% |

*As a percentage of average consumer selling price. Costs are based on manufacturer's lowest selling price.

TABLE 2
DISTRIBUTION MARGINS* OF FASTEST SELLING TOYS IN CHICAGO

| | |
|---|---|
| 15 fastest sellers, Christmas season 1971 | 21.5% |
| 10 fastest sellers, Christmas season 1971 | 20.0% |
| 10 fastest sellers, Christmas season 1972 | 20.5% |

*As a percentage of average consumer selling price. Costs are based on manufacturer's lowest selling price.

If there is a strong inverse relationship between rate of turnover and distribution margins, it should follow that the very best sellers, especially in large urban areas where discounting is severe, would exhibit even lower margins than the 25.3% indicated for the best selling 100 toys. Table 2, which is based on surveys done in 1971 and '72 by the leading wholesaler of toys in Chicago, confirms this pattern.

### The Correlation Between Advertising and Distribution Margins

If the theory is correct and advertising can be credited with reducing toy distribution margins, then the faster sellers (which were marked up the least) should be heavily advertised items. That turns out to be the case, since 90% of the best sellers in Table 1 and 100% of the fastest selling toys in Chicago were televised.

Newspaper price advertising to parents is the other component of the advertising mix. On the basis of information contained in several surveys, including one conducted by the Advertising Checking Bureau,[13] it was discovered that weight of newspaper advertising appears to be even more closely correlated with rate of sale than is television advertising. The explanation is that while both stimulate toy sales, newspaper spending also tends to reflect retail turnover.

The timing of newspaper advertising campaigns is approximately coterminous with the holiday buying season, while television advertising commences back in August and September. This permits discounters, who account for most of

13. "Newspaper Features Tracking Study, Christmas Season 1971," private manufacturer's report prepared by the Advertising Checking Bureau, 1972.

TABLE 3
TOY DISTRIBUTION MARGINS* IN CANADA, CHRISTMAS SEASON 1972

| | |
|---|---|
| Heavily televised toys | 20.2% |
| Medium televised toys | 31.4% |
| Nontelevised toys | 46.1% |

*As a percentage of average consumer selling price. Costs are based on manufacturer's lowest selling price.

the toy lineage, to identify the emerging best sellers from their own sales experience and to insert them into the papers at low prices to build store straffic.

The findings that advertising and rate of sale are closely correlated will hardly come as a surprise. However, it is also claimed that in addition to its ability to reduce trade markups by increasing the rate of turnover, advertising has another effect—the creation of product recognition or identity—which also depresses distribution margins. If so, then televised toys as a group, regardless of their popularity (and many of them do not sell well off the counter), should enjoy lower distribution margins than their nonadvertised counterparts.

Two major retailers who had made this kind of comparative markup study and a third who furnished his cost and selling price data were finally located, which permitted the author to make the calculation. Although these firms represented different kinds of retailers—a department store, a variety-discount chain, and a chain of freestanding toy stores—the results were remarkably similar for each and indicated that the margin spread between televised and untelevised toys was close to 25 percentage points. This is a substantially greater margin differential than exists between the best and poorer sellers in Table 1.

In Canada, where toy marketing conditions are quite similar to those in the United States, Elliott Research conducted a survey in 70 representative stores in six cities involving 100 toys carefully selected to be a cross-section of the industry in regard to both price range and product category.[14] When the toys were divided into three groups according to weight of television advertising, the results shown in Table 3 emerged.

Elliott also selected a smaller group of toys taken only from the heavily televised and nontelevised groups and asked dealers to rate them by dollar sales volume. (The difference in popularity between the faster and slower sellers selected by this procedure is not as marked as

14. "Toy Pricing Study," conducted on behalf of Irwin Toy, Ltd., by Elliott Research Corp., Toronto, December 1972.

TABLE 4
DISTRIBUTION MARGINS* ON 19 TOYS CANADA, CHRISTMAS 1972

| | |
|---|---|
| The 9 faster sellers (includes 6 heavily televised toys) | 29.5% |
| The 10 slower selling toys (includes 4 heavily televised toys) | 33.8% |
| 10 heavily televised toys (includes 6 faster sellers) | 18.8% |
| 9 nontelevised toys (includes 3 faster sellers) | 41.6% |

*As a percentage of average consumer selling price. Costs are based on manufacturer's lowest selling price.

between the best sellers and poorer sellers in Table 1.) In Table 4, the same nineteen toys are arrayed in two groups: first by sales velocity and then by weight of television expenditure.

Again it is confirmed that the margin differential between televised and nontelevised toys is around 25 percentage points and is materially larger than the margin spread based on differences in popularity. From this it can be concluded that in the toy business the power of television to create product identity contributes more to lowering distribution margins than its power to create consumer demand.

### Insights from Studying Product Categories

Interviews with trade buyers in both Canada and the United States revealed an almost 1:1 inverse relationship between the degree of television advertising and average markup within a category. Games, dolls, toy racing cars, and preschool items get the bulk of television dollars and show the smallest margins. At the other extreme are plush toys, educational and scientific toys, toy musical instruments, arts and crafts, and children's furniture. These segments are characterized by high markup and virtually no television promotion.

Margins in televised categories are lower not simply because the advertised items are marked up less, but because the nonadvertised items in these categories are retailed at a 5% to 10% slimmer markup than other nonadvertised toys. A study of markups in a leading Canadian mail order catalog last Christmas illustrates these margin characteristics. Margins in two heavily advertised categories, games and dolls, averaged around 12% for the televised toys and 41½% for the unadvertised brands. In two nontelevised categories, toy musical instruments and plush animals, margins averaged around 48%.

The nonadvertised competition within televised categories is not ordinarily provided by private labels, but by so-called "knock-offs"—lower-priced, higher-markup, and generally lower-quality imitations of the most demanded toys, which are

usually produced in the Orient. The speed and ease with which knock-off manufacturers can imitate a successful new product acts to inhibit the domestic maker from overpricing his next year's television entry.

Actually, television has lowered the aggregate industry distribution margin by invading successive categories of previously unadvertised merchandise. For a recent example, until the late 1960s the important preschool category was an unadvertised and high markup segment. Then the two dominant firms, Fisher Price and Playskool, began televising. Severe discounting of the advertised brands ensued. Retailers now complain that they often have to sell the most popular "big ticket" Fisher Price toys below cost.[15] Meanwhile, makers of nonadvertised merchandise agree that dealers have had to trim markups on their items to move them from a gondola of preschool toys which is also loaded with the nationally recognized brands.

### What Happens if the Television Stops?

The evidence presented demonstrates that a relatively small expenditure (about 3½% of manufacturers' sales) on television advertising has a very large multiplier effect on the level of consumer toy prices. It is also maintained that a severe curtailment or removal of television advertising will lead to an unraveling of the entire toy marketing revolution and the benefits it has brought.

There have been instances where, for various reasons, television advertising has been withdrawn from a category. This affords the fascinating opportunity of running the film in reverse. A spectacular example occurred in the toy gun field.

In 1964, guns represented an important 5% of toy sales.[16] All manner of ingenious new toy weapons were introduced yearly. Guns were one of the heaviest televised categories; they received massive newspaper lineage; trade markups were slim. As a consequence of the Vietnam war, out of either conviction or fear of criticism by anti-war-toy groups, toy manufacturers stopped televising guns, and retailers ceased featuring them in ads. Although guns, especially western and other nonmilitary styles, still sell in reasonable quantities, individual gun items no longer appear on best seller lists.

Innovation at the manufacturer's level has almost stopped. Retailers report both that their cost for toy guns has advanced and that their own markups have fattened. The former occurred because there were fewer competitive makers, and guns were produced in smaller quantity. The latter because, without television and newspaper advertising, there are virtually no demanded or identifiable items, so the retailer has little to gain from sharp prices and little to fear from inflated ones.

As expressed by a large chain store buyer, "our competition isn't making any noise about toy guns either, so we can keep our prices up."[17] These same results will undoubtedly attend the removal of advertising and promotion from behind any toy category, or toys as a whole.

## Conclusion

This article has described the process by which advertising lowers consumer prices and has developed a theory to explain why this occurs in strongly advertised industries whose goods are sold through the general retail trade.

Traditionally, advertising has been analyzed almost exclusively in terms of its effect on manufacturers' selling prices. This effect is believed to be modest compared to advertising's impact on distribution margins. Here, in conjunction with mass merchandising, advertising has slashed markups on advertised brands and reduced them on competing nonadvertised products as well, bringing lower prices to the consumer.

15. Fred Lifschultz, Prober & Pelta Wholesalers, *Toy and Hobby World*, Vol. 11 (January 15, 1973).

16. A. J. Wood Company, "Toy Buying In The United States," a survey commissioned by the Toy Manufacturers of America.

17. "Toy Guns Are Still Popping," *Toys Magazine*, Vol. 71 (May 1972).

**UNITED STATES OF AMERICA**
**BEFORE FEDERAL TRADE COMMISSION**

| | |
|---|---|
| In the Matter of<br><br>POLYGRAM HOLDING, INC.,<br>a corporation,<br><br>DECCA MUSIC GROUP LIMITED,<br>a corporation,<br><br>UMG RECORDINGS, INC.,<br>a corporation,<br><br>and<br><br>UNIVERSAL MUSIC & VIDEO<br>DISTRIBUTION CORP.,<br>a corporation. | Docket No. 9298 |

**COMPLAINT COUNSEL'S FINDINGS OF FACT, CONCLUSIONS OF LAW, ORDER AND MEMORANDUM OF LAW IN SUPPORT THEREOF**

**APPENDIX B:**
**UNPUBLISHED MATERIALS CITED IN MEMORANDUM OF LAW IN SUPPORT COMPLAINT COUNSEL'S FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER**

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## APPENDIX A

## LIST OF MATERIALS REVIEWED OR RELIED UPON

1. Complaint, *Federal Trade Commission v. Polygram Holding, Inc., Decca Music Group Limited, and Universal Music & Video Distribution Corp.*, Docket No. 9298, dated July 13, 2001

2. Answer of Respondents Polygram Holding, Inc., Decca Music Group LTD, UMG Recordings, Inc and Universal Music & Video Distribution Corp. to the Commission's Complaint. Docket No. 9298, dated August 22, 2001.

3. Statement of Commissioner Mozelle W. Thompson, Workers' Compensation, Inc., File No. 001-0231

4. Federal Trade Commission. Analysis of Proposed Consent Order to Aid Public Comment

5. Transcript of Deposition of Paul Saintilan, taken November 6, 2001

6. Transcript of Deposition of Stephen Greene, taken November 19, 2001

7. Transcript of Deposition of Chris Roberts, taken October 31, and November 1, 2001

8. Transcript of Deposition of Kevin Gore, taken October 30, 2001

9. White Paper submitted by Universal Music Group in Connection with Federal Trade Commission, FTC File No. 001-0231, dated March 15, 2001, and Appendix of Exhibits Thereof

10. White Paper submitted by Warner Music Group / Universal Music Group to Federal Trade Commission, FTC File No. 001-0231, dated March 15, 2001

11. Expert Report of Dr. Stephen Stockum, dated November 14, 2001

12. Expert Report of Catherine Moore, dated November 14, 2001

13. Federal Trade Commission and U.S. Department of Justice, Guidelines for Collaborations Among Competitors

14. LEXIS printouts of Media Coverage of The Three Tenors during Summer of 1998

No. 83-271

# In the Supreme Court of the United States

OCTOBER TERM, 1983

NATIONAL COLLEGIATE ATHLETIC ASSOCIATION, PETITIONER

v.

BOARD OF REGENTS OF THE UNIVERSITY OF OKLAHOMA AND UNIVERSITY OF GEORGIA ATHLETIC ASSOCIATION

*ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT*

## BRIEF FOR THE UNITED STATES AS AMICUS CURIAE IN SUPPORT OF AFFIRMANCE


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OGC BRIEFS

## QUESTIONS PRESENTED

The National Collegiate Athletic Association (NCAA) is a joint venture of colleges that establishes rules and regulations governing a variety of intercollegiate athletic events. Membership in the NCAA is a prerequisite for participation in a broad intercollegiate athletic program, and membership is conditioned on adherence to the organization's rules. The particular rules at issue in this case provide that the NCAA will act as the selling agent for the television rights to in-season intercollegiate football games in a manner that prevents the individual schools from selling telecasts outside of the NCAA package. The questions presented are:

1. Whether these television restrictions constitute per se illegal price fixing.

2. Whether the television restrictions violate the Sherman Act when judged under the rule of reason. This issue involves the following subsidiary questions:

a. Whether the lower courts applied the proper legal standards in requiring petitioner to show that legitimate justifications exist to outweigh the anticompetitive effects of the television restraints.

b. Whether the district court committed clear error in defining the relevant product market in which to assess the anticompetitive restraint.

c. Whether the fact that the three television networks compete for the NCAA television package negates the anticompetitive effects of the television restrictions.

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2 P. Areeda & D. Turner, *Antitrust Law* (1978) ..... 20
Austin, *Real Estate Boards and Multiple Listing Systems as Restraints of Trade*, 70 Colum. L. Rev. 1325 (1970) ..... 11

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Blecher & Daniels, *Professional Sports and the "Single Entity" Defense Under Section One of the Sherman Act*, 4 Whittier L. Rev. 217 (1982) .. 14, 15
Bodner, *Antitrust Restrictions on Trade Association Membership and Participation*, 54 A.B.A. J. 27 (1968) .... 11
R. Bork, *The Antitrust Paradox* (1978) ....4, 8, 10, 18, 26
Bradley, *Joint Ventures and Antitrust Policy*, 95 Harv. L. Rev. 1523 (1982) .... 11
Closius, *Not at the Behest of Nonlabor Groups: A Revised Prognosis for a Maturing Sports Industry*, 24 B.C.L. Rev. 341 (1983) .... 15
R. Dorfman, *Prices and Markets* (3d ed. 1978) .... 18
Kurlantzick, *Thoughts on Professional Sports and the Antitrust Laws:* Los Angeles Memorial Coliseum v. National Football League, 15 Conn. L. Rev. 183 (1983) .... 15
*Michigan State Medical Society*, [1979-1983 Transfer Binder] Trade Reg. Rep. (CCH) ¶ 21,991 (Feb. 17, 1983) .... 9
R. Posner, *Antitrust Law: An Economic Perspective* (1976) .... 6, 16
R. Posner & F. Easterbrook, *Antitrust* (2d ed. 1981) .... 20
L. Sullivan, *Antitrust* (1977) .... 4, 5, 7

# In the Supreme Court of the United States

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*ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT*

## BRIEF FOR THE UNITED STATES AS AMICUS CURIAE IN SUPPORT OF AFFIRMANCE

### INTEREST OF THE UNITED STATES

The United States and the Federal Trade Commission, which have primary responsibility for the preservation and promotion of competition through enforcement of the federal antitrust laws, have a substantial interest in ensuring that those laws are interpreted and applied in a manner that promotes competition and consumer welfare. Because of the importance of the issues raised by this case, the United States filed an amicus brief before the Tenth Circuit. Subsequently, at Justice White's invitation, the United States filed a memorandum in this Court concerning the application for a stay (Resp. App. 1A-5A).

### INTRODUCTION AND SUMMARY OF ARGUMENT

1. The National Collegiate Athletic Association (NCAA) has developed a Television Plan and Principles of Negotiation and has entered into contracts with three television networks (CBS, ABC, and Turner Broadcasting) as the sole seller of televised in-season collegiate football games (Pet. App. 44a-45a, 47a). The contracts

limit the number of times a member institution may have its games televised and effectively establish the price that each nationally and regionally televised team will receive (Pet. App. 56a, 58a, 64a; Tr. 826, 842-885, 877-878). Except for differences in payment between national and regional telecasts, the amount that a team receives does not vary with the size of the viewing audience, the number of markets in which the game is broadcast, or the popularity or caliber of the teams (Pet. App. 7a & n.5, 60a; Tr. 86-96, 100, 104, 106). In addition, the NCAA prohibits its members from independently negotiating for broadcast of individual games; violations of this rule subject member institutions to sanctions such as expulsion from the organization and bans against appearing on television in a game against another NCAA member (Pet. App. 28a-29a; Tr. 15-16, 54, 115).[1]

Both the district court and the court of appeals held that this television plan is a per se violation of the Sherman Act. Alternatively, both courts also found that the conduct is unlawful under the rule of reason.

2. In order properly to assess the conduct at issue, it is necessary to understand the role of the per se standard in antitrust analysis. The ultimate question in any case of concerted action is whether the conduct unreasonably restrains competition. And the usual mode of evaluation is the rule of reason. The Court has, however, recognized that certain forms of behavior are so inherently anticompetitive that, after the courts have sufficient experience with them, they are deemed unreasonable per se and subject to condemnation without extended inquiry into their purpose or competitive effect. Other forms of conduct, while facially suspect, may in fact promote competition and thus require additional scrutiny to see if their purported economic justifications outweigh the potential for competitive harm.

[1] While agreements covering the telecasting of some professional sports are exempt from the antitrust laws (15 U.S.C. 1291 *et seq.*), Congress has created no such immunity for college football.





The conduct at issue in this case is not of a type with which the courts have had substantial experience and does not involve a naked restraint imposed by competitors who have no legitimate cooperative relationship with one another. Accordingly, per *se* condemnation is not warranted.

3. The conclusion that the NCAA's conduct is not unreasonable per se does not end the case. Rather, the televison arrangements must be evaluated to determine whether the asserted justifications may excuse the facially suspect impact on price and output their restrictions entail. This inquiry need not, however, involve "full-blown" scrutiny of all aspects of the conduct. The rule of reason is a flexible standard that can be fitted to the conduct and defense justifications in particular cases. Just as the Court has established an abbreviated analysis of reasonableness under the per se standard, a similar, but less truncated, version of the rule of reason may suffice where the justifications presented, although plausible, are rejected after further scrutiny.

4. Both lower courts addressed petitioner's proffered defenses and concluded that the conduct constituted an unreasonable restraint of trade. The factual findings upon which this conclusion is based are not clearly erroneous and, in our view, provide a sufficient foundation for holding that Section 1 of the Sherman Act, 15 U.S.C. 1, has been violated. Petitioner's defenses include claims that (1) the television restrictions are necessary to maintain competitive balance between teams; (2) uncontrolled telecasting would reduce live attendance at football games; and (3) competition is preserved because networks bid for the rights to televise an NCAA football "package." As we discuss, however, these arguments are unsupported by the record.

Based on the lower courts' findings of fact, there was ample basis for concluding that any benefits flowing from the television arrangements did not outweigh their anticompetitive effects. Accordingly, it was correct to hold that the NCAA's conduct unreasonably restrained trade, and the court of appeals' judgment should be affirmed on that basis.

## ARGUMENT

### I. THE NCAA TV RULES DO NOT CONSTITUTE PER SE ILLEGAL PRICE FIXING

#### A. The Role of the Per Se Standard in Antitrust Analysis

1. Although Section 1 of the Sherman Act, 15 U.S.C. 1, literally prohibits every agreement in restraint of trade, from the earliest cases this Court recognized that Congress could not have intended that the fullest scope be given to this language, for every business contract or agreement, to some extent, restrains trade. See, *e.g.*, *Standard Oil Co.* v. *United States*, 221 U.S. 1 (1911); *United States* v. *Joint Traffic Ass'n*, 171 U.S. 505, 568 (1898). Accordingly, this Court has long held that the Sherman Act precludes only those restraints that are "unreasonably restrictive of competitive conditions." *Standard Oil Co.* v. *United States*, 221 U.S. at 58; accord, *National Society of Professional Engineers* v. *United States*, 435 U.S. 679, 690 (1978). The unreasonableness of a restraint of trade must be established by either (1) evidence that the restraint is anticompetitive in the circumstances of the case (the rule of reason), or (2) a conclusive presumption of unreasonableness based on the general character of the challenged conduct (the per se rule). See *Professional Engineers*, 435 U.S. at 687-692; *Continental T.V., Inc.* v. *GTE Sylvania Inc.*, 433 U.S. 36, 49-50 (1977); *Northern Pacific Ry.* v. *United States*, 356 U.S. 1, 5 (1958). The rule of reason is the usual test of the legality of a restraint; the per se rule is employed only in those limited circumstances where courts, on the basis of considerable experience with the type of conduct challenged, have concluded that such conduct has a "pernicious effect on competition and * * * lack[s] * * * any redeeming virtue." *Northern Pacific Ry.*, 356 U.S. at 5; see *Broadcast Music, Inc.* v. *CBS*, 441 U.S. 1, 8 (1979).[2]

[2] The per se rule has been described as, in effect, "a special case of the rule of reason analysis." L. Sullivan, *Antitrust* 196 (1977); see *Professional Engineers*, 435 U.S. at 692; R. Bork, *The Antitrust Paradox* 18 (1978). The ultimate question—whether a restraint is unreasonable—remains the same whether it is answered by a conclusive presumption or by particularized evidence of effect on competition. Thus, the labels "per se" and "rule of reason" refer to the extent of scrutiny required to decide particular cases based on judicial experience with the conduct at issue and its potential for anticompetitive results. See, *e.g.*, *United States* v. *American Tobacco Co.*, 221 U.S. 106, 179 (1911).



In either event, "the purpose of the analysis is to form a judgment about the competitive significance" of the alleged restraint. *Professional Engineers*, 435 U.S. at 692.

Certain types of conduct, such as horizontal price-fixing or group boycotts,[3] are deemed to be naked restraints on competition that are inherently likely to enhance price or restrict output, while offering no competitive benefits. These restraints are, accordingly, regarded as illegal per se. But the availability of this label does not obviate the task of determining whether particular practices that may affect price or exclude competitors should be viewed as conduct of the type subject to automatic condemnation. For example, not all concerted conduct that may affect price has been deemed price fixing. See, *e.g.*, *Cement Mfrs. Protective Ass'n* v. *United States*, 268 U.S. 588 (1925); *Joint Traffic*, 171 U.S. at 567-568.[4] Indeed, this Court has held that the mere fact that two parties have "literally" fixed the price of goods they sell does not neces-

[3] On several occasions this Court has stated that group boycotts are per se illegal (see *e.g.*, *Northern Pacific Ry.*, 356 U.S. at 5, and cases cited therein). Nevertheless, not all cases that could be characterized as group boycotts have been struck down on this basis. Rather, the per se rule has been applied only to narrower classes of concerted exclusionary activities whose clearly pernicious market effects warrant automatic condemnation (see L. Sullivan, *supra*, § 90). The classic boycott to which the courts have applied the per se rule "constitute[s] efforts by a firm or firms at one level to drive out competitors by either directly denying or persuading or coercing suppliers or customers to deny relationships the competitors need in the competitive struggle" (*id.* § 92, at 261-262).

[4] Thus, the legality of information exchanges and product standardization practices has been examined under the rule of reason because of judicial recognition that such practices have significant procompetitive potential in certain circumstances. See *Maple Flooring Mfrs. Ass'n* v. *United States*, 268 U.S. 563 (1925); *cf.* *United States* v. *Container Corp. of America*, 393 U.S. 333 (1969).

sarily result in a finding of per se illegality. *Broadcast Music*, 441 U.S. at 9. To determine whether the challenged conduct is properly characterized as "per se price fixing" (*id.* at 19-20 (footnote omitted; citation omitted)):

> [the] inquiry must focus on whether the effect and * * * the purpose of the practice are to threaten the proper operation of our predominantly free-market economy—that is, whether the practice facially appears to be one that would always or almost always tend to restrict competition and decrease output * * *, or instead one designed to "increase economic efficiency and render markets more, rather than less, competitive."

Accordingly, when defendants proffer plausible justification for a horizontal combination, claiming that the arrangement as a whole "'increase[s] * * * efficiency and render[s] markets more, rather than less, competitive'" (*id.* at 20 (citation omitted)), the mere fact that prices are in some sense "fixed" or that competitors may be excluded[5] does not automatically resolve the question of legality under the Sherman Act.

2. The terminology of "per se" and "rule of reason" analysis has led to a common misconception: that conduct necessarily falls either into the category subject to automatic condemnation or into the category where all aspects of the conduct and its context (*e.g.*, market definition, market power, intent, and competitive effect) must be exhaustively scrutinized before its legality can be determined. The polarity of this approach has led to unfortunate consequences. Rule of reason cases have tended to become mired in laborious and time-consuming efforts to quantify and evaluate conduct. As a result, such cases have become needlessly protracted. The drain on judicial resources this entails creates a countervailing pressure in the lower courts to avoid that analysis by fitting into the narr[illegible] per se category all conduct that could conceivably be characterized as such. The danger in those instances is that conduct that is, or may be, procompetitive will categorically be barred, to the detriment of consumers and the economy.

It is our submission that antitrust analysis is not restricted to these two extremes, a per se category that precludes an examination of actual effects, and an elaborate, "full-blown" category that requires precise measurement of markets and market power. Rather, as this Court's decisions in *Broadcast Music* and *Arizona* v. *Maricopa County Medical Society*, 457 U.S. 332 (1982), suggest, there is some middle ground in the continuum of antitrust analysis. Often a restraint can escape per se condemnation and yet be judged unreasonable without a full evaluation of its precise effects in the marketplace. For example, the market power of a combination may be so obvious that no elaborate evaluation is needed and rule of reason analysis may therefore be "truncated."[6]

Similarly, where conduct is facially suspect because it tends to restrict the output of collaborators by its very nature, and a limited examination of the proffered justifi-

[5] Many membership organizations attempt to regulate certain aspects of the behavior of their members through the sanction of expulsion. The courts, however, have never held that a group's authority to expel its members renders the group structure tantamount to a group boycott and thus per se unlawful. The expulsion sanction is merely an enforcement vehicle for the underlying rules and policies of the group. Thus, the important issue is the competitive reasonableness of the underlying rules (here, the NCAA's television controls), not the existence of sanctions for their violation. See, *e.g.*, *Molinas* v. *NBA*, 190 F. Supp. 241, 243-244 (S.D.N.Y. 1961); See also R. Posner, *Antitrust Law: An Economic Perspective* (1976).

[6] L. Sullivan, *supra*, at 192; see P. Areeda, *The "Rule of Reason" in Antitrust Analysis: General Issues* 37-38 (Federal Judicial Center June 1981) (*Areeda Monograph*); see generally *United States* v. *Realty Multi-List, Inc.*, 629 F.2d 1351 (5th Cir. 1980); *American Medical Ass'n*, 94 F.T.C. 701 (1979), aff'd, 638 F.2d 443 (2d Cir. 1980), aff'd by an equally divided Court, 455 U.S. 676 (1982).

The abbreviated rule of reason inquiry we describe in this brief is merely an application of this Court's own recognition that certain conduct may be held to be unreasonable in the absence of minute scrutiny. By carving out a "per se" category for restraints conclusively presumed to be unreasonable, the Court has approved an inquiry far more truncated than what we propose here. See note 2, *supra*.

cation indicates that it will produce little or no procompetitive effect, there is no need for a searching inquiry into likely or actual competitive effects. The "weighing" of competitive effects is simplified greatly—with no expected procompetitive effect to balance against the inherent anticompetitive effects, the restraint can be held to be unreasonable without precise measurement of its probable harm to competition.[7] In such a situation, it would be an unnecessary waste of judicial and private resources to require the plaintiff to prove the precise nature and amount of competitive injury.

As Professor Areeda has aptly noted (*Areeda Monograph* 37):

> That something is not unlawful per se does not always require refined fact finding or balancing; indeed, a particular defense may be rejected categorically or presumptively within the general ambit of a rule of reason.

The rule of reason does not, then, always require an elaborate and precise measurement of harm; in fact, it "can sometimes be applied in the twinkling of an eye" (*id.* at 38).[8]

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[7] Judge Bork has explained why inherently suspect conduct should be summarily condemned once it is clear that no efficiency will result from the challenged restraint (R. Bork, *supra*, at 369):

> There being no possibility of efficiency, nothing is lost to society by outlawing the agreement. If these parties were allowed to prove lack of market power, * * * [a] cartel in the steel industry could not be declared unlawful without a trial on the cross-elasticities of demand between steel, aluminum, copper, cement, wood, and so on. There would be no net gain from such trials. In fact, the only result would be to make the prosecution of output-restricting cartels much more difficult, rendering the law less effective.

Once a proffered efficiency justification is rejected, Judge Bork would call the restraint "naked" and therefore per se illegal. Although we believe it is more precise to say that a truncated form of rule of reason analysis is being applied, the economic and policy analysis is identical whatever label is used.

[8] The Federal Trade Commission has also recognized that "the contours of the analysis required under the rule of reason will vary somewhat depending upon the nature of the restraint." *American Medical Ass'n*, 94 F.T.C. 701, 1004 (1979), aff'd, 638 F.2d 443 (2d Cir. 1980), aff'd by an equally divided Court, 455 U.S. 676 (1982). "Where horizontal arrangements * * * closely relate to prices * * *, a less elaborate analysis of competitive effects is required." *Michigan State Medical Society*, [1979-1983 Transfer Binder] Trade Reg. Rep. (CCH) ¶ 21,991, at 22,461 (Feb. 17, 1983).



In *Broadcast Music*, this Court provided an analytical framework for evaluating concerted activity. The Court posed two central questions in attempting to characterize the blanket copyright licenses challenged there: first, is the practice "'plainly anticompetitive'" (441 U.S. at 8 (citation omitted)) in that it "facially appears to be one that would always or almost always tend to restrict competition and decrease output?" (*id.* at 19-20). And, second, is the practice "designed to 'increase economic efficiency and render markets more rather than less competitive'?" (*id.* at 20 (citation omitted)).

With those two questions, *Broadcast Music* sharply focused the characterization process: courts should first ask whether challenged conduct is likely, absent an efficiency justification,[9] to lead to the restriction of output, for such conduct is inherently suspect. Where output restriction does appear likely, we must ask whether there is a plausible efficiency justification for the practice, *i.e.*, is there reason to believe that the restraint may nonetheless have significant efficiency benefits and therefore enhance competition and output. In the event that there is no plausible efficiency justification, the suspect practice is per se illegal because there are no possible procompetitive effects to offset its inherent tendency to reduce output and thereby injure competition and consumer welfare. See *Catalano, Inc.* v. *Target Sales, Inc.*, 446 U.S. 643 (1980).

But, in cases where the participants raise a plausible efficiency justification for conduct that is facially sus-

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[9] An efficiency justification exists if the challenged restraint increases the quantity or quality, or reduces the cost, of overall output—*e.g.* by creating a new product, improving the operation of a market, or reducing production or marketing costs—and is reasonably necessary to achieve such efficiencies.

pect, per se characterization is inappropriate, because more scrutiny is needed to evaluate the restraint's overall competitive effect. It may be that further examination will show that the proffered efficiency justification should be rejected; in that event, the conduct can still be condemned as unreasonable without completing a "full" rule of reason analysis that includes market definition and market power determinations. On the other hand, if efficiency benefits are shown to be likely, a more elaborate rule of reason inquiry is called for, with a thorough analysis of market power, in order to determine whether the practice is, on balance, harmful or beneficial.

It will, of course, be easier in some instances than in others to determine whether there is merit to a proffered efficiency justification for suspect conduct. Some agreements will clearly be "naked restraints" with no purpose except stifling competition, and will have no efficiency justification, or the justification offered may be clearly untrue, frivolous or de minimis. Similarly, an "efficiency" argument can be summarily rejected if it is not based on an enhancement of competition, but instead argues that the particular characteristics of an industry require a lessening of competition in order to promote trade or some other public value. Even if such a claim is couched in terms of "efficiency," it is not a cognizable antitrust defense. *Professional Engineers*, 435 U.S. at 689.

The assessment of an efficiency explanation will often be more difficult when, as in this case, the collaborators are engaged in a form of productive economic integration. Nevertheless, it is not enough that a restraint *accompanies* an otherwise legitimate cooperative activity (such as the creation of a new product, or operation of a market exchange). A restraint that appears inherently likely to restrict output or enhance price can be justified as an efficiency only if it is also "capable of increasing the effectiveness of that co-operation and no broader than *necessary* for that purpose." R. Bork, *supra*, at 279 (emphasis added).[10]

[10] Accordingly, the analysis in *Broadcast Music* did not end when this Court noted that the blanket license and fixed prices "accom-



Thus, even if the challenged conduct is that of a cooperative joint venture that legitimately integrates certain production or marketing functions, this does not mean that the conduct can never be condemned as unlawful without extensive inquiry into its actual competitive effects. The nature of the joint venture's conduct—and not merely its designation as a joint venture—is determinative.[11] See, generally, Brodley, *Joint Ventures and Antitrust Policy*, 95 Harv. L. Rev. 1523 (1982). If a limited examination reveals that its principal purpose or effect is to stabilize prices or restrict output of products previously sold by the venturers independently, or that the procompetitive integrative functions of the joint venture are not dependent on the challenged restrictions, its restrictive conduct should be struck down as unlawful under a truncated rule of reason analysis without further scrutiny.[12]

pan[y] the integration of sales, monitoring, and enforcement against unauthorized copyright use" (441 U.S. at 20). Instead, the Court went on to emphasize that a "middleman with a blanket license was an obvious necessity" in the industry (*ibid.*), and that "a bulk license of some type is a necessary consequence of the integration necessary to achieve these efficiencies, and a necessary consequence of an aggregate license is that its price must be established" (*id.* at 21).

[11] It is well-established that anticompetitive rules or practices of a voluntary membership association are subject to the antitrust laws where a "valuable service germane to petitioners' business and important to their effective competition with others [is] withheld from them by collective action." *Silver* v. *New York Exchange*, 373 U.S. 341, 348-349 n.5 (1963). See *Associated Press* v. *United States*, 326 U.S. 1 (1945); *United States* v. *Realty Multi-List, Inc.*, 629 F.2d 1351, 1373-1374 (5th Cir. 1980); Bodner, *Antitrust Restrictions on Trade Association Membership and Participation*, 54 A.B.A. J. 27, 28 (1968); Austin, *Real Estate Boards and Multiple Listing Systems as Restraints of Trade*, 70 Colum. L. Rev. 1325, 1345-1346 (1970). Although membership in the NCAA is "voluntary" in that a member can withdraw at any time, membership is essential for any school that wishes to engage in intercollegiate athletics, *i.e.*, to have a well-rounded sports program, to recruit quality athletes, and to compete in national championships. Pet. App. 53a-54a, 101a-102a; Tr. 125, 294-297, 335-336.

[12] See *Maricopa*, 457 U.S. at 352. Although *Maricopa* does not explicitly adopt the analytical framework outlined above, the de-

This does not mean, of course, that plaintiffs and courts can merely second-guess those participating in an otherwise legitimate enterprise, and invalidate any restraint that is not the "least restrictive" imaginable or practicable. Like many antitrust questions, whether a restraint is "reasonably related" or "reasonably necessary" to procompetitive collaboration requires a court to exercise its judgment, but, as was true here, courts have proven to be quite capable of making those judgments. See *Areeda Monograph* 8-10; pages 20-30, *infra*.[13]

Where the practice at issue is shown to pose high anticompetitive risks because, on its face, it restricts output or restrains price competition, a court can and should address the above efficiency questions without conducting

cision is fully consistent with this framework and with the similar approach employed in *Broadcast Music*. The Court in *Maricopa* sought to analyze whether the challenged agreement might enhance competition significantly (457 U.S. at 351-354). In concluding it would not, the Court stressed that the insurance carriers, not the physicians, underwrote the health care plans and that it was not necessary for physicians to establish the fee schedules in order for the plans to function effectively (*id.* at 352); moreover, the Court clearly indicated that competitors who act jointly could avoid the per se price-fixing rule when they form "partnerships or other joint arrangements in which [they] * * * pool their capital and share the risks of loss" (*id.* at 356). Thus, given the facts of record, the outcome in *Maricopa* can be understood as reflecting a judgment that the joint setting of prices, a facially suspect practice, was not shown to be ancillary to any operational integration or other efficiency-enhancing arrangement that could justify avoidance of the per se rule. The joint fee schedule was not reasonably related to the doctors' peer review activities. Nor was it reasonably related to the "approved" health care coverage offered and underwritten by independent insurance carriers (rather than by the physicians, who were not joint venturers with the insurers and bore no financial risk). It was also clear that the insurers could have offered such plans without using fee schedules established by a physician group. Therefore, the respondents had not shown any efficiency justification for a facially suspect practice, and the Court declared it unreasonable per se.

[13] See, *e.g.*, *American Medical Ass'n* (medical society's ban on all advertising by physicians found to be overbroad, since goal of protecting patients from deception could be achieved directly by banning false and deceptive advertising).



a "full" rule of reason analysis of market definition and market power. *Broadcast Music*, 441 U.S. at 19 n.33. If at any point it becomes clear that the collaborators have no viable, significant efficiency justification, a facially suspect restraint can be condemned without further inquiry.

### B. The Court of Appeals Should Not Have Condemned the NCAA's Conduct as Per Se Unlawful

Applying this analysis to the present case, the NCAA's televison controls should not be invalidated under the per se rule. Even though the conduct facially appears to restrict output, NCAA has offered plausible efficiency justifications that must be weighed. The court of appeals found that petitioner's conduct constituted price fixing and was illegal per se because it restricted output and manipulated price (Pet. App. 6a-7a).[14] It rejected NCAA defenses to the per se rule, finding that the restraints did not promote efficiencies in legitimate rulemaking functions, and were unnecessary to achieve the joint marketing of a more competitive product (Pet. App. 13a).[15]

[14] The court noted two aspects of "price-fixing": First, a single price is set for the entire football television package. Second, every national and regional game in the package commands the identical price: more prominent, better quality teams and more widely viewed games cannot garner higher prices; less popular teams cannot offer lower prices to make their games attractive to broadcasters. The court of appeals found that, while this latter distribution of revenues "distort[s] * * * free market forces" it does not in the aggregate constitute price enhancement, *i.e.*, "price-fixing" (Pet. App. 7a n.5).

[15] The court rejected the contention (Pet. App. 10a) that the plan increases output by promoting live attendance at the stadium. It specifically noted the district court's rejection of the claim that the plan enhances live viewership (Pet. App. 10a n.8), and did not quarrel with that finding. It noted that total viewership—including television and live audiences—was not necessarily increased, and that the reduced availability of desirable options for football viewers suggested inefficiencies rather than competitive benefits. The court also rejected the argument that the restraint promotes competitive balance. As a noneconomic justification, the court deemed it irrelevant. In any event, it concluded that balance could be achieved by less restrictive means (Pet. App. 11a; see *id.* at 10a n.7).

In our view, however, this case does not warrant per se treatment. It does not involve conduct of a type with which the courts have substantial experience, such as straightforward price fixing by competitors (see *Broadcast Music*, 441 U.S. at 9-10, 19 & n.33). Nor does it involve a naked restraint imposed by competitors who have no legitimate cooperative relationship with one another. See Blecher & Daniels, *Professional Sports and the "Single Entity" Defense Under Section One of the Sherman Act*, 4 Whittier L. Rev. 217, 237 (1982). The NCAA has shown (and respondents do not deny) that a certain amount of cooperation between the colleges is necessary and that some form of regulation is desirable, and probably necessary, for the organization and preservation of amateur intercollegiate athletics (Pet. App. 6a, 9a).

In essence, the NCAA argues that its challenged conduct enables the joint venture to offer a new product—ordinarily a procompetitive activity (Pet. 15-17). It describes itself as a rulemaking and promotional association, like a trade association engaging in permissible regulatory behavior (Pet. 2). It also describes itself as a joint selling agency for its member institutions who have agreed to transfer to it the sole authority to negotiate the sale of their output, *i.e.*, the right to broadcast the games in which they compete (Pet. 3, 8). Generally, such joint selling agencies are not subject to per se condemnation; rather, at least a limited scrutiny of the effect of the restrictions is appropriate. See, *e.g.*, *Broadcast Music*, *supra*. Indeed, while the court of appeals held the current "exclusive control" of television rights unlawful, it reserved decision on whether television "rights may be [otherwise] commonly regulated" (Pet. App. 27a). Such reservations "tend to impeach the *per se* basis for the holding of liability." *Broadcast Music*, 441 U.S. at 17 & n.27.[14] Where an agreement's "competitive effect can only

[14] Because the success of a sports league requires some sort of economic joint venture—no team can engage in a competitive sport by itself—the courts and commentators generally deem it advisable to eschew per se condemnation and evaluate regulations



be evaluated by analyzing the facts peculiar to the business, the history of the restraint, and the reasons why it was imposed" it is properly evaluated under a rule of reason rather than treated as unreasonable per se. *Professional Engineers*, 435 U.S. at 692; see *White Motor Co. v. United States*, 372 U.S. 253 (1963).

## II. THE COURT OF APPEALS CORRECTLY HELD THAT THE NCAA TELEVISION PLAN IS UNLAWFUL UNDER THE RULE OF REASON

Although petitioner's conduct is not unreasonable per se, it is facially suspect for the reasons stated by the lower courts. Both courts below made alternative findings that the challenged conduct was unduly restrictive under a rule of reason analysis. We believe that their factual findings support, under the analytical framework discussed above, the conclusion that the challenged conduct unreasonably restrained competition. Accordingly, the judgment below should be affirmed.

After a full trial, the district court concluded, and the court of appeals agreed, that the NCAA's controls appear on their face to be the type of restraints that would tend to reduce output and limit the choices available to buyers. It is clear, and both courts below found, that absent these controls the amount of such broadcasting would be much greater, the televised games would better coincide with consumer preferences, and payments received would vary considerably to reflect anticipated viewer interest in each particular football match-up.

of such leagues under the rule of reason. See, *e.g.*, *Smith v. Pro Football, Inc.*, 593 F.2d 1173, 1180-1181 (D.C. Cir. 1978); *Mackey v. NFL*, 543 F.2d 606, 618-620 (8th Cir. 1976), cert. dismissed, 434 U.S. 801 (1977); *Los Angeles Memorial Coliseum Commission v. NFL*, 484 F. Supp. 1274, 1276 (C.D. Cal. 1980), rev'd on other grounds, 634 F.2d 1197 (9th Cir. 1980); *Kapp v. NFL*, 390 F. Supp. 73, 80-81 (N.D. Cal. 1974), aff'd, 586 F.2d 644 (9th Cir. 1978), cert. denied, 441 U.S. 907 (1979); Blecher & Daniels, *supra*, at 238; Cicalus, *Not at the Behest of Nonlabor Groups: A Revised Prognosis for a Maturing Sports Industry*, 24 B.C.L. Rev. 341, 345 (1983); Kurlantzick, *Thoughts on Professional Sports and the Antitrust Laws: Los Angeles Memorial Coliseum v. National Football League*, 15 Conn. L. Rev. 183, 192 (1983).

Once the plaintiffs established the high anticompetitive potential of the challenged conduct, the burden of coming forward with countervailing evidence of an efficiency justification was placed on the defendant. The district court made a series of factual findings, which were not clearly erroneous, that the restraints were unlikely to enhance the efficiency of NCAA's legitimate rulemaking and promotional activities because: (1) petitioner's defense amounted to a claim that competition had to be restricted in this way for the market to operate properly, an argument not cognizable under the antitrust laws (see *Professional Engineers*, 435 U.S. at 689); and (2) there was little or no evidence to support a conclusion that efficiency would be enhanced by the controls, while there was persuasive evidence to the contrary.[11]

[11] This conclusion is clearly correct. For example, in arguing that its broadcast rules contribute to legitimate NCAA promotional efforts, petitioner asserts that the rules are necessary to overcome free-riding problems and thereby motivate networks to promote NCAA football broadcasts. There appears to be no merit to this free-rider argument. First, there is no reason to believe that a network would not adequately promote its own NCAA football broadcasts either because other games might also be televised on other networks or because it is not guaranteed an entire series of games. Networks vigorously promote particular situation comedies, soap operas, adventure series, movies, college basketball games, and major sports events, even though other networks have similar programming. There appears to be no lack of promotion and resultant decrease in output because networks fear free-riding by their competitors. Indeed, since the NCAA now contracts with more than one network, as well as with a cable firm, for the broadcasting of college football games, it apparently no longer believes that exclusivity is needed to achieve adequate promotion.

Second, many viewers are not interested in seeing just any NCAA football game—they want to know which game is being presented. When a network announces that it will show a particular, desirable game, other networks cannot free-ride in any significant way, because they will not be showing the same game. Free-riding succeeds only for products with identical characteristics. See R. Posner, *supra*, at 149-150. Similarly, there has been no showing and there is no reason to believe that the NCAA "brand" is what attracts viewers to a particular game. The common sense of the matter is that viewers are more attracted by the reputation of the particular teams, by local interest, or by conference rivalries, than by the NCAA label—especially since virtually all televised college football games involve NCAA schools.

Finally, while it may indeed be true that a network is more motivated to promote the NCAA when it has rights to a series of games over the entire season (as opposed to sporadic rights to individual games), no one is challenging here the right to offer a series contract. As with other arguments made by petitioner, a justification that warrants the offering of a season-long contract does not explain or justify the need for exclusivity. Even if free-riding somehow made it desirable to offer networks an entire series of games, the NCAA has suggested no basis for concluding that free-riding justifies exclusive contracting rights and the prohibition of individual negotiations by member schools or conferences.



On these findings, the lower courts could have determined, without an elaborate inquiry into market power or actual anticompetitive effects, that the NCAA's exclusionary policies violated the Sherman Act under the rule of reason. We develop the application of this analysis to this case more fully below.

### A. The District Court Correctly Held That Plaintiffs Satisfied Their Burden of Showing the Significantly Anticompetitive Potential of the NCAA's Conduct

In the present case, the NCAA's member colleges have agreed not to compete in the sale of television rights. Independent decisionmaking by the colleges has been replaced by a joint venture, which acts as exclusive selling agent. The record contains evidence supporting the district court's finding that "many more games would be televised in a free market than are televised under NCAA controls" (Pet. App. 91a; Tr. 252-253, 537-539, 859-860, 1093-1007, 1305), and the court of appeals specifically endorsed this finding (Pet. App. 14a). Indeed, the district court found that the very purpose of the NCAA's policy was to limit individual members' sales (Pet. App. 66a-67a). The NCAA's football television policy also artificially suppressed product diversity by restricting the opportunity for regional or local broadcasts of individual college games of local interest, and deprived consumers (viewers) of their choice of games by limiting the number of television appearances by individual

teams. The evidence showed that these restrictions reduced the opportunity for many smaller schools to appear on television (either locally or regionally) (Tr. 252-253, 537-539), and reduced the opportunities for the major football schools to appear (either on national or regional broadcasts) as frequently as consumer demand would dictate (Tr. 370-371, 856-857).[14]

In an attempt to minimize the significance of the competitive distortions resulting from its television policy, the NCAA contends that it lacks market power in the market for television programming because advertisers can use other programming to reach their desired audiences (Pet. Br. 30-46).

As indicated, pages 7-10, *supra*, where the challenged conduct would, on its face, appear directly to restrict output or fix prices, courts may, without undertaking precise market power analysis of the type required in monopolization and merger cases, require the defendant to justify the challenged conduct in terms of its procompetitive potential. See *Professional Engineers*, 435 U.S. at 692; *American Medical Ass'n* v. *FTC*, 638 F.2d 443, 449-450 (2d Cir. 1980), aff'd by an equally divided Court, 455 U.S. 676 (1982). Here, however, the lower courts did not rely solely on the inherent anticompetitive potential of the challenged conduct. Instead, they concluded, on the basis of findings that are not clearly erroneous, that the NCAA had substantial power in the collegiate football television market. The NCAA seeks to refute that market power finding by claiming that "[t]here is simply no way in which the NCAA, by cutting back the output of games, can induce advertisers to part with an extra nickel." Pet. Br. 38; see also Pet. Br. 40. But the networks and, derivatively, the advertisers

[14] This type of collective suppression of product diversity can be as anticompetitive as collusive reductions in output. Such behavior interferes with consumer choice and can give rise to the same types of inefficiencies that are the ultimate concern of all antitrust prohibitions, *i.e.*, reduced output of desired products and increased consumption of less desired substitute products. See, *e.g.*, R. Dorfman, *Prices and Markets* 155-156 (3d ed. 1978); R. Bork, *supra*, at 98-101.



(see Pet. Br. 38) in fact do pay more for the exclusive NCAA contracts than they would pay if schools could sell rights outside the package as well. The exclusionary feature of the package allows the chosen few networks to deliver larger audiences to advertisers than would be the case if there were competing local or regional telecasts arranged by those schools that would sell their television rights to broadcasters but for the NCAA restraints (Pet. App. 67a; Tr. 1248).

Moreover, if college football telecasts actually were only an undifferentiated part of a large entertainment television market, there would be no need for the networks to seek an exclusive right to telecast the games. Such games would be subject to intense competition from other equally attractive forms of television entertainment. The fact that the networks seek, and obviously pay, to limit the amount of competition from other college football telecasts even though they face other forms of television competition, reflects their recognition that college football is indeed a distinct product in the eyes of a significant number of viewers. See also Tr. 256-257, 357-361. For this group of consumers, the NCAA's restraints on the variety and output of college football telecasts have significant anticompetitive effects. As NCAA's own expert testified, advertisers often want to reach different audiences with their advertising packages, and college football reaches an audience on Saturday afternoons that is not necessarily available at other times through other programming (Tr. 1284-1286, 1288, 1251, 1292). NCAA concedes that advertisers are willing to pay more for this audience (Pet. Br. 33).

There was no need for the respondents to establish monopoly power in any precisely defined market for television programming in order to prove the restraint unreasonable. Both lower courts found not only that NCAA has power over the market for intercollegiate sports, but also that in the market for television programming—no matter how broadly or narrowly the market is defined—the NCAA television restrictions have reduced output, subverted viewer choice, and distorted pricing. Conse-

quently, unless the controls have some countervailing procompetitive justification, they should be deemed unlawful regardless of whether petitioner has substantial market power over advertising dollars. While the "reasonableness" of a particular alleged restraint often depends on the market power of the parties involved, because a judgment about market power is the means by which the effects of the conduct on the market place can be assessed, market power is only one test of "reasonableness" (2 P. Areeda & D. Turner, *Antitrust Law* ¶ 500, at 321 (1978)). And where the anticompetitive effects of conduct can be ascertained through means short of extensive market analysis, and where no countervailing competitive virtues are evident, a lengthy analysis of market power is not necessary.[19]

**B. The Court of Appeals Properly Rejected Petitioner's Defenses**

The NCAA has argued that in the creation of the college football television rights, it functions as a joint venture, similar to the performing rights societies in *Broadcast Music* (Pet. 15). But the fact that the NCAA performs some legitimate joint venture activities serves only to begin the rule of reason inquiry, not to end it. In view of the suspect nature of its television restrictions, the NCAA had the burden of demonstrating a sufficiently strong relationship between the restraints and its productive activities.

The NCAA did in fact proffer several justifications, and the district court heard the evidence presented as to their validity. It then concluded not only that the NCAA had failed to carry its burden of proof, but also that plaintiffs' evidence was more convincing. The court of appeals was therefore correct in holding that there was sufficient record evidence to sustain the conclusion reached

[19] See R. Posner & F. Easterbrook, *Antitrust* 347 (2d ed. 1981) (noting in their chapter dealing with market definition and market power as an "Introduction to the 'Power Offenses'" that an analysis of market power is generally not required for practices, such as per se offenses under Section 1, which evidence no redeeming virtue).



by the district court, and there is no reason for this Court to overturn the factual findings on which the two lower courts agree. *United States* v. *Reliable Transfer Co.*, 421 U.S. 397, 401 n.2 (1975); *Berenyi* v. *Immigration Director*, 385 U.S. 630, 635 (1967).[20]

1. The NCAA claims that its television controls are necessary to maintain a competitive balance among the teams that play against one another on television (see, *e.g.*, Pet. Br. 20-22). It argues that the television package puts competing teams on a more equal footing and results in more evenly matched, hence more exciting, games; this, it is said, better enables college football to compete with other forms of television programming. There is little, if any, evidentiary support for this position, however.

... do not gainsay that the success of college football requires sufficient parity among competing teams to create some unpredictability as to the outcome of individual games. In fact, the NCAA has a number of rules that seek directly to promote competitive parity in college football. These rules limit the sizes of squads, the number of scholarships that may be offered, the number of practices that may be held, the sizes of coaching staffs, the numbers of years of eligibility, and minimum scholastic performance levels for obtaining and maintaining eligibility (Pet. App. 9a)—all without direct restrictions on output.

[20] In particular, we believe that the NCAA has failed to explain the necessity of its assuming the role of exclusive selling agent for the colleges, *i.e.*, how the product would be damaged if colleges were granted the right to contract independently with local stations for the broadcasting of individual games (see Pet. App. 70a). Indeed, the courts below noted this as a major distinction between the present case and *Broadcast Music*, in which, although the performing rights societies organized umbrella sales agreements, individual authors retained the power to sell the performing rights to their compositions on an individual basis (Pet. App. 14a, 98a). Even if it were found to be procompetitive for there to be a weekly NCAA "game of the week" on network television, that would not require that all schools whose games are not selected to be shown in any given week be prevented from selling their television rights to local, regional or national broadcasters.

The telecasting restrictions are, at best, an indirect means of promoting the parity that are the direct objective of other NCAA rules, and there is little support for the NCAA's contention that the television restrictions play a significant role in promoting competitive parity.[21] First, the restraints have not prevented the emergence of a "power elite" among the major football schools (Pet. App. 98a; cf. Pet. Br. 22 n.11), and yet that elite has not dominated the sport to the detriment of competition. Second, the NCAA has not imposed exclusivity restrictions on the telecasting of college basketball games, although competitive parity is presumably as important in basketball as it is in football (Pet. App. 47a-48a). The absence of such telecasting restrictions has not led to competitive imbalance in college basketball (Pet. App. 76a; Tr. 240-242). With this background, it is not surprising that witnesses testified, and the courts found, that a loosening of the NCAA's restrictions would result in the proliferation of televised football on the local and regional levels (Pet. App. 14a, 21a; Tr. 252-253, 537), with a concomitant increase of television income to those whose games are rarely broadcast under the current system.[22]

[21] There is no evidence that competitive parity throughout the entire NCAA Division I membership is necessary to provide football that consumers want. The NCAA itself recognizes the different caliber of football played by its members by dividing them into different classes, *e.g.*, I-A, I-AA, II and III. It is well known that there exist significant disparities among the qualitative levels of football played in different conferences, *e.g.*, compare the "Big Eight" to the "Ivy League." Nonetheless, there are many fans of "Ivy League" football. At best, there appears to be a need for some semblance of competitive parity within a conference, but the NCAA made no attempt to justify its national restrictions on television marketing on the basis of such intra-conference parity needs—needs that extend to non-televised as well as televised games.

[22] The apparent anomaly of the NCAA member schools' supporting a restrictive football telecasting policy that lessens the total income received for football telecast rights may be attributable to the fact that the current policy benefits financially those member schools that do not play football (approximately 300 schools, see Tr. 769), or football schools in Divisions II and III that are unaffected by the current restrictions (300 additional schools, Tr. 770). Although not directly affected by the rules, these members can control the voting.



The NCAA, of course, offered conflicting testimony. But as the district court noted, although various witnesses for the NCAA argued that the restrictions were necessary, none was able to articulate any credible reason why that was so (Pet. App. 70a).

2. The courts below also correctly rejected the NCAA's claim that uncontrolled telecasting would result in the reduction of live attendance at football games (cf. Pet. Br. 25-27). This argument stems from the notion that abridgement of competition in the telecasting of college football is necessary to maintain live attendance at games, which in turn is necessary to the success of college football. There is little evidentiary support for this two-tiered speculative claim. First, the predictions of harm caused by telecasting were not borne out by the evidence (Pet. App. 68a-70a, 10a n.8); moreover, the NCAA's own witnesses testified that, at best, television's impact on live attendance was "slight" or "small" (Tr. 954, 1049). Other witnesses testified to studies that showed no negative impact by television on live attendance (Tr. 320-321, 326-327; see also Tr. 817).[23] Indeed, the NCAA has steadily increased the number of games in its football package every time it has negotiated a new network package.

The most compelling reason to reject the NCAA's position is that it fails to present a valid efficiency argument. Even if we adopt petitioner's assumptions, there is no reason to believe the rules enhance efficiency; they merely prevent competition. Thus, the NCAA argues that the restrictions "increase live attendance at games by reducing the conflict between telecasting and live games" (Pet. Br. 25) and that the rules are needed to protect or raise revenues from live attendance (*ibid.*). All output restrictions are meant to enhance revenues or prices; anti-

[23] Although the court of appeals found "some evidence that supports the conclusion the plan enhances live viewership," it noted the district court's rejection of the argument and did not find it to be clearly erroneous (Pet. App. 10a & n.8).

trust law, however, allows collaborators in a productive joint venture to limit competition in order to protect each other's revenues only when a significant efficiency results. The NCAA has not demonstrated any such efficiency and none is apparent.

It appears, therefore, that the sole purpose of the rules imposed to protect the live gate is to prevent the price of tickets from falling due to competition from televised games. Without televised college football, schools are virtual monopolists or oligopolists in their localities in selling live college football. Televised games, however, turn schools that never competed for live audiences into potential or actual competitors for viewers. The NCAA wishes to prevent that "conflict" or competition from developing—because competition drives down the price of tickets at stadiums; to get the same number of people to the stadium, a school may have to lower its ticket prices when college football is also being shown on television. Preventing competition in order to preserve a monopoly position is hardly an efficiency goal.

The NCAA also argues, however, that it creates two products—attendance at stadiums and broadcast rights to college football games—and that efficiency or output is enhanced by preserving live gate attendance. An analogy may be useful to show that the underlying purpose is to restrict competition rather than enhance efficiency. Motion picture producers also produce a product that can be seen in two locations—in a theater and at home on a television set. If all major movie companies agreed, however, to limit the number of films they permit on television in order to preserve theater revenues (or if they agreed to allow none to be aired on weekend nights), we would scarcely say that they were increasing output or efficiency. Like the NCAA, the movie makers would be limiting output and competition in order to protect prices and revenues. The live gate argument, therefore, was properly rejected.[24]

[24] To the extent that the NCAA contends that its television restrictions are necessary to achieve laudable goals unrelated to promoting competition, *i.e.*, a sharing of the wealth provided by television, the defense is not cognizable under the antitrust laws (see Pet. App. 10a n.7). Indeed, it is precisely the type of defense rejected by this Court in *Professional Engineers*, 435 U.S. at 689-692.



3. The NCAA also suggests that its restrictions on the telecasting of football games makes possible various production cost savings and the creation of a "series" (Pet. Br. 22-24). Petitioner argues that fewer production crews are needed for the games telecast by the networks under the present exclusive contract than would be needed absent the exclusivity provisions (*id.* at 24). A plausible showing of such joint venture savings, if significant in terms of total expenses, might, as petitioner suggests, take the case out of the per se category. But, if further examination reveals the justification to be insubstantial, it must be rejected and the restraint deemed unreasonable.

We have found no evidence in the record to support the claimed existence or significance of such production cost savings, and the NCAA points to none. The claim is economically illogical, moreover. If broadcasters, free of the NCAA restraints, contract with schools to televise additional football games, and incur the expenses of doing so, it is because they believe that the gain to viewers, as reflected in the willingness of advertisers to support the additional program, more than outweighs its production costs. Under the NCAA's approach, in contrast, it alone decides what number of football games are "enough" for the viewing public, and, like a classic monopolist, reduces output to that level. Insofar as any "savings" could be realized by NCAA's reducing the joint output of its members, however, a court can only conclude that such savings are attributable directly to the restriction of output (and the market power that makes it possible) and can hardly justify the competitive restraint that produces them.[25]

[25] Every price-fixing agreement could be said to enhance efficiency, by reducing the transaction costs of sellers in determining their prices and the search costs of consumers in deciding which product to purchase. This type of "efficiency" claim is attributable solely to the elimination of competition, however, and the Court has rejected it. See *Catalano, Inc.* v. *Target Sales, Inc.*, 446 U.S. at 649;

The argument (Pet. Br. 23) that no single broadcaster would "promote" NCAA football if the benefits of that promotion would inure to other broadcasters also invites skepticism, since there are now three networks that carry NCAA football, and presumably each of them is promoting it. See note 17, *supra*. Similarly, there is no reason to believe, as the NCAA contends (Pet. Br. 23), that in a competitive market games would have to be sold in advance of the football season, preventing networks from having flexibility in choosing the most interesting games for their "game of week" series. Schools are eager for the exposure of national television. There is every reason to believe, therefore, that schools, in entering into local or regional television sale contracts, would reserve the right to appear on a national network, if chosen. In sum, the NCAA's argument about cost efficiencies is merely an unpersuasive attempt to relitigate the facts.[28]

4. The NCAA contends that the fact that the television networks engage in competitive bidding for the NCAA package saves it from condemnation (Pet. Br. 46-49). But the product offered for that competitive bidding is an exclusive contract that the lower courts found reduces output and consumer choice. In any event, petitioner's argument rests on asserted benefits flowing from the NCAA package—*e.g.*, "promot[ing] competitive balance," "increas[ing] viewership on TV," and enabling "TV stations to deliver football at a lower cost per viewer" (Pet. Br. 48)—that find no support in the record, or that

*Maricopa*, 457 U.S. at 353-354; accord, R. Bork, *supra*, at 268; *Areeda Monograph* 43-44.

[28] Petitioner's attempt to analogize the NCAA football package to television programs such as "Dynasty" (Pet. Br. 23) also fails. Unlike the producers of a series like "Dynasty," the NCAA does not produce or create the football games at issue. The individual schools produce the teams and schedule their games, often many years in advance. They did so prior to the advent of television and they continue to do so now. Moreover, such an entertainment series, unlike college football, does not constitute a distinct programming market, and the packaging of such a series does not prevent the broadcast of similar, competing programs.



are contradicted by the lower courts' findings. The courts below found that the NCAA package does not directly contribute to competitive parity, nor does it increase TV viewership.[27] To the contrary, the two courts below found that the "exclusivity" of the football television package in this market is contrived in the sense that it is not attributable to demonstrable efficiencies; and that, absent the NCAA controls, more televised games would be offered and sold. Petitioner simply has not offered a satisfactory justification for that market distortion.

5. The NCAA complains that the court of appeals improperly placed the burden on it to "prove not only the existence and extent of procompetitive benefits but also the 'necessity' of the contractual arrangements" (Pet. Br. i). While this argument is framed as a defense to the per se holding only (*ibid.*), petitioner seeks to overturn

[27] In this context, petitioner's claim that it creates competition by offering a series contract through an exclusive sales agent should be rejected. Petitioner incorrectly equates the competition created when a single *buyer* asks all potential sellers to bid on an exclusive contract with its own situation in which all competitors create a single *seller* and ask buyers to bid for the exclusive contract. The NCAA joint sales situation is far more likely to create market power and output restriction than is one in which each seller is competing for the exclusive right to provide a product to an individual buyer over the term of a contract.

Petitioner's attempt to equate its football plan with the anesthesiology contract in *Hyde* v. *Jefferson Parish Hospital District No. 2*, 686 F.2d 286 (5th Cir. 1982), cert. granted, No. 82-1031 (Mar. 7, 1983), should be rejected. In *Hyde*, a single hospital located in a metropolitan area with numerous other hospitals entered into an exclusive supply contract with one group of anesthesiologists. This caused rival groups of anesthesiologists to compete to obtain the exclusive contract if they wanted to utilize the hospital's facilities. The instant case is not at all analogous. The *Hyde* facts would be similar to the NCAA's football plan only if they were turned on their head—if all anesthesiologists in the geographic market joined together in a group and told all the hospitals that anesthesiology services would be provided only as a package and under particular contract terms that specified a minimum amount of services, that limited the use of particular anesthesiologists who were held in high esteem, and that forced all hospitals to deal through the group rather than directly with any individual member.

the lower courts' rule of reason analysis on this basis as well (Pet. Br. 32-33). Petitioner's position on both of these issues, however, is contrary to established law.

Once the plaintiffs demonstrated the high anticompetitive risk inherent in the defendant's conduct (Pet. App. 6a-7a, 64a-66a), it was entirely proper to place the burden on the NCAA to establish its defense of countervailing benefits.[28] Although petitioner failed even to demonstrate that the football television restrictions were reasonably related to procompetitive aspects of its joint venture (see pages 20-26, *supra*), it claims that the lower courts erred in requiring it to prove that its restraints were absolutely necessary, in the sense that they were the least restrictive alternative for attaining competitive parity (Pet. Br. 29). This argument takes the word "necessary"

[28] In an antitrust suit, as in other civil suits, the burden of proof is on the party seeking relief. *Chrysler Corp.* v. *United States*, 316 U.S. 556 (1942); *J. Truett Payne Co.* v. *Chrysler Motors Corp.*, 451 U.S. 557 (1981). Once the plaintiff proves the existence of an unreasonable restraint, however, as respondents did here, the burden of proof shifts to the defendant to prove the existence of a defense to that statutory violation. "[T]he burden of proving justification * * * to the prohibitions of a statute generally rests on one who claims its benefits." *FTC* v. *Morton Salt Co.*, 334 U.S. 37, 44-45 (1948) (footnote omitted) (cost justification defense under the Robinson-Patman Act); accord, *United States* v. *First City National Bank*, 386 U.S. 361, 366 (1967) (defense under 12 U.S.C. 1828(c)(5)(B) to anticompetitive merger); see *Citizen Publishing Co.* v. *United States*, 394 U.S. 131, 138-139 (1969) ("failing company" defense under Section 7 of the Clayton Act, 15 U.S.C. 18); *Rosebrough Monument Co.* v. *Memorial Park Cemetery Ass'n*, 666 F.2d 1130, 1139 n.5, 1146 (8th Cir. 1981); *Phonetele, Inc.* v. *AT&T*, 664 F.2d 716, 739 (9th Cir. 1981), cert. denied, No. 81-2359 (Jan. 17, 1983); *Switzer Bros.* v. *Locklin*, 297 F.2d 39, 46 (7th Cir. 1961); *United States* v. *Jerrold Electronics Corp.*, 187 F. Supp. 545, 560 (E.D. Pa. 1960), aff'd per curiam, 365 U.S. 567 (1961); see also *Northern Pacific Ry.* v. *United States*, 356 U.S. 1, 8 (1958). This requirement that the defendant come forward with a satisfactory justification for an agreement after the plaintiff has proven its inherently anticompetitive nature or effect does not amount to an improper shifting of the burden of proof. *FMC* v. *Aktiebolaget Svenska Amerika Linien*, 390 U.S. 238, 244-246, 251, 253 (1968); *Areeda Monograph* 34.



out of the legal context in which it was used by the lower courts, *i.e.*, to mean "reasonably related to," and ascribes to it a meaning—"absolutely necessary," *i.e.*, there being no less restrictive alternative—not fairly attributable to those courts.

The requirement that a defendant show that an anticompetitive restraint is "necessary" to foster (*i.e.*, "reasonably related to") a legitimate business or statutory purpose is entirely consistent with an unbroken line of precedent. The rule was set out more than 85 years ago in *United States* v. *Addyston Pipe & Steel Co.*, 85 F. 271, 281 (6th Cir. 1898), aff'd as modified, 175 U.S. 211 (1899) ("no conventional restraint of trade can be enforced unless the covenant embodying it is merely ancillary to the main purpose of a lawful contract, and *necessary* to protect the covenantee in the enjoyment of the legitimate fruits of the contract * * *. [I]f the restraint exceeds the necessity presented by the main purpose of the contract it is void").

This Court and the lower courts apply the rule routinely in examining the reasonableness of anticompetitive restraints.[29] While the clear availability of less restrictive alternatives is not dispositive, it is a relevant factor in determining whether a restraint is reasonably necessary.[30]

[29] *Silver*, 373 U.S. at 361; *NFL* v. *North American Soccer League*, No. 81-2296 (Dec. 6, 1982), slip op. 6 (Rehnquist, J., dissenting from denial of cert.) (anticompetitive practices "must be narrowly drawn to vindicate the legitimate interest"); *Roberts* v. *Elaine Powers Figure Salons, Inc.*, 708 F.2d 1476, 1482 (9th Cir. 1983); *United States* v. *Realty Multi-List, Inc.*, 629 F.2d 1351, 1372, 1376 (5th Cir. 1980); cf. Pet. Br. 17 & n.7.

[30] *White Motor Co.* v. *United States*, 372 U.S. 253, 270-272 & n.13 (1963) (Brennan, J., concurring); *Berkey Photo, Inc.* v. *Eastman Kodak Co.*, 603 F.2d 263, 303 (2d Cir. 1979), cert. denied, 444 U.S. 1093 (1980); *American Motor Inns, Inc.* v. *Holiday Inns, Inc.*, 521 F.2d 1230, 1249-1250 (3d Cir. 1975); *Betaseed, Inc.* v. *U and I, Inc.*, 681 F.2d 1203, 1215, 1230 (9th Cir. 1982); *North American Soccer League* v. *NFL*, 670 F.2d 1249, 1259 (2d Cir. 1982), cert. denied, No. 81-2296 (Dec. 6, 1982) (Rehnquist, J., dissenting); *Rosebrough Monument Co.* v. *Memorial Park Cemetery Ass'n*, 666 F.2d 1130, 1145 (8th Cir. 1981).

The "reasonably necessary" standard is precisely the standard the district court applied here (Pet. App. 95a). There is no indication that either the district court or the court of appeals adopted any more rigid standard (cf. Pet. Br. 31-32 n.17). Neither court spoke of a "least" restrictive alternative. Indeed, neither court rejected petitioner's justifications solely because they were not necessary to effect the legitimate objectives of the NCAA. The justifications were rejected because they were found to be ineffective as well as unnecessary in advancing the objectives sought (see pages 20-26, *supra*). Thus, the "reasonably" necessary standard was not met. See *Bravman* v. *Bassett Furniture Industries, Inc.*, 552 F.2d 90, 102 (3d Cir. 1977).

## CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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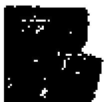
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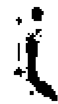

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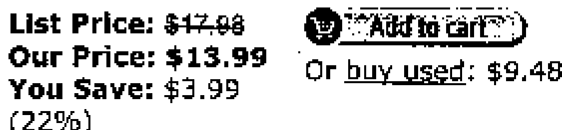

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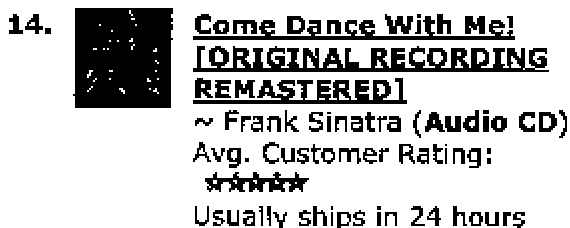

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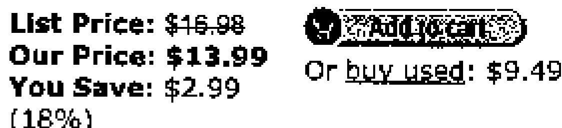

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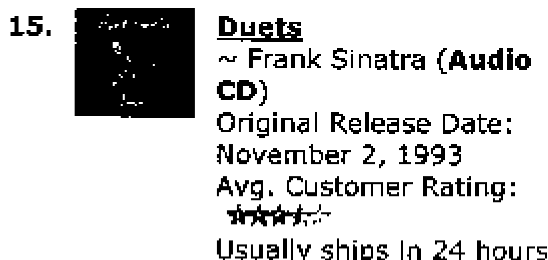

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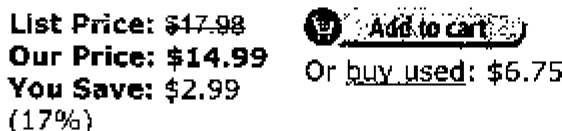

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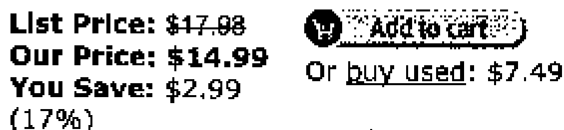
16. **Sinatra at the Sands [ORIGINAL RECORDING REMASTERED] [LIVE]**
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating:
Usually ships in 24 hours



**List Price:** ~~$17.98~~
**Our Price: $14.99**
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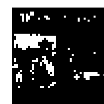
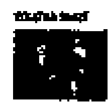
17. **A Swingin' Affair! [ORIGINAL RECORDING**

Therapist
(25 item list)



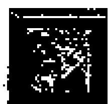
**Essential Frank Sinatra Albums**: A list by Candace Scott, Sinatraphile from infancy
(13 item list)

**Essential Frank Sinatra CDs**: A list by Karen Hugg, Pop Editor, Amazon.com
(7 item list)



**Cardinale's Top 10 Sinatra**: A list by cardinale23, The Lost Rat Packer
(10 item list)

**Vintage Sinatra List**: A list by Mark Levitt, A Sinatraphile
(10 item list)



**top 10 Sinatra albums ( by order of release )**: A list by pacara, a music fan
(10 item list)

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**E-mail**

REMASTERED]
~ Frank Sinatra (**Audio CD**)
Avg. Customer Rating:
Usually ships in 24 hours

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)

Add to cart
Or buy used: $9.99

Sign Up

**18.**

Nice 'n' Easy [ORIGINAL RECORDING REMASTERED]
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating:
Usually ships in 24 hours

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)

Add to cart
Or buy used: $9.99

**19.**

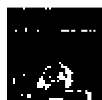
Duets II
~ Frank Sinatra (**Audio CD**)

Original Release Date: November 15, 1994
Avg. Customer Rating:
Usually ships in 24 hours

**List Price:** ~~$17.98~~
**Our Price: $14.99**
**You Save:** $2.99 (17%)

Add to cart
Or buy used: $7.25

**20.**



No One Cares [ORIGINAL RECORDING REMASTERED]
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating:
Usually ships in 24 hours

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)

Add to cart

Previous 11 - 20 of 370 More Results

## All results for: Frank Sinatra

Search: Popular Music for Frank Sinatra GO!

**So You'd Like to...**
Offer your advice

**Host a Cocktail Party!**: by Jackie, A fan of all things retro.

**You may also like**

*Greatest Love Songs*
~ Frank Sinatra

**All 370 results for Frank Sinatra :**

Sort by: Featured Items GO!

**U.S. Releases**

**21.** **The Frank Sinatra Collection**
~ The Beegie Adair Trio (**Audio CD**)
Original Release Date: April 15, 1997
Avg. Customer Rating: ★★★★★
Usually ships in 24 hours

**List Price:** $14.99
**Our Price: $14.99**
Add to cart

**22.** **The Best of the Capitol Years: Selections From "The Capitol Years" Box Set**
~ Frank Sinatra (**Audio CD**)

Original Release Date: November 3, 1992
Avg. Customer Rating: ★★★★★
Usually ships in 24 hours

**List Price:** ~~$17.98~~
**Our Price: $14.99**
**You Save:** $2.99 (17%)
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Or buy used: $7.85

**23.** **Rat Pack Collection : Gold (Frank Sinatra)/The Best Of (Dean Martin)/That Old Black Magic (Sammy Davis Jr.) [BOX SET]**
~ Sinatra, et al (**Audio CD**)
Original Release Date:

**Listmania!**
Add your list

**20 Essential Sinatra Albums**: A list by Jon Warshawsky, Writer; popular music student
(20 item list)

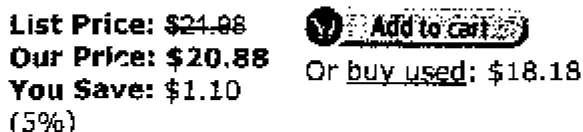
**Essential Frank Sinatra CDs**: A list by Karen Hugg, Pop Editor, Amazon.com
(7 item list)

**Eleven Essential Sinatra CD's**: A list by Doug Mataconis, Sinatra Fan
(11 item list)

**top 10 Sinatra albums ( by order of release )**: A list by pacara, a music fan
(10 item list)

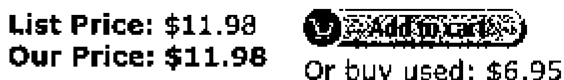
**Perfectly Frank**: A list by dinopl, Feline Speech Therapist
(25 item list)

September 25, 1998
Avg. Customer Rating:
★★★★☆
Usually ships in 24 hours


**List Price:** ~~$21.98~~
**Our Price: $20.88**
**You Save:** $1.10 (5%)
Add to cart
Or buy used: $18.18

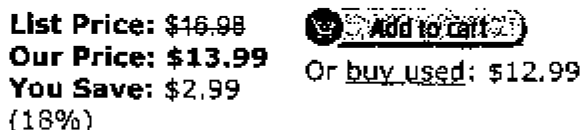
**24.**
**September of My Years [ORIGINAL RECORDING REMASTERED]**
~ Frank Sinatra (**Audio CD**)

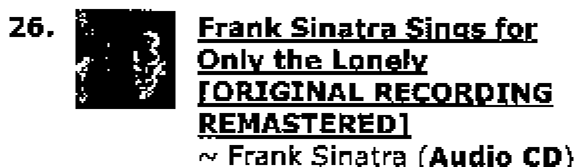
Avg. Customer Rating:
★★★★★
Usually ships in 24 hours


**List Price:** $11.98
**Our Price: $11.98**
Add to cart
Or buy used: $6.95

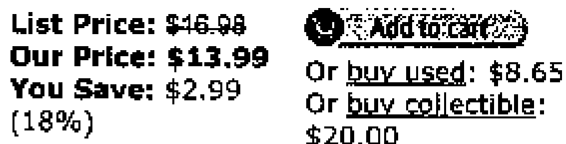
**25.**
**Close to You & More [ORIGINAL RECORDING REMASTERED]**
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating:
★★★★★
Usually ships in 24 hours

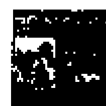

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)
Add to cart
Or buy used: $12.99

**26.** 
**Frank Sinatra Sings for Only the Lonely [ORIGINAL RECORDING REMASTERED]**
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating:
★★★★★
Usually ships in 24 hours

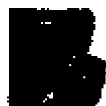

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)
Add to cart
Or buy used: $8.65
Or buy collectible: $20.00

**Building a Frank Sinatra Collection**: A list by frankie-machine, frankie-machine
(15 item list)



**Essential Frank Sinatra Albums**: A list by Candace Scott, Sinatraphile from infancy
(13 item list)

**THE Sinatra List**: A list by Giovanni, another Rat Packer
(7 item list)



**The Chairman's Greatest Hits (Besides Ava Gardner)**: A list by Robert Gonzales, rock-n-roll mafia fileclerk
(10 item list)

**Suicide Song Collections (Seven)**: A list by Samuel Chell, Teacher, Musician
(7 item list)

**Amazon.com Alerts**

Sign up to be e-mailed when new music releases for "Frank Sinatra" arrive.

**E-mail**

27.
**Classic Sinatra [ORIGINAL RECORDING REMASTERED]**
~ Frank Sinatra (**Audio CD**)

Original Release Date: April 5, 2000
Avg. Customer Rating: ★★★★★
Usually ships in 24 hours

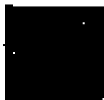
**List Price:** ~~$17.98~~
**Our Price: $14.99**
**You Save:** $2.99 (17%)

Add to cart
Or buy used: $7.99

28.
**Summit: In Concert [LIVE]**
~ Jr. Frank Sinatra/Dean Martin/Sammy Davis (**Audio CD**)
Original Release Date: February 23, 1999
Avg. Customer Rating: ★★★★☆
Usually ships in 24 hours

**List Price:** ~~$31.98~~
**Our Price: $30.38**
**You Save:** $1.60 (5%)

Add to cart
Or buy used: $20.99
Or buy collectible: $35.00

29. 
**Point of No Return [ORIGINAL RECORDING REMASTERED]**
~ Frank Sinatra (**Audio CD**)

Avg. Customer Rating: ★★★★★
Usually ships in 24 hours

**List Price:** ~~$16.98~~
**Our Price: $13.99**
**You Save:** $2.99 (18%)

Add to cart
Or buy used: $7.95

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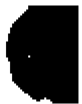
**30.** 

**Love Songs [Sony]**
~ Frank Sinatra (**Audio CD**)

Original Release Date:
January 9, 2001
Avg. Customer Rating:
★★★★★
Usually ships in 24 hours

**List Price:** $11.98
**Our Price: $11.98**

Add to cart
Or buy used: $8.99

Previous **21 - 30 of 370** More Results

## CERTIFICATE OF SERVICE

I, John Roberti, hereby certify that on May 6, 2002, I caused a copy of the following documents to be served upon the persons listed below:

(1) Complaint Counsel's Proposed Findings of Fact, Proposed Conclusions of Law, Proposed Order, and Memorandum of Law, Volume I;

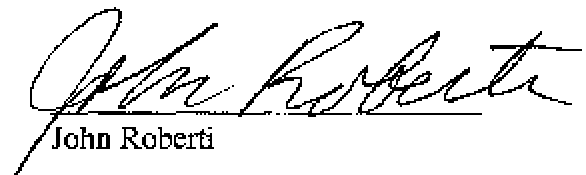
(2) Complaint Counsel's Proposed Findings of Fact, Proposed Conclusions of Law, Proposed Order, and Memorandum of Law, Volume II;

(3) Complaint Counsel's Findings of Fact, Conclusions of Law, Order and Memorandum of Law in Support Thereof, Appendix A;

(4) Complaint Counsel's Findings of Fact, Conclusions of Law, Order and Memorandum of Law in Support Thereof, Appendix B;

The Honorable James P. Timony
Chief Administrative Law Judge
The Federal Trade Commission
600 Pennsylvania Avenue, N.W.
Washington, DC 20580
(served by hand) (redacted pages only)

Glenn D. Pomerantz
Bradley S. Phillips
Stephen E. Morrisey
Munger Tolles & Olson LLP
355 South Grand Avenue
35th Floor
Los Angeles, Ca 90071
Fax: (213) 687-3702
*Counsel for Respondents*
(by Federal Express)



John Roberti