The 1982 Merger Guidelines and the Ascent of the Hypothetical Monopolist Paradigm

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The 1982 Merger Guidelines' approach to market delineation, built around the hypothetical monopolist test, has often been singled this out for praise[1] or criticism.[2] But especially over the past decade, comment has given way to widespread acceptance and application. This essay chronicles the ascent of the hypothetical monopolist paradigm, which the Guidelines did not invent but rather refined, embellished, and popularized.

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[1] *See* Donald I. Baker & William Blumenthal, *The 1982 Guidelines and Preexisting Law*, 71 CAL. L. REV. 311, 322 (1983) (Guidelines' "most important contribution"); Franklin M. Fisher, *Horizontal Mergers: Triage and Treatment*, J. ECON. PERSP., Fall 1987, at 23, 28 ("major step in the direction of sanity"); Lawrence A. Sullivan, *The New Merger Guidelines: An Afterword*, 71 CAL. L. REV. 632, 638 (1983) (Guidelines' "most innovative" aspect); Janusz A. Ordover & Robert D. Willig, *The 1982 Department of Justice Merger Guidelines: An Economic Assessment*, 71 CAL. L. REV. 535, 539 (1983) ("noteworthy intellectual feat"); Robert Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90 COLUM. L. REV. 1805, 1822, 1864 (1991) ("bold and thoughtful" and a "formidable achievement").

[2] Critics have argued that the Guidelines articulate abstract theory with no practical application. *See* Thomas W. Dunfee, et al., *Bounding Markets in Merger Cases: Identifying the Relevant Competitors*, 78 NW. L. REV. 733, 754 (1984) ("impractical conceptual device"); Robert G. Harris & Thomas M. Jorde, *Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement*, 71 CAL. L. REV. 464, 481 (1983) ("simply impracticable"); Joe Sims & William Blumenthal, *New Merger Guidelines Provide No Real Surprises*, LEGAL TIMES, June 21, 1982, at 17, 17 (no "useful practical test"); George J. Stigler & Robert A. Sherwin, *The Extent of the Market*, 28 J.L. & ECON. 555, 582 (1985) (Guidelines' approach "completely nonoperational" because "[n]o method of investigation of data is . . . specified that will allow the markets to be determined empirically"). And critics have argued that the Guidelines' approach yields overly broad relevant markets. *See* Harris & Jorde, *supra*, at 486 ("At every one of the major steps and at most of the subsidiary ones, the Guidelines use procedures which have the effect of increasing the size of the market, and therefore of reducing the shares of the merging firms in the market."); Pitofsky, *supra* note 1, at 1822–23 ("the Guidelines opt for market definitions that are overinclusive, and therefore systematically create the appearance of diminished market power"); National Association of Attorneys General, Horizontal Merger Guidelines § 4 n.31 (1987), *reprinted at* 4 TRADE REG. REP. (CCH) ¶ 13,405 ("the process of market definition in the Justice Department's Guidelines will, in many respects, overstate the bounds of both the geographic and product markets in relation to the actual workings of the marketplace").

The Emergence of the Hypothetical Monopolist Paradigm

The basic idea behind the hypothetical monopolist paradigm predates the 1982 Merger Guidelines by more than two decades. This simple yet powerful idea is that market shares can be useful in the assessment of market power generally only if a 100% share would confer significant market power. In essence, the hypothetical monopolist paradigm makes the touchstone for market delineation whether a monopolist over some candidate group of products and area would possess significant market power.

The Supreme Court arguably expressed the basic idea in its *Cellophane* decision,[3] and economist Morris Adelman plainly did so in a 1959 law review article:

> No matter how the boundaries may be drawn in terms of products or areas, there is a single test: If, within the purported market, prices were appreciably raised or volume curtailed, would supply enter in such amounts as to restore approximately the old price and output? If the answer is "yes," then there is no market, and the definition must be expanded. If the answer is "no," the market is at least not wider. If it would be "no" even on a narrower definition, then the narrower definition must be used. Any other scheme of definition, is not so much "wrong" as meaningless.[4]

This idea appears, however, not to been much appreciated until the late 1970s.

The hypothetical monopolist paradigm began to crystalize in antitrust scholarship with the publication of the Sullivan treatise in 1977 and the initial volumes of the prescriptive Areeda-Turner treatise in 1978. In language remarkably similar to that used by Adelman, Sullivan explained:

> Market definition is not a jurisdictional prerequisite, or an issue having its own significance under the statute; it is merely an aid for determining whether power exists. To define a market in product and geographic terms is to say that if prices were appreciably raised or volume appreciably curtailed for the product within a given area,

[3] United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391–92 (1956) ("If Cellophane is the 'market' that du Pont is found to dominate, it may be assumed that it does have monopoly power over that 'market.' Monopoly power is the power to control prices or exclude competition. It seems apparent that du Pont's power to set the price of cellophane has been limited only by the competition afforded by other flexible packaging materials. . . . The trial court consequently had to determine whether competition from other flexible wrapping materials prevented du Pont from possessing monopoly power . . . .") (footnotes omitted).

[4] Morris A. Adelman, *Economic Aspects of the Bethlehem Opinion*, 45 VA. L. REV. 684, 688 (1959). Adelman was a member of the Attorney General's Committee to Study the Antitrust Laws, published many comments on antitrust decisions, and served as an expert witness is cases such as *Cellophane*.

> while demand held constant, supply from other sources could not be expected to enter promptly enough and in large enough amounts to restore the old price or volume. If sufficient supply would promptly enter from other geographic areas, then the "defined market" is not wide enough in geographic terms; if sufficient supply would promptly enter in the form of products made by other producers which had not been included in the product market as defined, then the market would not be wide enough in defined product terms. A "relevant market," then, is the narrowest market which is wide enough so that products from adjacent areas or from other producers in the same area cannot compete on substantial parity with those included in the market.[5]

Areeda and Turner's extensive discussion of market delineation began with the observation: "In economic terms, a 'market' embraces one firm or any group of firms which, if unified by agreement or merger, would have market power in dealing with any group of buyers."[6] In addressing "[w]hat quantum of market power is an appropriate subject of concern," the treatise phrased the threshold for concern about market power in terms of the price increase a monopolist would impose, and concluded that one percent price increase is too slight, five percent probably is enough and ten percent clearly is more than enough.[7]

A 1978 Department of Justice report to Congress on competition in the coal

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[5] LAWRENCE A. SULLIVAN, HANDBOOK OF THE LAW OF ANTITRUST 41 (1977). No authority was cited in the quoted paragraph, but the next page of the treatise cited the page of the Adelman article containing the language quoted in the text accompanying note 4.

A year earlier, Richard Posner argued for what amounted to the hypothetical monopolist test, by proposing to include in a geographic market those "firms that do not now sell, and have not recently sold, any part of their output in the relevant market" if they could economically sell there if "the market price" increased "say, by 5 or more percent." RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 133 (1976). The same language appears in the new edition. RICHARD A. POSNER, ANTITRUST LAW 155–56 (2d ed. 2001).

[6] 2 PHILLIP AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 518, at 347 (1978). *See also id.* ¶ 525a, at 370 ("We note again the economic definition of a market: any producer with, or any group of producers which if combined would have, some degree of power over price.")

[7] *Id.* ¶ 518, at 347.

Also of note is a 1979 article by economist Kenneth Boyer in which he proposed

> to define an industry from the point of view of a single firm: to a firm, its industry is the smallest group of sellers such that, were all members of the group to collude, bringing additional members into the collusive group would give the firm only a minimal short term advantage. In a sense, a firm sees its industry as the ideal collusive group.

Kenneth D. Boyer, *Industry Boundaries*, *in* ECONOMIC ANALYSIS AND ANTITRUST LAW 88, 92–93 (Terry Calvani & John Siegfried eds., 1979). *See also* Kenneth D. Boyer, *Is There a Principle for Defining Industries?*, 50 S. ECON. J. 761 (1984); Gregory J. Werden, *Is There a Principle for Defining Industries? Comment*, 52 S. ECON. J. 532 (1985).

industry contains what appears to be the first published formulation of the paradigm incorporating an explicit reference to a "hypothetical monopolist":

> A geographic market, for antitrust purposes, is an area within which the sellers of a product could maintain significantly higher prices if they combined to form a monopoly. Generally speaking, the smaller the area encompassed by the market, other things being equal, the more likely it is that buyers within the area will be able cheaply to import the product from sellers outside the area. This puts a limit on how much the hypothetical monopoly within an area could raise prices. If an area is so small that the combined sellers within it could achieve only a trivial price increase, then the area is not a market. . . .
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> The same principle governs product markets, but instead of a geographic area it is a range of goods that are included in the product market. If it is not very costly for buyers in some geographic area to substitute among similar goods, say among different grades of coal, then a broad range of coal grades would be required to comprise a product market. This is because producers of narrower ranges of grades, if combined as a monopoly, would not be able to maintain significantly higher prices for their ranges of grades, or products.[8]

Beginning with the initial partial drafts, the 1982 Merger Guidelines included a reference to the hypothetical monopolist paradigm comparable to those in the Sullivan and Areeda-Turner treatises. In early drafts, the hypothetical monopolist paradigm was merely a theoretical point without obvious practical application;[9]

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[8] U.S. DEPARTMENT OF JUSTICE, ANTITRUST DIVISION, COMPETITION IN THE COAL INDUSTRY 26–27 (report to Congress pursuant to Section 8 of the Federal Coal Leasing Amendments Act of 1975) (May 1978). I wrote this portion of the report, and at the time had read neither Adelman nor SULLIVAN (and AREEDA & TURNER was not yet available). This articulation of the hypothetical monopolist paradigm was my elaboration on an insight provided to me by George Hay, then the Chief of the Economic Policy Office of the Antitrust Division. George recently told me that he recollects having used the paradigm in some lectures inside the Division before Sullivan's treatise was published.

In an article written in mid-1978 as an outgrowth of my work on this report, I proposed the following definition: "A market *for antitrust purposes* is any product or group of products and any geographic area in which collective action by all firms (as through collusion or merger) would result in a profit maximizing price that significantly exceeded the competitive price." The article also argued that "the relevant market in any particular case is the smallest group of products and area that constitutes a market." Gregory J. Werden, *The Use and Misuse of Shipments Data in Defining Geographic Markets*, 26 ANTITRUST BULL. 719, 721 (1981).

[9] Tyler Baker, Bill Baxter's Special Assistant working on the Guidelines, wrote these drafts. Larry White, Baxter's Chief of the Economic Policy Office, arrived in the Division several weeks after the first full draft was circulated, and a few weeks after that, he circulated his own draft of the market delineation portion of the Guidelines. His draft was similar to Tyler Baker's in its treatment of the hypothetical monopolist paradigm, and it employed the traditional legal tests of cross elasticities of demand and supply. Many years later, he wrote that in 1982 the hypothetical monopolist paradigm was new to

indeed, the practical advice in these early drafts was inconsistent with the paradigm.[10] During the drafting process, however, the hypothetical monopolist paradigm became a major organizing principle of the 1982 Merger Guidelines, and the hypothetical monopolist paradigm came to provide the sole test for market delineation.[11] The final Guidelines stated that

> a market is as a product or group of products and a geographic area such that (in the absence of new entry) a hypothetical, unregulated firm that made all the sales of those products in that area could increase its profits through a small but significant and non-transitory increase in price (above prevailing or likely future levels).[12]

The hypothetical monopolist paradigm was the lens through which all evidence was to be viewed.[13] And the contribution of the 1982 Merger Guidelines was not the

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"[m]ost industrial organization economists," a category in which he appeared to include himself. Lawrence J. White, *Present at the Beginning of a New Era for Antitrust: Reflections on 1982–1983*, 16 REV. INDUS. ORG. 131, 133 (2000).

[10] During the drafting process, Tyler Baker made public statements indicating that the Guidelines would adopt the Elzinga-Hogarty test for delineating geographic market boundaries, although it was known to be inconsistent with the hypothetical monopolist paradigm. *See* 42 ANTITRUST & TRADE REG. REP. (BNA) 374 (Feb. 18, 1982), citing Werden, *supra* note 8. One account accurately reported a major disagreement over the issue and indicated that it might result in competing drafts. Margaret B. Carlson, *Merger Guides' Drafters Debate Geographic Market*, LEGAL TIMES, Mar. 8, 1982, at 4.

[11] Long before the draftin process was completed, I gave a talk at a D.C. law firm entitled "Fourteen Points on Market Delineation and Measurement under the Draft Merger Guidelines." In substance, but not language, the final Guidelines coincided precisely with the points in the talk. Point 2 included: "If the creation of a hypothetical monopolist of a product in an area would not result in significantly increased prices, then that product and area should not be considered a market for Section 7 purposes." And Point 6 was:

> Thus, a "market," for Section 7 purposes, is defined as any product or group of products and any area in which all existing and potential sellers profitably could raise price significantly above existing and likely future levels if they were able to effectively coordinate their actions and were not subject to government interference.

In advance of the talk, I provided my detailed notes to Bill Baxter. In response, he wrote: "I agree with substantially all of if—indeed all that I am clear I understand."

[12] U.S. Department of Justice, Merger Guidelines § II n.6, *reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,102 (June 14, 1982). These 57 words were not finalized until the very end of the drafting process, and to borrow from Churchill, they were the product of months of blood, toil, tears, and sweat. The 1982 Guidelines also introduced the 5% significance threshold: "As a first approximation, the Department will hypothesize a price increase of five percent and ask how many buyers would be likely to shift to other products within one year." *Id.* § II.A.

[13] The sentence immediately following the quoted language was: "The standards for market delineation in the text below implement this definition." *Id.*

hypothetical monopolist paradigm itself, but rather a carefully contructed algorithm for merger analysis built around that paradigm.[14]

The 1984 revision to the Merger Guidelines moved the language just quoted out of a footnote and into the text,[15] and revised slightly it in an attempt to make clear that the test was whether a hypothetical monopolist would raise price significantly if it maximized profits, rather than whether a small but significant price increase would cause an increase in the hypothetical monopolist's profits[16]:

> Formally, a market is as a product or group of products and a geographic area in which it is sold such that a hypothetical, profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products in that area would impose a "small but significant and nontransitory" increase in price above prevailing or likely future levels.[17]

The 1992 Horizontal Merger Guidelines introduced additional refinements, including an assumption about prices other than those under the hypothetical monopolist's control:

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[14] I have detailed the Guidelines' approach to market delineation in many articles. Gregory J. Werden, *Demand Elasticities in Antitrust Analysis*, 66 ANTITRUST L.J. 363, 387–96 (1998); Gregory J. Werden, *Market Delineation under the Merger Guidelines: A Tenth Anniversary Retrospective*, 38 ANTITRUST BULL. 517 (1993); Gregory J. Werden, *Market Delineation and the Justice Department's Merger Guidelines*, 1983 DUKE L.J. 514; Gregory J. Werden, *Merger Guidelines Present Basic Analytic Paradigm*, LEGAL TIMES, June 28, 1982, at 20; Gregory J. Werden, Market Delineation Algorithms Based on the Hypothetical Monopolist Paradigm (unpublished paper, April 22, 2002).

[15] One of the few directions Paul McGrath gave at the outset of the 1984 revision of the Merger Guidelines was to reduce the number of footnotes. Thoughts he considered important were promoted into the text, and thoughts he did not consider important were deleted. *Cf.* Statement Accompanying Release of Revised Merger Guidelines, *reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,102, at 20,551 ("Many important points have been moved from footnotes to the text to emphasize their importance, and other footnotes gave been deleted because they were redundant or potentially confusing. However, no change in policy should be inferred from the deletion of a footnote.")

[16] This attempt at clarification was not entirely successful because other passages continued to be phrased in terms of whether was significant price increase was profitable.

[17] U.S. Department of Justice, Merger Guidelines § 2.0, *reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,103 (June 14, 1984). The 1984 Guidelines introduced some flexibility in the magnitude of the price increase necessary to be considered significant: "In attempting to determine objectively the effect of a 'small but significant and nontransitory' increase in price, the Department in most contexts, will use a price increase of five percent lasting for one year. However, what constitutes a 'small but significant and nontransitory' increase in price will depend on the nature of the industry, and the Department at times may use a price increase that is larger or smaller than five percent." *Id.* § 2.11.

> A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.[18]

The Diffusion of the Hypothetical Monopolist Paradigm

Largely because of the 1982 Merger Guidelines, the hypothetical monopolist paradigm now has been embraced, to varying degrees, by enforcement officials throughout the English-speaking world. The Guidelines' influence was first felt in North America.

The Federal Trade Commission declined to adopt the hypothetical monopolist paradigm in 1982,[19] but over the following decade came to acknowledge and eventually adopt the Guidelines approach in its merger decisions.[20] And in 1992 the Commission joined the Department of Justice in releasing the Horizontal Merger

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[18] U.S. Department of Justice & Federal Trade Commission, Horizontal Merger Guidelines § 2.0, *reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,104 (April 2, 1992). § 1.11 of these Guidelines changed the time period for a price increase from one year to "the foreseeable future." It also cryptically stated that the test as whether a hypothetical monopolist would "impose at least a 'small but significant and nontransitory' increase, including the price of a product of one of the merging firms." To eliminate the continuing confusion about whether the issue was whether a significant price increase would be profitable or whether the profit-maximizing price increase was significant, the 1992 Guidelines added: "In performing successive iterations of the price increase test, the hypothetical monopolist will be assumed to pursue maximum profits in deciding whether to raise the prices of any or all of the additional products under its control." *Id.* § 1.11.

[19] The FTC reviewed and commented on the 1982 Guidelines during the drafting process. On the day the Guidelines were to be released, the FTC called a press conference overlapping that announcing the Guidelines to announce its own Statement Concerning Horizontal Mergers (*reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,200), which contained (in § VI) a rather different approach to market delineation.

[20] In mid 1980s, the Commission's merger decisions recognized the linkage between markets and market power. *See* Weyerhaeuser Co., 106 F.T.C. 172, 274 (1985); Hospital Corp. of Am., 106 F.T.C. 361, 466 (1985). In 1988 the Commission quoted the Guidelines' market delineation test but did not adopt it over alternative formulations. B.F. Goodrich Co., 110 F.T.C. 207, 289–90 (1988). And the Commission eventually began to apply the Guidelines' approach to market delineation prior to formally joining the Department of Justice in the Horizontal Merger Guidelines. *See* Owens-Illinois, Inc., 115 F.T.C. 179, 295–319 (1992); Olin Corp., 113 F.T.C. 400, 595–600 (1990). I have been told that the FTC staff began to apply the hypothetical monopolist paradigm in 1982.

Guidelines.[21]

In 1991 the Canadian Bureau of Competition issued merger guidelines patterned on the 1984 Merger Guidelines. They state that

> a relevant market for merger analysis . . . is defined in terms of the smallest group of products and smallest geographic area in relation to which sellers, if acting as a single firm (a "hypothetical monopolist") that was the only seller of those products in that area, could profitably impose and sustain a significant and nontransitory price increase above levels that would likely exist in the absence of the merger.[22]

The hypothetical monopolist paradigm has been acknowledged, if not fully embraced, in Europe.[23] In 1997 the European Commission issued a Notice on market delineation, which introduced the hypothetical monopolist test as "[o]ne way of making" "a determination of the range of products which are viewed as substitutes

[21] The pattern is somewhat similar with the National Association of Attorneys General. Their initial 1987 Guidelines pointedly rejected the Guidelines' approach, *see* note 2 *supra*, but their 1993 version permitted merging parties to use "the market definition principles and methodology set forth in the" 1992 Horizontal Merger Guidelines. National Association of Attorneys General, Horizontal Merger Guidelines § 3A (1993), *reprinted at* 4 TRADE REG. REP. (CCH) ¶ 13,406. The Attorneys General, however, have not acknowledged the critical link between market power and market delineation.

[22] BUREAU OF COMPETITION POLICY, MERGER ENFORCEMENT GUIDELINES § 3.1 (April 1991). The Canadian guidelines, referred to as the "MEGs," articulate the 5% significance threshold and the smallest market principle, and delineate price discrimination markets. *Id.* The MEGs differ from the Merger Guidelines in that they assess supply substitution as part of market delineation. *Id.* For a comparison between the Canadian and U.S. treatment of market delineation, see Paul S. Crampton, *The DOJ/FTC 1992 Horizontal Merger Guidelines: A Canadian Perspective*, 38 ANTITRUST BULL. 665, 679–86 (1993). The hypothetical monopolist paradigm is discussed in the leading Canadian court decision on market delineation. Director of Investigation & Res. v. Southam Inc., 63 C.P.R. (3d) 1, 41–43 (1995). The Competition Tribunal has adopted the hypothetical monopolist paradigm. Commissioner of Competition v. Superior Propane, Inc., [2000] Comp. Trib. 15 at ¶¶ 57, 63–66.

[23] The European Free Trade Association, which has jurisdiction in Iceland, Lichtenstein, and Norway, released a Notice of the EFTA Surveillance Authority on the Definition of Relevant Market for the Purpose of Competition Law within the European Economic Area (EEA), *available at* http://www.efta.int/docs/surv/ProceduresGuidelines/CompetitionProcedures/annex1.htm. In language similar to that of the Commission Notice, it articulates the hypothetical monopolist test in ¶¶ 15–19.

The Irish Competition Authority has not issued a formal statement on market delineation, but one of its members published an article that focuses on the hypothetical monopolist paradigm. Patrick Massey, *Market Definition and Market Power in Competition Analysis: Some Basic Problems*, 31 ECON. & SOC. REV. 309 (2000) (also available as Competition Authority Discussion Paper No. 11 (Oct. 2000)).

by the consumer."[24] The Notice explains that

> The question to be answered is whether the parties' customers would switch to readily available substitutes or to suppliers located elsewhere in response to a hypothetical small (in the range 5 to 10 per cent) but permanent relative price increase in the products and areas being considered. If substitution were enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas are included in the relevant market. This would be done until the set of products and geographical areas is such that small, permanent increases in relative prices would be profitable.[25]

Similarly, the 1999 guideline issued by the United Kingdom's Office of Fair Trading (OFT) states that "[o]ne way to look at this problem" of market delineation is to ask "whether a hypothetical monopolist . . . would maximise its profits by consistently charging higher prices than it would if it faced competition."[26] Since no other way of looking at the problem is mentioned, the OFT guideline effectively makes the

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[24] Commission Notice on the definition of relevant market for the purposes of Community competition law, [1997] O.J. C372/5, at ¶ 15, *available at* http://www.europa.eu.int/comm/competition/antitrust/relevma_en.html. The Notice cannot be said to fully embrace the hypothetical monopolist paradigm because it does not make reference to the hypothetical monopolist paradigm in articulating a conceptual definition of a market. ¶ 7 states that the relevant "market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use." And ¶ 8 states that the relevant "market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those area."

[25] *Id.* at ¶ 17. The smallest market principle is not explicitly stated, but it seems implicit in the last sentence just quoted. *See also id.* at ¶ 19 (prevailing price is benchmark), ¶ 43 (delineating price discrimination markets).

[26] OFFICE OF FAIR TRADING, THE COMPETITION ACT OF 1998: MARKET DEFINITION § 2.8 (OFT 403, Mar. 1999), *available at* http://www.oft.gov.uk/html/comp-act/technical_guidelines/oft403.html. ¶ 2.8 is more explicit than the Commission Notice about profit maximization by the hypothetical monopolist, stating that the issue is whether "whether a hypothetical monopolist . . . would maximise its profits by consistently charging higher prices than it would if it faced competition." ¶ 4.3 offers comparable provisions for the geographic dimensions of markets: "As with the product market, the objective is to identify substitutes which are so close that they would prevent a 'hypothetical monopolist' in one area from charging monopolistic prices." *See also id.* at § 2.9 (iterative process and smallest market principle), § 3.2 (5–10% significance level), § 3.8 (delineating price discrimination markets). However, the OFT guideline explicitly declines to follow the Merger Guidelines' treatment of supply substitution. *Id.* §§ 3.18–3.19. The guideline applies only to cases under the Competition Act of 1988 (comparable to the Sherman Act) and so uses the competitive rather than prevailing price as the benchmark. *Id.* §§ 1.1, 2.9.

hypothetical monopolist paradigm the touchstone for market delineation.[27]

English-speaking countries in the Pacific Rim have embraced the hypothetical monopolist paradigm. Guidelines in New Zealand now provide:

> For the purposes of competition analysis, a relevant market is the smallest space within which a hypothetical, profit-maximizing, sole supplier of a good or service, not constrained by the threat of entry, would impose at least a small yet significant and non-transitory increase in price, assuming all other terms of sale remain constant (the "snnip test").[28]

Similarly, the current Australian merger guidelines state that

> The process of market definition can be viewed as establishing the smallest area of product, functional and geographic space within which a hypothetical current and future profit maximizing monopolist would impose a small but significant and non-transitory increase in price (SSNIP) above the level that would prevail absent the merger. More generally, the market can be defined as the smallest area over which a hypothetical monopolist (or monopsonist) could exercise a significant degree of market power.[29]

The diffusion of the hypothetical monopolist paradigm is also illustrated by the Areeda treatise. The original Areeda-Turner volumes contained just brief references to the hypothetical monopolist paradigm and did not use the term "hypothetical

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[27] The OFT guideline does not follow the Commission Notice (*see supra* note 24) in articulating a conceptual definition of a market that does not include the hypothetical monopolist paradigm.

[28] COMMERCE COMMISSION, PRACTICE NOTE 4, THE COMMISSION'S APPROACH TO ADJUDICATING ON BUSINESS ACQUISITIONS UNDER THE CHANGED THRESHOLD IN SECTION 47—A TEST OF SUBSTANTIALLY LESSENING COMPETITION § 3.6 (2001) (underscoring in original), *available at* http://www.comcom.govt.nz/publications/getfile.cfm?doc_ID=303&filename=pnote428may01.pdf. The Note also indicates that 5% generally is the significance level for a price increase, that markets are built up through an iterative process, and that the smallest market principle is applied. The Note contains a slightly revised version of the discussion of the hypothetical monopolist paradigm originally appearing in COMMERCE COMMISSION, BUSINESS ACQUISITION GUIDELINES § 3.5 (1996, rev'd 1999).

[29] AUSTRALIAN COMPETITION & CONSUMER COMMISSION, MERGER GUIDELINES § 5.44 (June 1999), *available at* http://www.accc.gov.au/pubs/Publications/Business_general/Mergers_and_acquisitions/Mergerguide.pdf. *See also id.* at § 5.45 (iterative procedure), § 5.46 (the hypothetical monopolist paradigm is the "appropriate analytical framework" even if data do not permit precise application). Both prior versions of the Australian merger guidelines also incorporated the hypothetical monopolist paradigm. AUSTRALIAN COMPETITION & CONSUMER COMMISSION, MERGER GUIDELINES § 5.46–49 (July 1996) (nearly identical provisions), TRADE PRACTICES COMMISSION, MERGER GUIDELINES § 4.37 (Draft for Comment, Nov. 1992) (shorter discussion). The 1992 "draft" was publically released an applied until superceded.

monopolist."[30] Annual supplements to the treatise authored by Areeda and Hovenkamp began to appear in 1986, and the first eight stated: "As the main text points out, a 'market' is any grouping of sales whose sellers, if unified by hypothetical cartel or merger, could raise prices significantly above the competitive level."[31] While the main text had made this point, it had not used the phrase "hypothetical cartel or merger," and its use likely is attributable to the Guidelines use of "hypothetical monopolist." In 1995 the market delineation discussions of both the supplement and the original Areeda-Turner volume were replaced by a new volume authored by Areeda, Hovenkamp, and Solow, which, plainly due to the Guidelines, has a very extensive discussion of the hypothetical monopolist paradigm.[32] It is mentioned several dozen times and in more than a dozen separate paragraphs.

Judicial Recognition of the Hypothetical Monopolist Paradigm

Courts have often noted that the Merger Guidelines are not binding on them,[33] which is true but uninteresting. It is interesting that courts often have endorsed or applied the Guidelines' hypothetical monopolist paradigm even though not bound

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[30] *See supra* note 6 and accompanying text.

[31] PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 518.1b, at 263 (Supp. 1986), at 311 (Supp. 1987), at 393 (Supp. 1988), at 431 (Supp. 1989), at 463 (Supp. 1990), at 492 (Supp. 1991), at 518 (Supp. 1992), at 534 (Supp. 1993).

[32] 2A PHILLIP E. AREEDA, HERBERT HOVENKAMP & JOHN L. SOLOW, ANTITRUST LAW (1995). ¶ 530 (at 151) introduces hypothetical monopolist paradigm, citing the Guidelines. ¶ 533 (at 169) states: "A 'market' is any grouping of sales whose sellers, if unified by a hypothetical cartel or merger, could profitably raise prices significantly above the competitive level. If the sales of other producers substantially constrain the price-increasing ability of the hypothetical cartel, these others are part of the market." ¶¶ 536–38 are mainly devoted to the paradigm and the Guidelines' approach to market delineation, and articulate the Guidelines' iterative approach. ¶¶ 551–62 contain many references to the hypothetical monopolist paradigm and the Guidelines' approach in the separate contexts of the geographic and product dimensions of markets.

[33] Such remarks when made in the context of market delineation are discussed *infra* notes 34–35, but they generally have related to the HHI thresholds in the Guidelines. *See, e.g.*, FTC v. H.J. Heinz Co., 246 F.3d 708, 716 n.9 (D.C. Cir. 2001) ("Although the Merger Guidelines are not binding on the court, they provide 'a useful illustration of the application of the HHI.'"); FTC v. PPG Indus., Inc., 798 F.2d 1500, 1503 n.4 (D.C. Cir. 1986) ("the Department of Justice Guidelines offer a useful illustration of the application of the HHI, but are by no means to be considered binding on the court"); FTC v. Swedish Match, 131 F. Supp. 2d 151, 167 n.12 (D.D.C. 2001) ("The Merger Guidelines are not binding on the Court, but as this Circuit has stated, they do provide 'a useful illustration of the application of the HHI.'").

to do so.[34] And it is interesting that no case has explicitly rejected the Guidelines' approach,[35] nor has any case found a relevant market that the court indicated could

[34] *See* California v. Sutter Health Sys., 130 F. Supp. 2d 1109, 1120, 1128–32 (C.D. Cal. 2001) (holding "[a]lthough the Merger Guidelines are not binding, courts have often adopted the [market delineation] standards set forth in the Merger Guidelines in analyzing antitrust issues,"and applying the hypothetical monopolist test); FTC v. Owens-Ill., Inc., 681 F. Sup. 27, 34 n.17, 38–46 (D.D.C. 1988), *vacated as moot*, 850 F.2d 694 (D.C. Cir. 1988) (holding that "the Guidelines are not binding on the courts," yet applying the hypothetical monopolist test); New York v. Kraft Gen. Foods, Inc., 926 F. Supp. 321, 359–61 & n.9 (S.D.N.Y. 1995) (holding that "the Merger Guidelines are helpful in providing an analytical framework for evaluating an acquisition, but they are not binding upon the court" and adopting the Guidelines hypothetical monopolist test) Santa Cruz Med. Clinic v. Dominican Santa Cruz Hosp., 1995-2 Trade Cases ¶ 71,254, at 76,091 n.1, 76,094 n.6 (N.D. Cal. 1995) (holding that the "merger guidelines are not binding on the courts" but citing Guidelines treatment of geographic market approvingly).

[35] Four cases were been cited as having done so by ABA SECTION OF ANTITRUST LAW, MERGERS AND ACQUISITIONS: UNDERSTANDING THE ANTITRUST ISSUES 51 n.53 (Robert S. Schlossberg & Clifford H. Aronson, eds. 2000). One such case is *PPG*, but as note 33 explains, it referred only to the Guidelines' HHI thresholds.

United States v. Englehard Corp., 970 F. Supp. 1463 (M.D. Ga. 1997), noted that "the Guidelines are not binding on the courts" and held that the government's "application of the 5%–10% test" is an "inaccurate barometer " and does not provide an "accurate picture of the relevant product market." *Id.* at 1467, 1484. The court's point was that a larger price increase was more appropriate in that particular case. *Id.* at 1467–68. But the Guidelines indicate that a large price increase may be used. *See supra* note 18. In affirming, the Eleventh Circuit sidestepped the "the validity of the 5–10% test" "as a general matter of law" by finding that the government had failed to establish its alleged market even using a 5–10% price increase. 126 F.2d 1302, 1304–05 (11th Cir. 1997). Significantly, the only test applied by the court was the Guidelines' hypothetical monopolist test.

Olin Corp. v. FTC, 986 F.2d 1295 (9th Cir. 1993), also held that "the Guidelines are not binding on the courts" and also addressed the appropriate price increase. *Id.* at 1299–300. On appeal of an FTC decision rested on the Guidelines, Olin Corp., 113 F.T.C. 400, 595–600 (1990), the issue was not whether the Commission's product group constituted a market, but rather whether it constituted the smallest market under the Guidelines. 986 F.2d at 1301–02. It appears to have been undisputed that the FTC's market was not the smallest relevant market unless a price increase of more than 10% was used. The Ninth Circuit quoted the Guidelines at length and ultimately affirmed, apparently holding that 5% is not is the only relevant price increase level for purposes of the analysis. *Id.* at 1299–302. That holding is consistent with the Guidelines. The Ninth Circuit embraced the hypothetical monopolist paradigm in Rebel Oil Co., Inc. v. Atl. Richfield Co., 51 F.3d 1421, 1434 (9th Cir. 1995).

Monfort of Colo., Inc. v. Cargill, Inc, 591 F. Supp. 683, 695 (D. Colo. 1983), similarly held that the "Department of Justice Merger Guidelines are not binding on this court." *Id.* at 695. The court also delineated relevant markets without reference to the Guidelines or hypothetical monopolist paradigm. *Id.* at 696–705. In affirming, the Tenth Circuit "agree[d] with the district court's decision not to rely on these Guidelines." 761 F.2d 570, 579 (10th Cir. 1985), *rev'd on other grounds*, 479 U.S. 104 (1986). The court somewhat cryptically added: "On the issue of market definition, a decision based on these Guidelines remains as inexact as the data gathered to make the assessment." 761 F.2d at 579. It is doubtful that the application of the Guidelines would have made much difference in this case. The Tenth Circuit embraced the hypothetical monopolist paradigm in SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958, 966 not be supported by the hypothetical monopolist test.

The judicial recognition of the hypothetical monopolist paradigm has often taken the form of quoting leading treatises, rather than the Guidelines. Including the district courts therein, at least part of the Sullivan paragraph[36] has been quoted in the First, Third, Fifth, Eighth, Ninth, Tenth, Eleventh, and D.C. Circuits.[37] And the hypothetical monopolist paradigm as expressed in one of the incarnations of the Areeda treatise[38] has been quoted or paraphrased in the First, Second, Third, Fourth, Sixth, Eighth, and Ninth Circuits.

Of greater significance are cases in which the court's reasoning relied heavily on the hypothetical monopolist paradigm. Most notable among these is *United States v. Archer-Daniels-Midland Co.*, a merger case in which the district court took the unusual step of granting summary judgment against the government on the critical issue of market delineation. The case involved high fructose corn syrup (HFCS), a liquid sweetener made from corn. The next-best substitute for HFCS was sugar, and as a result of government price supports for sugar, its price was at least 10% higher than that of HFCS on a sweetness equivalency basis. Consequently, HFCS had gradually replaced sugar in those uses, mainly soft drinks, for which price on a sweetness equivalency basis was the criterion for selection of a sweetener. The evidence was clear that HFCS users would switch back to sugar if, and only if, the price of HFCS rose above that of sugar on a sweetness equivalency basis. Plainly, an HFCS monopolist would have raised its price to just below the price of sugar on a sweetness equivalency basis, which would have constituted at least a 10% increase in price. This insight failed to move the district court,[39] but it did move the Eighth

(10th Cir. 1994).

[36] *See supra* text accompanying note 5.

[37] The Appendix lists cases, by circuit, with any relevance to the hypothetical monopolist paradigm. Each citation is accompanied with an explanatory parenthetical indicating the relevance of the case. Because the list is meant to be exhaustive, even cases of slight relevance are included, as are vacated opinions.

[38] *See supra* text accompanying note 6 and notes 30–32 and accompanying text.

[39] It held that sugar was in the relevant market because it was interchangeable in use with HFCS (an undisputed fact), because a high cross elasticity of demand for HFCS was demonstrated by the substitution from HFCS to sugar resulting from the price difference between the two (a

Circuit:

> [W]e cannot ignore the fact that Congress has enacted a sugar program that has artificially inflated the price of sugar. As a result, the domestic price of HFCS has been 10%–30% lower than the price of sugar. Because of lower price, many buyers of sugar have turned to HFCS. As long as an effective price support program is in existence, a monopolist of HFCS will be able to raise the price of HFCS to just below the supported price of sugar before being constrained by the competitive forces of sugar. In other words, the HFCS monopolist is able to exercise market power. . . . [Thus, t]he price differential between sugar and HFCS, at least as a result of government price supports, is sufficient to show that sugar is not reasonably interchangeable with HFCS and thus does not belong in the same relevant product market with HFCS.[40]

Also of significance is *Coastal Fuels of Puerto Rico, Inc. v. Caribbean Petroleum Corp.*, which involved a monopolization claim tried before a jury. The defendant operated a refinery in Puerto Rico and sold residual fuel oil to the plaintiff and other marine fuel operations in San Juan Harbor. The latter companies mixed the residual fuel oil with diesel fuel to produce bunker fuel for cruise ships and other ocean going vessels powered by internal combustion or steam engines. The jury found that the geographic scope of the relevant market was limited to San Juan Harbor because the marine fuel operations in San Juan Harbor had no choice but to obtain fuel from defendant's nearby refinery. The First Circuit, however, held that "[t]he touchstone of market definition is whether a hypothetical monopolist could raise prices" and reasoned that a hypothetical monopoly seller of bunker fuel in San Juan Harbor could not possess monopoly power because the ships purchasing bunker fuel in San Juan Harbor could easily substitute competitively priced fuel supplies from other ports of call.[41]

Application of Critical Elasticity and Critical Loss Analysis

An early criticism of the 1982 Merger Guidelines' approach to market delineation

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misunderstanding of the concept of cross elasticity because the substitution was not occasioned by a price change), and because there was a high correlation in the prices of sugar and HFCS. 695 F. Supp. 1000, 1013–17 (S.D. Iowa 1987).

[40] 866 F.2d 242, 246 (8th Cir. 1988).

[41] 79 F.3d 182, 197–98 (1st Cir. 1996) (reversing judgment on a monopolization claim and remanding damage award for a price discrimination claim).

was that it could not be rigorously applied through the analysis of data.[42] It was quickly realized, however, that the criticism is dead wrong. The hypothetical monopolist paradigm can be implemented in an enirely straightforward manner through a "critical elasticity of demand" or "critical loss" analysis.[43] The critical elasticity is the maximum premerger elasticity of demand for candidate group of products and area such that a hypothetical monopolist over that candidate market would increase price by at least some established significance threshold, e.g., 5%. The critical loss is the maximum reduction in quantity sold that a hypothetical monopolist would be willing to tolerate to sustain a given price increase.[44] Over the last decade, critical elasticity and critical loss analyses have become standard analytical tools; they are now used in the investigation and litigation phase of most merger cases.

Critical loss analysis has been relied upon by several courts in assessing the geographic scope of hospital markets in merger cases. In *FTC v. Tenet Health Care Corp.*, the district court granted the FTC's motion for a preliminary injunction, accepting the FTC's contention that the geographic scope of the relevant market was a 50-mile radius around Poplar Bluff, Missouri.[45] On appeal, the defendant argued that its critical loss analysis demonstrated that the FTC's market was too narrow.

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[42] *See* Stigler & Sherwin, *supra* note 2, at 582.

[43] There is a substantial and growing literature on this topic. *See* Michael G. Baumann & Paul E. Godek, *Could and Would Understood: Critical Elasticities and the Merger Guidelines*, 40 ANTITRUST BULL. 885 (1995); Kenneth Danger & H.E. Frech III, *Critical Thinking About "Critical Loss" in Antitrust*, 46 ANTITRUST BULL. 339 (2001); Barry C. Harris & Joseph J. Simons, *Focusing Market Definition: How Much Substitution Is Enough*, *in* 12 RESEARCH IN LAW AND ECONOMICS 207 (Richard O. Zerbe, Jr. ed., 1989; Frederick I. Johnson, *Market Definition under the Merger Guidelines: Critical Demand Elasticities*, *in* 12 RESEARCH IN LAW AND ECONOMICS 235 (Richard O. Zerbe, Jr. ed., 1989); James Langenfeld & Wenqing Li, *Critical Loss Analysis in Evaluating Mergers*, 46 ANTITRUST BULL. 299 (2001); Werden, *Demand Elasticities*, *supra* note 14, 387–96; Gregory J. Werden, *Four Suggestions on Market Delineation*, 37 ANTITRUST BULL. 107, 119–20 (1992).

[44] All measures of critical elasticity and critical loss depend on the significance threshold for price increases and on the premerger price-cost margin for the candidate market. All measures of critical elasticity and critical loss implementing the Guidelines' hypothetical monopolist test also depend on the assumed curvature of demand. There is, however, an alternative analysis which asks not what price increase maximizes the hypothetical monopolists' profit, but rather what is the greatest price increase that does not reduce it. The critical loss associated with this breakeven analysis has the virtue of not depending on the curvature of demand. *See* Werden, *Demand Elasticities*, *supra* note 14, at 387–91, 410–12.

[45] 17 F. Supp. 2d 937, 942–45 (E.D. Mo. 1998).

Without explicitly endorsing critical loss analysis, the Eighth Circuit held that the record evidence did not establish that hospitals outside the FTC's market were not "practical alternatives for many Poplar Bluff consumers."[46] Critical loss analysis was explicitly endorsed by two district court decisions on challenges to hospital mergers. In *United States v. Mercy Health Services*, the court based its conclusion on the geographic scope of the relevant market on several alternative critical loss analyses, finding in part that "the total of those likely to switch in the event of a 5% price rise [likely would be] higher than the 8% necessary to make the price rise unprofitable."[47] In *California v. Sutter Health System*, the court undertook an even more extensive critical loss analysis in rejecting the plaintiff's proposed market, holding in part that

> accepting a critical loss figure of 10.5% (the upper end of plaintiff's critical loss range using a 5% price increase), if [managed care plans and physician groups] were able to steer only about two-thirds of the patients that currently travel into the proposed market to hospitals are actually closer to those patients outside of the proposed market, this loss of volume in and of itself would be sufficient to defeat a SSNIP.[48]

Two recent merger cases are illustrative of the prominent role critical elasticity and critical loss analysis now play. In *FTC v. Swedish Match*, the opposing economic experts both relied on critical elasticity analysis, and while the court ultimately found neither expert's evidence "persuasive," it did discuss this evidence in some detail, and the court relied on its own simple critical loss analysis, concluding that "it cannot be unprofitable for the hypothetical monopolist to raise price . . . because the hypothetical monopolist would lose only a small amount of business."[49] In *United States v. Sungard Data Systems, Inc.*, the court referred to the defendant's contention

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[46] 186 F.2d 1045, 1052–54 (8th Cir, 1999).

[47] 902 F. Supp. 968, 980–83 (N.D. Iowa 1995). The court actually undertook three separate critical loss analyses. The one quoted in the text assumed 5% price increase. *Id.* at 980–81. A second was based on an assumed elimination of managed care discounts, which entailed a substantially larger price increase (indeed, a larger price increase than the court realized). *Id.* at 981–82. The third considered a market predicated on geographic price discrimination against local patients. *Id.* at 982–86.

[48] 130 F. Supp. 2d 1109, 1120, 1128–32 (C.D. Cal. 2001). Purporting to follow the Horizontal Merger Guidelines, the district court erroneously held that the only relevant price increase for the critical loss analysis is the Guidelines' 5%. *Id.* at 1129. In fact, the Guidelines require that the actual sales loss be less than the critical loss for *every* price increase of *at least* 5%. It is reasonably common for a 5% price increase not to be profitable, even though the profit-maximizing price increase is greater than 5%.

[49] 131 F. Supp. 2d 151, 160–61 & n.8 (D.D.C. 2001).

that the critical loss was very low and rejected the government's proposed market because it had not been shown that the customers who would not switch in the face of a price increase were "substantial enough that a hypothetical monopolist would find it profitable to impose such an increase in price."[50]

Conclusion

The 1982 Merger Guidelines did not invent the hypothetical monopolist paradigm, but they deserve a great deal of credit for innovating it. The Guidelines built an elaborate framework for merger analysis around that paradigm and were instrumental in its widespread adoption. The hypothetical monopolist paradigm, if not the Guidelines' entire framework, has been acknowledged as an important tool by the courts in the United States and enforcement agencies around the world.

[50] 172 F. Supp. 2d 172, 182, 186–92 & n.21 (D.D.C. 2001).

Appendix

1st Circuit

Coastal Fuels of P.R., Inc. v. Caribbean Petroleum Corp., 79 F.3d 182, 197–98 (1st Cir. 1996) (quoting 2A AREEDA ET AL. ¶ 533b; holding: "The touchstone of market definition is whether a hypothetical monopolist could raise prices."; and applying this touchstone to reject a Section 2 claim)

Home Placement Serv., Inc. v. Providence Journal Co., 682 F.2d 274, 280 (1st Cir. 1982) (quoting the last sentence of the SULLIVAN excerpt)

Picker Int'l, Inc. v. Leavitt, 865 F. Supp. 951, 959 (D. Mass. 1994) (citing AREEDA & HOVENKAMP 1991 Supp. ¶ 518.1b for the proposition that "the ultimate question concerning market definition is whether a hypothetical cartel could raise prices significantly above the competitive level")

2d Circuit

Todd v. Exxon Corp., 275 F.3d 191, 202 (2d Cir. 2001) (quoting *AD/SAT*, which had quoted 2A AREEDA ET AL. ¶ 533)

AD/SAT v. Associated Press, 181 F.3d 216, 228–29 (2d Cir. 1999) (quoting 2A AREEDA ET AL. ¶ 533)

United States v. Eastman Kodak Co., 63 F.3d 95, 106–07 (2d Cir. 1995) (quoting the Guidelines' hypothetical monopolist test as applied to geographic price discrimination markets but rejecting the government's proposed market because there was "no probative evidence in the record to support the assertion that Kodak engages in geographic price discrimination")

United States v. Visa U.S.A., Inc., 163 F. Supp. 2d 322, 335–38 (S.D.N.Y. 2001) (citing the Merger Guidelines and case law for the proposition that "a market is properly defined when a hypothetical profit-maximizing firm selling all of the product in that market could charge significantly more than a competitive price, i.e., without losing too many sales to other products to make its price unprofitable," and endorsing expert's analysis applying this test), *appeal pending* No. 02-6074, 02-6076, 02- 6078 (2d Cir.)

Pepsico, Inc. v. Coca-Cola Co., 1998-2 Trade Cas. (CCH) ¶ 72,257, at 82,642 (S.D.N.Y. 1998) (holding that end-use segments may contitute relevant markets if the hypothetical monopolist test is satisfied), *appeal pending* No. 00-9342 (2d Cir.)

Anti-Monopoly, Inc. v. Hasbro, Inc., 958 F. Supp. 895, 902 (S.D.N.Y. 1997) (citing the Merger Guidelines and 2A AREEDA ET AL. ¶ 533c for the proposition that: "The relevant inquiry for market definition is whether a hypothetical union of all producers of the product or products in the putative market would possess significant power over price. If so, then the product or products comprise a relevant market.")

New York v. Kraft Gen. Foods, Inc., 926 F. Supp. 321, 359–61 (S.D.N.Y. 1995) (quoting the Guidelines' hypothetical monopolist paradigm at length and purporing to apply it)

Bon-Ton Stores, Inc. v. May Dep't Stores Co., 881 F. Supp. 860, 872 (W.D.N.Y. 1994) (quoting the Guidelines hypothetical monopolist test and finding a relevant market based on a predicted price increase from the proposed merger)

3d Circuit

Delaware Health Care Inc. v. MCD Holding Co., 957 F. Supp. 535, 542–43 (D. Del. 1997) (citing the Guidelines' hypothetical monopolist test approvingly)

Moore Corp. Ltd. v. Wallace Computer Servs., Inc., 907 F. Supp. 1545, 1580 n.27 (D. Del. 1995) ("Courts have frequently looked to these Merger Guidelines (most recently promulgated in 1992) as an advisory aid in determining the relevant product market")

Piazza v. Major League Baseball, 831 F. Supp. 420, 439 (E.D. Pa. 1993) (quoting AREEDA & HOVENKAMP 1991 Supp. ¶ 518.1b)

Ansell Inc. v. Schmid Labs., Inc., 757 F. Supp. 467, 475 & n.4 (D.N.J.) (quoting Guidelines' hypothetical monopolist paradigm), *aff'd without opinion*, 941 F.2d 1200 (3d Cir. 1991)

Bascom Food Prods. Corp. v. Reese Finer Foods, Inc., 715 F. Supp. 616, 627 (D.N.J. 1989) (quoting the second sentence of the SULLIVAN excerpt)

Hudson's Bay Co. Fur Sales Inc. v. Am. Legend Coop., 651 F. Supp. 819, 835 (D.N.J. 1986) (quoting the second sentence of the SULLIVAN excerpt)

Pontius v. Children's Hosp., 552 F. Supp. 1352, 1365 (W.D. Pa. 1982) (quoting all but the first sentence of the SULLIVAN excerpt)

Robinson v. Magovern, 521 F. Supp. 842, 877 (W.D. Pa. 1981) (quoting all but the first sentence of the SULLIVAN excerpt)

4th Circuit

Int'l Wood Processors v. Power Dry, Inc., 792 F.2d 416, 430 (4th Cir. 1986) (quoting the last sentence of the SULLIVAN excerpt)

Satellite Tel. & Associated Res, Inc. v. Cont'l Cablevision of Va., Inc., 714 F.2d 351, 356 (4th Cir. 1983) (quoting the last sentence of the SULLIVAN excerpt)

Victus, Ltd. v. Collezione Europa U.S.A., Inc., 26 F. Supp. 2d 772, 784–85 (M.D.N.C. 1998) (quoting 2A AREEDA ET AL. ¶¶ 536, 560)

Va. Vermiculite, Ltd. v. W.R. Grace & Co., 108 F. Supp. 2d 549, 587 (W.D. Va. 2000) (accepting defendant's relevant market contention based on hypothetical monopolist test)

5th Circuit

Dimmitt Agri Indus., Inc. v. CPC Int'l Inc., 679 F.2d 516, 526 n.7 (5th Cir. 1982) (quoting the first sentence of the SULLIVAN excerpt)

Ginzburg v. Mem'l Healthcare Sys., Inc., 993 F. Supp. 998, 1012 (S.D. Tex. 1997) (quoting the last sentence of the SULLIVAN excerpt)

6th Circuit

Virtual Maint., Inc. v. Prime Computer, Inc., 957 F.2d 1318, 1325 (6th Cir. 1992) (quoting AREEDA & HOVENKAMP ¶ 518.1b 1987 Supp.), *vacated and remanded*, 506 U.S. 910 (1992), *on remand*, 11 F.3d 660 (6th Cir. 1994)

7th Circuit

Elliott v. United Center, 126 F.3d 1003, 1005 (7th Cir. 1997) (quoting *Israel Travel*)

Israel Travel Advisory Serv. v. Israel Identity Tours, 61 F.3d 1250, 1252 (7th Cir. 1995) (holding that "a market is defined to aid in identifying any ability to raise price by curtailing output")

Ball Mem'l Hosp., Inc. v. Mutual Hosp. Ins., Inc., 784 F.2d 1325, 1336 (7th Cir. 1986) (citing the Guidelines approach to market delineation approvingly)

8th Circuit

FTC v. Tenet Health Care Corp., 186 F.3d 1045, 1053–54 & n.11 (8th Cir. 1999) (citing the Guidelines' hypothetical monopolist test and holding that the failure of FTC to employ the implied critical loss analysis was fatal)

H.J., Inc. v. Int'l Tel. & Tel. Corp., 867 F.2d 1531, 1537–38 (8th Cir. 1989) (quoting AREEDA & HOVENKAMP 1987 Supp. ¶ 518.1b)

United States v. Archer-Daniels-Midland Co., 866 F.2d 242 (8th Cir. 1988) (employing the Guidelines' hypothetical monopolist paradigm to reverse summary judgment), *rev'g* 695 F. Supp. 1000 (S.D. Iowa 1987)

Gen. Indus. Corp. v. Hartz Mountain Corp., 810 F.2d 795, 805 (8th Cir. 1987) (quoting the first sentence of the SULLIVAN excerpt)

United States v. Mercy Health Servs., 902 F. Supp. 968, 980–86 (N.D. Iowa 1995) (applying critical loss analysis implied by Guidelines' hypothetical monopolist test in ruling against the government and citing AREEDA & HOVENKAMP 1993 Supp. ¶ 518.1b for the proposition that a "geographic [price discrimination] market can be shown by showing resulting market power over any group of buyers"), *appeal dismissed as moot and opinion vacated*, 107 F.3d 632 (1997)

Comty. Publishers, Inc. v Donrey, 892 F. Supp. 1146, 1153–54 & n.6, 1161 (W.D. Ark. 1995) (citing the Guidelines on market delineation approvingly; holding that they reflect "mainstream economic thinking" on market delineation and that "the approaches to market definition endorsed by the Merger Guidelines and the case law are entirely consistent"; and quoting the first sentence of the SULLIVAN excerpt), *aff'd*, 139 F.3d 1180 (8th Cir. 1998)

United States v. Country Lake Foods, Inc., 754 F. Supp. 669, 672–73, 675–77 (D. Minn. 1990) (applying the Guidelines' market delineation test in ruling against the government)

9th Circuit

Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1203–04 (9th Cir. 1997) (finding a relevant market on the basis that "a monopolist or a hypothetical cartel . . . would have market power," quoting AREEDA & HOVENKAMP 1993 Supp. ¶ 518.1b)

Rebel Oil Co., Inc. v. Atl. Richfield Co., 51 F.3d 1421, 1434 (9th Cir. 1995) (citing AREEDA & HOVENKAMP ¶ 518.1b 1993 Supp. for the proposition that "[a] 'market' is any grouping of sales whose sellers, if unified by a monopolist or a hypothetical cartel, would have market power in dealing with any group of buyers.")

Olin Corp. v. FTC, 986 F.2d 1295, 1299–300 (9th Cir. 1993) (quoting the Guidelines' market delineation discusssion at length and affirming and FTC decision based on the hypothetical monopolist test)

California v. Sutter Health Sys., 130 F. Supp. 2d 1109, 1120, 1128–32 (C.D. Cal. 2001) (quoting the Guidelines' hypothetical monopolist test and AREEDA & HOVENKAMP 1993 Supp. ¶ 518.1b, and applying critical loss analysis implied by the hypothetical monopolist test)

United States v. Rank Org. Plc, 1990-2 Trade Cas. (CCH) ¶ 69,257 (C.D. Cal. 1990) (rejecting the alleged market on the basis of the Guidelines' hypothetical monopolist test)

In re Air Passenger Computer Reservations Sys. Antitrust Litig., 694 F. Supp. 1443, 1457 (C.D.Cal. 1988) (quoting AREEDA & HOVENKAMP 1986 Supp. ¶ 518.1b)

Bhan v. NME Hosps., Inc., 669 F. Supp. 998, 1018 (E.D. Cal. 1987) (quoting AREEDA & TURNER ¶ 518)

Grason Elec. Co. v. Sacramento Mun. Util. Dist., 571 F. Supp. 1504, 1520 (E.D. Cal. 1983) (quoting the first sentence of the SULLIVAN excerpt)

10th Circuit

SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958, 966 (10th Cir. 1994) (quoting the second sentence of the SULLIVAN excerpt)

Westman Comm'n Co. v. Hobart Int'l, Inc., 796 F.2d 1216, 1222 (10th Cir. 1986) (quoting the second and last sentences of the SULLIVAN excerpt)

Monfort of Colo., Inc. v. Cargill, Inc., 761 F.2d 570, 579 (10th Cir. 1985) (holding that the district court was right "not to rely" on the Guidelines for market delineation), *aff'g* 591 F. Supp. 683, 695–96 (D. Colo. 1983), *rev'd on other grounds*, 479 U.S. 104 (1986)

Midwest Radio Co., Inc. v. Forum Publ'g Co., 1990-1 Trade Cas. (CCH) ¶ 69,082, at 63,959 (D.N.D. 1989) (quoting all but the first sentence of the SULLIVAN excerpt)

11th Circuit

United States v. Engelhard Corp., 126 F.3d 1302, 1304–08 (11th Cir. 1997) (applying the Guidelines' hypothetical monopolist test to affirm a decision adverse to the government, but not addressing "as a general matter of law, the validity of the 5–10% test"), *aff'g* 970 F. Supp. (M.D. Ga. 1997)

U.S. Anchor Mfg., Inc. v. Rule Indus., Inc., 7 F.3d 986, 995–96 (11th Cir. 1993) (holding that "the very purpose of defining the relevant market under section 2 is to determine whether a monopolist, cartel or oligopoly in that market would be able to reduce marketwide output simply by cutting its own output, and thereby raise marketwide prices above competitive levels")

S. Bus. Communications, Inc. v. Matsushita Elec. Corp. of Am., 806 F. Supp. 950, 957 (N.D. Ga. 1992) (quoting the second sentence of the SULLIVAN excerpt but attributing it to *Rothery*)

E.T. Barwick Indus. v. Walter E. Heller & Co., 692 F. Supp. 1331, 1344 (N.D. Ga. 1987) (quoting the second sentence of the SULLIVAN)

Drs. Steuer and Latham, P.A. v. Nat'l Med. Enters., Inc., 672 F. Supp. 1489, 1510 n.16 (D.S.C. 1987) (quoting the Guidelines' hypothetical monopolist test)

Consolidated Gas Co. of Florida v. City Gas Co. of Florida, 665 F. Supp. 1493, 1517 (S.D. Fla. 1987) (quoting extensively from the Guidelines' discussion of market delineation and indicating that discussion is a "good common sense explanation of the process" of market delineation), *aff'd*, 880 F.2d 297 (11th Cir. 1989), *vacated*, 889 F.2d 264 (11th Cir. 1989), *reinstated en banc*, 912 F.2d 1262 (11th Cir. 1990), *vacated as moot*, 499 U.S. 915, *dismissed as moot*, 931 F.2d 710 (11th Cir. 1991)

D.C. Circuit

CF Indus., Inc. v. Surface Transp. Bd., 255 F.3d 816, 823 n.13 (D.C. Cir. 2001) (citing the Guidelines' hypothetical monopolist paradigm approvingly, as analogous to the proper market power analysis in a regulatory context).

United States v. Microsoft Corp., 253 F.3d 34, 81 (D.C. Cir. 2001) ("To establish a dangerous probability of success, plaintiffs must as a threshold matter show that the browser market can be monopolized, *i.e.*, that a hypothetical monopolist in that market could enjoy market power.")

Rothery Storage & Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 218 (D.C. Cir. 1986) (quoting the second sentence of the SULLIVAN excerpt)

Superior Court Trial Lawyers Ass'n v. FTC, 856 F.2d 226, 250 & n.33 (D.C. Cir. 1988) (endorsing a price-increase test for market delineation and citing the Guidelines), *rev'd*, 493 U.S. 411 (1990)

United States v. Sungard Data Sys., Inc., 172 F. Supp. 2d 172, 182, 186–92 (D.D.C. 2001) (citing the Guidelines' hypothetical monopolist test approvingly and ruling against the government for failure to satisfy that test)

FTC v. Swedish Match, 131 F. Supp. 2d 151, 160–61 & n.8 (D.D.C. 2001) (paraphrasing the Guidelines' hypothetical monopolist test, discussing expert applications using critical elasticity analysis, and informally applying the hypothetical monopolist test)

FTC v. Staples, Inc., 970 F. Supp. 1066, 1076–77 & n.8 (D.D.C. 1997) (quoting Guidelines' hypothetical monopolist test and basing relevant market finding on actual exercise of market power)

FTC v. Owens-Ill., Inc., 681 F. Supp. 27, 38 & n.32, 40, 41, 42 (D.D.C. 1988) (quoting the Guidelines' hypothetical monopolist test and applying multiple times), *vacated as moot*, 850 F.2d 694 (D.C. Cir. 1988)