1   FEDERAL TRADE COMMISSION

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5   EMPIRICAL INDUSTRIAL   )

6   ORGANIZATION ROUNDTABLE   )

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12   Tuesday, September 11, 2001

13   10:10 a.m.

14   Federal Trade Commission

15   6th Street & Pennsylvania Avenue, N.W.

16   Washington, D.C. 20580

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22   <u>Edited Transcript</u>: These proceedings were professionally

23   transcribed as described on the page 142 of the transcript.

24   The transcript was then edited by FTC staff to improve

25   punctuation, spelling and clarity. In addition each speaker

26   was given the opportunity to edit their comments.

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1   PANEL MEMBERS

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3   David T. Scheffman   Federal Trade Commission
           (Moderator)

4   Dennis W. Carlton   University of Chicago
           (Chair)

5   Jerry A. Hausman   Massachusetts Institute of

6   Technology

7   Janusz A. Ordover   New York University

8   Richard L. Schmalensee   Massachusetts Institute of

9   Technology

10   Michael Whinston   Northwestern University

11   Benjamin Klein   University of California at Los

12   Angeles

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1   **P R O C E E D I N G S**

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3   MR. SCHEFFMAN: This is obviously a sad and

4   infuriating morning. I think we should go forward and do what

5   we're going to do. The Agency is in contact with the

6   Government and we have been told to just go ahead and do our

7   normal duties. And if we get instructions to do something

8   else we will let you know immediately.

9   Going on to the purpose of today, we have seven of the

10   dozen or so leading industrial organization economists in the

11   world here and the advantage that most of them have -- all of

12   them really -- is that they are practitioners.

13   **[Whereupon there was a brief discussion off the record about**

14   **unfolding events]**

15   MR. SCHEFFMAN: Thanks, Tim. As I was saying, we have

16   a panel of seven of the dozen or so top industrial

17   organization economists here. They're also active

18   practitioners. They work as experts in antitrust consulting

19   so they know quite a bit about what we do.

20   But let me say that in the Bureau of Economics and

21   among the Division's economists, we know much more about what

22   we do than anyone else, not just because of the way we do it,

23   because we just have much more experience than anyone else in

24   reviewing industries, doing antitrust investigations.

25   We are on the cutting edge of practice. We're not on

26   the cutting edge of theory although we contribute to the

27   literature. We are on the cutting edge of the empirical

1   implementation there.

2   Now, when Tim asked us some time ago to put this panel

3   together for this discussion, the purpose of the conference is

4   to identify empirical research that we could do -- the

5   agencies could do or which could be done by outsiders that

6   would help us do our mission better of protecting competition

7   and consumers.

8   Tim and I both believe that industrial organization

9   theory has outstripped empirical research. This is a very,

10   very new field -- in my view very, very new.

11   Modern economic theory began probably with Samuelson's

12   Foundations and that's a half a century old. But we only very

13   recently have data and the computing power to actually even

14   begin to try and test some of the theories.

15   Nonetheless, that's not to say we can't -- we aren't

16   going to enforce the antitrust laws. We will. There's very

17   broad consensus in economics about concentration and about

18   barriers to entry and about general forms of anticompetitive

19   theories.

20   But we need much more empirical research. And that's

21   what I've asked the panelists to do. I asked them to do

22   something very difficult, as I want them to talk about what

23   they don't know, not what they do know.

24   We know what they know. They are prominent

25   publishers. We want to know what they don't know in regard to

26   what we should be looking at in the future.

27   And we're active players in this. One of the issues

1   is, what do we know about the effects of what we have done in

2   the past? How we can tell that in merger areas is look at

3   merger retrospectives, look at mergers we have blocked or

4   haven't blocked and see if we can tell what the outcome is.

5   And we have done some of that in the past and we're going to

6   do significantly more of it. And we encourage outsiders to do

7   that, too.

8   Okay. The way the panel is going to work -- each

9   person is limited to 15 minutes to tell us what they don't

10   know, and then I'm going to pick someone -- someone from the

11   panel -- to respond for five minutes.

12   Then we'll have about ten minutes for questions from

13   the floor or further interaction from the panel. We'll go

14   until some time after noon. We'll have a lunch break of an

15   hour, hour and a half, and reconvene at 1:30. Okay?

16   So most of you know -- let me tell you the panel,

17   Dennis Carlton from the University of Chicago and Lexecon,

18   Jerry Hausman from MIT and Lexecon. Janusz Ordover from NYU

19   as we know who has been involved actively in doing our sort of

20   job in the past with the antitrust division. And I don't know

21   what your affiliation is, Janusz.

22   Dick Schmalensee from MIT who has been active in the

23   past working with the FTC on the cereals case and others, and

24   has the unusual distinction of being a business school dean,

25   which is an odd position these days, and is affiliated with

26   NERA.

27   We also have -- he's not here yet, probably having

1   trouble getting across town, Steve Salop, from Georgetown Law

2   Center and C.R.A.

3   Mike Whinston from Northwestern University, and Ben

4   Klein from UCLA, who has his own economic consulting empire

5   there.

6   So we look forward to hearing what the people have to

7   say and your questions and answers, since there are many

8   experienced practitioners in the audience.

9   Remember -- when we come to questions from the

10   audience, please stand and identify yourself, because we're

11   transcribing this. And remember this is an open meeting so we

12   don't discuss any confidential Commission business at all,

13   either panelists or anyone from the audience. So we're going

14   to begin with Dennis Carlton.

15   MR. CARLTON: Thanks, David. It's a pleasure to be

16   here. I am grateful for the opportunity to discuss these

17   topics. I'm grateful that Tim asked me to put together this

18   panel. In particular, I want to thank the panelists for

19   coming. All are well-known academic economists with much

20   experience in antitrust. And several of us have worked at the

21   FTC or DOJ in one capacity or another.

22   And the purpose is, as I understand it, as Dave said,

23   is to draw on our knowledge and experience to convey our views

24   of antitrust. But more importantly to convey our ideas about

25   fruitful areas of research. It's hard to get economists to

26   talk about what they don't know but we will do our best.

27   Because time is limited I'm going to talk about three

1   areas: empirical methods, econometrics; second, efficiencies;

2   and the third, innovation markets.

3   I might just touch very briefly on some topics and ---

4   because of time limitations, and maybe we can come back to

5   them in a discussion period.

6   Let me turn to econometrics, both the standard

7   straightforward kind that we're used to, as well as the more

8   sophisticated kind that's been used on large scanner data

9   sets.

10   First point, these econometric methods are a

11   complement, not a substitute, for existing methods. That may

12   be an obvious point, but I think it's an important point. You

13   know a lot about the right questions to ask. What's been the

14   effect of entry? What's been the pattern of pricing in the

15   industry? Those remain the same relevant questions. And you

16   don't want to throw that type of analysis away.

17   Second, you don't want to discourage the use of these

18   new methods simply because they either use new techniques or

19   they use fancy data sets that you're not convinced are perfect

20   data sets. There are no perfect data sets, and it's better to

21   use the data you have than to ignore it.

22   In terms of the econometric techniques, there are

23   really two types I want to talk about. The first one is the

24   more standard one, a reduced form technique in which what you

25   do is you relate price or some other variable of interest to a

26   variety of economic characteristics, including some measure of

27   market concentration.

1   This phrasing of the question is actually the precise

2   phrasing of the question that an antitrust authority wants to

3   see. What will happen when --

4   **[Whereupon there was a brief discussion off the record about**

5   **unfolding events]**

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7   MR. CARLTON: That's all right. Economics is

8   important but gee, it's hard to keep focused. I just came

9   back from Israel, and I gave a lecture to the antitrust

10   authority, and then two days later they had this attack in

11   Jerusalem. And now I'm giving this lecture here to the

12   antitrust authority, and we're having an attack.

13   Econometricians always talk about -- never mind. So

14   let's talk about a reduced form. That's actually related to

15   what I was just saying. It's the precise question that an

16   antitrust authority wants to answer. What happens after you

17   change concentration, which is what a merger will do, to some

18   relevant measure of performance?

19   So that technique, actually, has gotten a lot of

20   criticism. In my book I heavily criticize it. Why? It's

21   because most of those studies rely on cross-sectional analysis

22   across industries. And that has many flaws.

23   On the other hand, if you do these studies right

24   within an industry, perhaps over time or a cross-section of

25   local markets at the same time, you may be able to get the

26   correct answer, provided you have some understanding of what

27   are the forces creating concentration.

1   I won't go into detail about how you can get that

2   understanding, but the point is this actually answers

3   precisely the question that an antitrust authority should be

4   asking.

5   Let me now turn to some of these more sophisticated

6   methods, structural methods I'll call them. They're called

7   structural because they start out by estimating demand curves

8   and, in particular, they are used to estimate demand curves

9   for differentiated products.

10   We have the ability to do this now because we have

11   access to very large data sets on individual products and

12   pricing, sometimes known as the scanner data sets. This

13   allows you to estimate not just demand curves, elasticities,

14   cross-elasticities, but also to estimate welfare effects.

15   How do these methods work? You estimate the demand

16   curve for a variety of different products, including all the

17   cross-elasticities. Then what you do is you make an

18   assumption about the type of oligopoly game that is played.

19   That is, how are the oligopolists interacting amongst each

20   other? Standard assumption is a Bertrand assumption. Once

21   you've made that assumption you can -- Jerry, you can sit up

22   here.

23   **[At which point Mr. Hausman enters]**

24   MR. HAUSMAN: I've had a bit of a walk.

25   MR. CARLTON: This is Jerry Hausman, everyone. Once

26   you have estimated the demand curve, what you do -- and you

27   specify the oligopoly game, you then know price is a function

1   of marginal cost and the elasticity of demand. Since you can

2   observe price and since you can observe the estimated

3   elasticity of demand, you can actually figure out marginal

4   cost from this.

5   Caveat, it's a little dangerous to be figuring out

6   cost solely from demand information. So make sure you get

7   reasonable estimates.

8   Second point, sometimes by using cost you can confirm,

9   you know, cost data from your client you can confirm, are

10 these reasonable estimates? More importantly, if you're an

11 econometrician, you can actually use some information about

12 costs in your estimation of marginal cost, combined with your

13 estimates of elasticity.

14   Let's suppose you have estimated marginal cost and the

15 elasticities, and you're happy with them. Now you see what

16 happens when two firms merge. You then do the experiment of,

17 if one firm is controlling all the products of these two firms

18 and is jointly setting prices taking account of cross-

19 elasticities, what will the new price be? That's a perfectly

20 logical thing to do.

21   Notice that it's assuming that the oligopoly behavior,

22 usually Bertrand, remains the same. That is, whatever

23 oligopoly game you were assuming was being played when there

24 were, say, five firms, you're assuming the same game is going

25 to be played when there are four. That often can be the crux

26 of an investigation. Do you think the game will change? And

27 I'll talk a little bit about that later.

1   Notice this technique to date has focused on how

2   prices will change. It keeps constant the quality of the

3   product, advertising, promotional activity, okay, at least in

4   all the applications and publications I have seen.

5   Now, I speak a lot with Jerry, and Jerry and I are

6   convinced we know how to easily modify some common techniques

7   in order to take account of variable quality and advertising

8   and repositioning. Maybe if we work together on the next

9   merger, we will have time to do that. But that should

10   certainly be an area of future research.

11   So far when I've seen these techniques used, they are

12   used to analyze either manufacturing mergers or sometimes

13   distribution mergers. People have not paid much attention to

14   the fact that you're observing the demand curve at the retail,

15   final consumer demand.

16   Well, there are stages of production in between the

17   manufacturer and the retailer, and therefore you must be

18   making some assumption in between as to levels of competition,

19   or competition at different levels -- stages of distribution.

20   And that really needs to be worked out a little better if one

21   wants to use retail data to say something about a merger among

22   manufacturers. I have not seen any work that addresses this

23   issue.

24   To date there has been very little empirical testing

25   ex post of how well these models do in predicting how much do

26   price go up -- does price go up in mergers of differentiated

27   products. Moreover, I have not seen hardly any checking of

1 the Bertrand assumption. That is, does the Bertrand

2 assumption change after merger versus pre-merger?

3   This technique of structural estimation is a big help in

4 avoiding arbitrary definitions of markets. It should be a big

5 help in figuring out what's the right question to ask, rather

6 than just kind of guessing, should it be in the market or

7 outside the market?

8   I would mention one other thing and that is when an

9 analyst makes presentations either to the FTC or DOJ using

10 structural estimation, it's very complicated. And you can go

11 down a lot of different paths because there's so much data.

12   And it's very important, I find, to have very good

13 relations and contact with the -- and communication with the

14 FTC economists or the DOJ economists, so that you can compare

15 notes and that both of you are going down and asking similar

16 questions.

17   And I think that's very important for the Government

18 economists as well as for the analysts to be completely

19 forthcoming about where there are econometric problems and

20 where there aren't.

21   Since I don't have all that much time, I'll just --

22 maybe we'll return to market definition and why the 5 percent

23 survey question that is typically asked doesn't exactly

24 implement the Guideline market definition. But we can come

25 back to that.

26   The second topic I want to highlight is efficiencies.

27 I think there needs to be more work done on efficiencies.

1   What areas? I think there's not enough attention that's been

2   paid to dynamic efficiencies. That is, what occurs when

3   industries are either expanding or contracting, and firms have

4   multiple plants?

5   What do we know as economists about the optimal

6   sequencing of when plants get brought in or taken out of

7   commission? There are -- the problem to an economist that

8   this creates is in industries that are oligopolies, with large

9   multi-plant operations. There are discrete, sort of lumpy,

10   decisions that have to be made. And it's not clear the market

11   will optimally solve those.

12   I think there needs to be more study of declining

13   industries. There were a few studies in the '80s, one or two

14   studies. It kind of went out of style because the '90s were

15   such a boom period. Today, unfortunately, they may be coming

16   back into style. But when industries are in decline, what's

17   the optimal sequencing for efficiency reasons of how you

18   should let plants -- allow mergers to occur?

19   If you don't allow mergers to occur, the real problem

20   is that assets waste away and that although you may think it's

21   okay to let -- the firms fight it out, what often happens is

22   that valuable human assets get taken out of the industry.

23   When you evaluate mergers, an important question you

24   ask is whether the efficiencies are merger-specific. Now, you

25   have to ask what you mean by that question. Oftentimes, I

26   find there can be an overemphasis on the possibility of the

27   use of contracts to achieve these same efficiencies.

1   I mean, in some theoretical sense a merger is nothing

2   but a giant contract, so of course some contract can always be

3   thought up that will reproduce some of the efficiencies of the

4   merger.

5   But I think you should really ask yourself the

6   question, if you have not seen a contract to achieve what is

7   being claimed can be achieved by merger, it seems to me you

8   have a high burden to convince yourself that these

9   efficiencies really aren't merger-specific.

10   And when you are deciding whether an efficiency is

11   merger-specific, you obviously are deciding, but for the

12   merger, could someone take advantage of this efficiency?

13   So if Firm A wants to buy B, and A thinks it can make

14   B better off, you're going to ask the question, are there

15   other Firms D, E, and F, like A, who could also make B better

16   off, bring in better management style?

17   I think an important question in this -- in analyzing

18   this -- is, how long things are going to take? Not only the

19   process of getting a merger through the FTC, but also finding

20   this other D, C and E.

21   What's interesting, and it's a good area for study, is

22   when do transactions take place? What's the speed with which

23   transactions take place?

24   Now, there's not been a lot of study of that. Some

25   economists have studies of why there are merger waves, and

26   they have noticed that there's a correlation between merger

27   waves and stock market booms. There haven't been very many

1   good explanations.

2   But the point is that if you are trying to say to

3   yourself, could some substitute transaction occur and replace

4   the one that is going to occur and therefore be -- wouldn't be

5   a merger-specific efficiency because of that substitute

6   transaction, ask yourself, how long will it take?

7   And in times when transactions are occurring really

8   quickly, you'll get one answer. In times when transactions

9   are slowing down and you don't see so many transactions, you

10   might get another answer.

11   I only have one minute left. Let me turn to my last

12   topic. That doesn't mean it's a minor topic, but I

13   specifically chose it for my last topic. It's R&D in

14   innovation markets.

15   The reason why I chose it as my last topic is because

16   five years ago or six years ago Bob Pitofsky held some

17   roundtables and I spoke about this topic on innovation

18   markets. And I brought my testimony. So if anyone would like

19   to see it, I'd be happy to give it to you.

20   There's a concept that was introduced by the DOJ, I

21   believe, in the GM/ZF merger in 1993. I worked on that

22   transaction. At that time, when they blocked the merger in

23   part because they said an innovation market was going to get

24   concentrated, I didn't like the idea. I was skeptical then.

25   I was skeptical five years ago, and I continue to be

26   skeptical.

27   In general, our ability -- the ability as economists

1   to identify those firms who are going to be participating in

2   the creation of R&D that will generate new products is highly

3   speculative. Except maybe for a few industries, maybe the

4   drug industry where you have an FDA process and you can

5   predict who's going to -- who's in the pipeline, who's not.

6   But for most industries it's very hard to make such

7   predictions. Very similar in my mind to the potential

8   competition doctrine, but it's much more speculative, if

9   that's possible.

10   The main caveat here is that you're sacrificing sure,

11   short-term gains, and you're doing it in order to avoid what I

12   consider to be very speculative long-run harms, very weak

13   evidence -- empirical -- I've not seen any evidence of showing

14   the value of and the reliability of these innovation markets.

15   I'm done. Thank you.

16   MR. SCHEFFMAN: Thank you. Mike -- I'd like to ask

17   Mike, impromptu, to react. I think Dennis told us more of

18   what he knew than what he didn't know, but I suspect we'll

19   have a lot of interesting stuff. And, Mike, do you have a

20   reaction?

21   MR. WHINSTON: Although I didn't know I was going to

22   be reacting to this, Dennis did tell me that we could stray

23   from our topics so I had some thoughts on horizontal mergers

24   that I was going to say in the afternoon that I think would

25   best be said now and that also tie in with what Dennis was

26   saying.

27   Okay. Let me first just say something about the first

1   topic Dennis was talking about. I guess I first want to say

2   that I agree very much with Dennis' first two points, that

3   they are complements to existing methods, and also that we

4   should not discard them even if they are currently not

5   perfect.

6   None of what we do is perfect, and I think these

7   methods are going to be getting better and better. And the

8   data is going to be getting better and better. And if you

9   turn your back on these things, you will turn your back on a

10   potentially very important and increasingly useful piece of

11   evidence that one can draw on.

12   At the moment a top question that often comes up, and

13   that Dennis touched on, is the comparison of this sort of

14   structural versus reduced form analysis question. That is,

15   which works best?

16   And I think a first thing that you might ask is well,

17   what do we mean by this? Because if you think back to

18   econometrics, you know that every -- if we have the right

19   model, every structural model has a completely equivalent

20   reduced form.

21   So what are we talking about when we have this

22   juxtaposition? And I think there are sort of two issues. One

23   is that this price on concentration regression really isn't a

24   true reduced form.

25   A true reduced form is running things on underlying

26   characteristics like assets that are not the endogenous

27   outcomes of competition. But these "reduced forms," though,

1   are not that.

2   Now, they are only under special circumstances tied to

3   an underlying structural model. And that can create some

4   difficulties of interpretation.

5   So that tends to make you think about these structural

6   models being really good, except for one thing, which is that

7   the structural models, as Dennis suggested, often are leaving

8   out some important things.

9   As an example, they might be leaving out capacity

10   levels or knowledge levels of the firms, things about the

11   assets of the firms that will change with the merger, for

12   example, that are not really being captured when you do these

13   merger simulations.

14   So at the moment, given the state of the art, there

15   really is a question about which would do better. And there's

16   very little work on this. I'll say, actually, there's a

17   graduate student right now at Northwestern of mine and Rob

18   Porter's whose dissertation is looking at airline mergers on

19   exactly this question and comparing these two methods. But I

20   think right now it's not exactly clear which in a given

21   situation will work best.

22   I would differ with Dennis on one thing, which is this

23   idea that the reduced form regression answers exactly what you

24   want to know, in the sense that, let's think, for example,

25   about a merger of, I don't know, two local bread manufacturers

26   who have oven capacity or something. Let's think about

27   assets.

1   Well, suppose the markets either have two firms or

2   three, and you run a cross-section "reduced form" regression.

3   What you're going to learn is the difference in price between

4   markets with two and markets with three.

5   But the allocation and quantity of capacity in markets

6   with two versus markets with three firms may not be the same

7   as how the capacity assets would be allocated after the

8   merger. That is, in the merger you start with three firms,

9   but then after the merger one of the firms has two-thirds of

10   the capacity.

11   When you're looking at markets that are two-firm

12   markets in cross-section, each of the two firms will

13   typically, let's say, have half the capacity of the market.

14   Hence, the change in a given merger may not be the change in

15   the cross-section.

16   Non-price competition issues: I think these are very

17   important and not a lot of work -- work by Ariel Pakes is

18   really among the only work that I know of that really starts

19   looking formally at these kind of long-run competition

20   questions in terms of investment, what effect mergers have on

21   investment, entry, and the like.

22   I'll say quickly the two other things I was going to

23   say, and then come back to two things of Dennis'. One thing

24   that's always kind of bothered me a little actually about the

25   Guidelines is the question of how we think of ease of entry.

26   So as a general matter we know that if firms merge and

27   entry actually occurs, that could be, in fact, worse than

1   having the firms merge and no entry occur, because entry

2   levels in an oligopolistic market aren't always efficient.

3   You can have excess entry.

4   So that leaves you to ask why when we see a lot of

5   entry -- when we think entry is easy, do we think a merger

6   will tend to be ok-- we're less concerned about a merger.

7   And I don't think the answer is that we think this

8   because we hope that if the merger occurs we will actually see

9   entry. That may not be so good. We'll have a lot of

10   redundant entry costs and the like, investment costs, that we

11   may not want to see.

12   But I think the reason that we think this -- and it's

13   something that really hasn't been, I think, enunciated in the

14   literature -- is actually that we think the firms wouldn't

15   find it profitable to merge if there was going to be a lot of

16   entry, unless they had large efficiencies.

17   Farrell and Shapiro sort of talked about this in their

18   American Economic Review paper, but they don't talk about it

19   with regard to entry. That is, what kind of mergers would the

20   firms find profitable? And I think one of the things, in

21   thinking about entry ease, really has to do with that.

22   I guess the last thing I was going to say before my

23   two thoughts on Dennis is that, given the current state of

24   what we know about mergers, I think it would be very useful to

25   have case studies of actual effects of mergers.

26   And there's remarkably little of this. There are a

27   few studies on prices, especially in the airlines, and there's

1   only one or two studies on efficiencies. It's really quite

2   surprising to me that this would be such an important policy

3   arena and we would have so little follow-up on the effects of

4   mergers.

5   And I think there are two questions for the agency

6   were it to start going this route. First, is there a

7   possibility of actually getting follow-up data from companies?

8   You have a lot of power over companies when they come

9   in to you and when you let mergers through. So to require

10   them to give you data after the fact might actually be a

11   feasible and useful thing.

12   And then the other issue is whether there is some

13   possibility of partnering with academics. I know people here

14   can be very busy at times, and it might be useful to have

15   other people involved in a process like that.

16   Two other things I was going to just mention regarding

17   Dennis' comments: The retail demand versus manufactured

18   demand point is, I think, a very important issue.

19   At one point I worked on a merger, when I was visiting

20   DOJ, in tuna. And the people were estimating demand functions

21   for tuna, but one of the things that you heard about tuna was

22   that retailers like to "football" it so that they would put it

23   on special as a loss-leader.

24   Now, that has to have a huge effect on manufacturers'

25   perceived elasticity of demand, regardless of what the retail

26   elasticity is. If you're the guy who gets loss-leadered,

27   you're going to have a huge increase in sales.

1   And the manufacturers in that industry thought that

2   this was an important aspect of competition in their industry.

3   So I think there is a real issue there to think about.

4   Second, dynamic efficiencies and multi-plant

5   operations: I think, in fact, we know from the little bit of

6   work on exit that Dennis mentioned that the market may not get

7   it right. That is, firms that exit first or come in first may

8   not be the right ones.

9   But I think the difficulty is the merger. I don't

10   know whether we're going to have any general prescriptions,

11   because the firm after the merger won't get it exactly right

12   either. So it's going to be a difficult question, whether we

13   can identify circumstances where we know it's an improvement

14   one way or the other. Thank you. That's all.

15   MR. SCHEFFMAN: I think what we'll -- because it fits

16   in with most of what we have been talking about up to now, we

17   should go ahead and have Jerry talk. And then after that --

18   because we'll have talked a lot about the structural

19   estimation versus reduced form, et cetera - Then we'll have

20   some questions on all this. So, Jerry.

21   **[The table referenced by Mr. Hausman in his remarks is**

22   **reproduced in Appendix A on page 143]**

23   MR. HAUSMAN: Okay. I'm going to mainly talk about a

24   number of points that come up in estimating structural models

25   of demand. The first thing I'd like to say is just something

26   about where econometrics has gone and what, if anything, these

27   reduced form models have to say.

1   And what's -- one of the big things that's happened in

2   econometrics over the last 20 years -- it started in just

3   about 1980 -- is the use of panel data. So there's a book by

4   Cheng Hsiao on panel data in the Econometrica series, and

5   there have been a number of papers.

6   And my reading of the literature, especially the

7   cross-section literature and the stuff on concentration, is I

8   would put very little faith in it as a cross-section, because

9   you really can't hold other things equal.

10   So, I mean, it's really just a weakness of the old

11   Harvard School structure-concentration, which is basically

12   analogies. I've heard my colleague, Paul Samuelson, who's now

13   85, make fun of them for at least 25 years. So I guess maybe

14   I've been conditioned. However, I think you may be able to

15   get some information if you look at this in a panel context.

16   So I'm not going to spend much time on this, but I'll

17   just point out I did a merger about four or five years ago at

18   DOJ, and we were looking at the gypsum industry, which is one

19   of these notorious industries of bad behavior 20 years ago or

20   30 years ago.

21   And what had happened there was there had been a

22   number of mergers and a number of exits by various producers.

23   And you also have subnational geographic markets. I can't

24   remember how many we had, but we probably had four or five

25   geographic markets.

26   So there you actually -- we had panel data over 10 or

27   15 years as I remember, in which the concentration was

1   changing in the panel within the same market. So you can

2   actually then -- you always think of it as differences.

3   You can see what was going on with the price-cost

4   margins, if that's what you're interested in, or prices. And

5   you could see also what was going on with concentration and

6   the other stuff, presumably over a 10 or 15 year period, in

7   terms of socio-demographic characteristics, the business

8   characteristics remaining relatively constant so you can use a

9   fixed effect.

10   And then what we did was to use instrumental variables

11   for concentration because it might -- I mean, that's certainly

12   endogenous.

13   So I would say if you do like these reduced form

14   things, you might well want to think about doing it in terms

15   of panel data, because I think the inferences from cross-

16   section are thing which we have done for years and years in

17   the I.O. literature. And Dick Schmalensee has a paper on it

18   about ten years ago. I think the inference from that -- from

19   those are extremely problematic.

20   So what I'm going to do -- talk about the rest of

21   today is the use of panel data, but this is particular panel

22   data. I'm going to mainly be talking about using Neilsen and

23   IRI data.

24   I have been in here many times to talk about this, so

25   some of the people in the audience have heard this. I gave a

26   seminar for Pauline, I think about four or five years ago. I

27   have some new things to say. We found out some new things.

1   But the good thing about that data is that IRI and

2   Neilsen collect data on almost all consumer goods. Within the

3   last five years their coverage has expanded greatly. They

4   started off with grocery stores but now they have mass

5   merchandisers like Wal-Mart, et cetera.

6   And they have grocery stores and small 7-Elevens, as

7   well. So for a lot of goods that you might be interested in,

8   they cover about 90 percent now.

9   So if you can get about two years of monthly data from

10 that across, let's say, ten metropolitan areas, that would be

11 more than enough data to estimate things very well.

12   So you have -- use weekly or monthly observations. It

13 won't be a big difference but, for instance, I often use

14 weekly observations. So if you have two years of weekly

15 observations, that's a hundred observations times ten

16 metropolitan areas, that's a thousand, which would be more

17 than enough.

18   So what I want to talk about first then is, given that

19 type of panel data, what type of model do you want to use? So

20 the types of models that I have typically used are -- this is

21 a particular thing which, unfortunately, got its name in 1980

22 and was called the AIDS model for Almost Ideal Demand System.

23   There's nothing special about this model. Any -- I

24 would say almost any second-order flexible -- that was defined

25 by Erwin Diewert years and years ago -- second-order flexible

26 functional form will give you similar results. What you don't

27 want to use is some form which makes assumptions about cross-

1   price elasticities, which I'll get into in just a minute.

2   So here's the data and this is -- we typically fit

3   two-level models, sometimes three-level models. But I'm going

4   to talk about tissue, so this would be the seven or eight

5   brands of tissue, s_{int} is the share of Brand i. So you have

6   seven or eight of those in cross-section c, Washington,

7   Boston, whatever, and then in time period t.

8   So the first thing to note is we have a separate dummy

9   variable or indicator variable or fixed effect for each brand

10   in each city. And that's sort of important.

11   In cereal, people in the Northeast tend to eat a lot

12   more oatmeal than people in the Southeast. It's both --

13   probably it's colder in the Northeast which is obvious but

14   also national heritage as well. Also the brands of tissue

15   vary across cities.

16   The interesting thing about these fixed effects is

17   these capture the characteristics of the product. So you hear

18   a lot of talk about -- and I'll get into a little bit about

19   logit models and -- in terms of the characteristics.

20   Well, actually this is completely general. And at the

21   end of the day if you want you can just regress these fixed

22   effects on the characteristics and find out how people value

23   softness of the tissue or value the sweetness of a cereal.

24   Now, if the good gets redesigned during the time

25   period, you would change the fixed effect. And I'm not going

26   to talk today about repositioning, just except in passing.

27   Dennis already mentioned he and I think we know how to do it,

1   but since we haven't done it yet I'm not going to talk about

2   it.

3   The next term is log of the expenditure in that

4   category divided by the price index. Now, one of the things

5   that I found is actually important if you want to do this kind

6   of thing. This is why I fed it into a two-level Gorman type

7   model.

8   You really want to have expenditure for tissue or

9   expenditure for cereal, whatever you think the overall

10   category of expenditure is here. Then this is what means --

11   it means to be second-order flexible.

12   Note we have $?_{ij}$ times log of the price. So each price

13   comes into each demand equation. So if this is one tissue,

14   we're going to have seven prices on the right hand side. So

15   this means that you're going to estimate a lot of unknown

16   coefficients. This is why you need panel data.

17   On the other hand, this puts no restrictions on the

18   own- and cross-price elasticities. This is why it's second-

19   order flexible. And I'll give you some examples later to show

20   that that's quite important.

21   Then these other variables are things like advertising

22   promotions, which can be important, and anything else that can

23   change over time.

24   I don't know whether David mentioned in the

25   introduction, but I've written a number of papers on these,

26   which I sent to him, and you're welcome to get from my web

27   site.

1   Okay. Then the lower level is -- this is just

2   aggregate demand for the product, so this would be something

3   like national income or income in that city. And then this

4   would be the price index. And again that's the socio-

5   demographics. So that's sort of the set-up.

6   One important thing that always comes up is, where are

7   you going to get the instruments from, because prices are

8   definitely endogenous. Here again, you use panel data, and

9   this is discussed in a number of my papers. I don't have a

10   lot of time to talk it today. But this comes from Hausman-

11   Taylor, Econometrica, 1981.

12   And what we basically point out is you can use prices

13   from one city as instruments for prices in another city, under

14   certain conditions. And I had debated Tim over the years so

15   you can look on his web site if you want to see what he has to

16   say about it.

17   But you can also do Hausman specification tests on

18   this type of stuff, as well, to see whether it works. But

19   this is where the instruments come from, because otherwise

20   you're not going to have enough instruments.

21   And the main assumption here is that most of these

22   branded goods have national markets. So Kellogg's Corn Flakes

23   is only made in one place in the U.S., so prices will differ

24   in different regional geographic markets because of

25   differences in cost and differences in transportation and all.

26   But the instruments will identify the underlying costs.

27   I just don't have a lot of time today. I would just

1   like to contrast this to the logit model. This is sort of

2   Berry/Pakes – boiled down, but this is really it essentially.

3   What they do is they end up having just one coefficient for

4   price, and they basically get the price of good i minus the

5   price of good j.

6   Now, what they have done is let $ß$ vary in the

7   population. And sometimes they make it a function of

8   individual characteristics. But when all is said and done,

9   for each individual you have (P_i - P_j).

10   So that has two implications. This is not

11   second-order flexible. This is not even first-order flexible.

12   This is zero-order flexible because you only have one

13   coefficient for all the prices.

14   And the two implications to this are number one, the

15   independence of the relevant alternatives and, number two,

16   that all the cross-price elasticities are equal.

17   So for merger use this always sort of makes me scratch

18   my head, although I know this did have a certain popularity at

19   the other end of Pennsylvania Avenue at DOJ.

20   I think they have moved away from it when they

21   realized the implications, because if you look at the

22   Guidelines, what we're looking for is how closely competitive

23   the merging products are.

24   And to make an implicit assumption that all products

25   have the same cross-price elasticities, you're sort of

26   assuming that they're all equal.

27   This is actually also imbedded in the Guidelines, in

1   Section 2 for differentiated products, when they say to use

2   shares. That's only true if all the cross-price elasticities

3   are equal, which again is a strange way to think about a

4   differentiated products merger, at least in my view.

5   So here's some results. These are for the tissues.

6   I'm not going to have a lot of time to go over these. But

7   these are the own- and cross-price elasticities. You'll see

8   that they are basically minus -- about minus three, minus two.

9   The lowest one is for Charmin, which is the biggest

10   brand. P&G knows how to market the best, so it's going to be

11   the lowest. And if you look at these, these all actually come

12   out with the right sign, except for one here. This happens to

13   be a good example. That's, of course, why I'm showing you.

14   But if you look at these closely, you pretty much get what you

15   expect.

16   Now, I agree with what I heard Dennis say, that you

17   should compare these to price-cost margins, so you do these

18   and you can compare these to the marginal cost. Sorry these

19   are so small, but you can compare these to the marginal costs,

20   and they're in the ball park.

21   Now, I did a merger in Europe before the

22   famous/notorious Mr. Gonzalez Diaz, who's been in the paper a

23   lot after the G.E. merger. I wasn't involved in that, but it

24   was another merger, but his economist put up a model like this

25   for trucks.

26   This is why Dennis is right. This is important for

27   trucks. And if you look at sort of the gross margins for

1   trucks, heavy trucks, they're about 30 percent. I mean,

2   accountants will screw around and change it by 10 percentage

3   points but it's around 30.

4   Well, their econometric model where they found huge

5   merger effects actually implied that the gross margins for

6   trucks in Norway was 92 percent. So I stated in my testimony.

7   Mr. Gonzalez Diaz isn't big on evidence, so I couldn't change

8   his mind.

9   But as I said, it's very hard to sell anything and get

10   a 92 percent gross margin on the streets of Oslo which is

11   legal to sell. You know, you can sell drugs. So, that's why

12   it's an important reason.

13   Usually in a model, if you have really large merger

14   effects, unless the shares of the merging companies are very

15   large, you want to look very carefully at the implied cost

16   margins and see if they are at all realistic. Because if

17   you're getting very large merger effects, it usually means

18   that you should have very large profit margins for the merging

19   parties. And if that's not true, that's actually a helpful

20   check on the econometrics.

21   Same way it can be much too low. Baker and Bresnahan

22   had a paper using residual demand estimates about 15 years ago

23   which I have never quite understood. But they get -- they

24   imply that the own-price elasticity for Budweiser is, I think,

25   200, give or take five.

26   And we know that Budweiser couldn't have the frogs on

27   TV if their own-price elasticities were 200 and their margins

1   were that small. So again, I always tell my students, like

2   with Dennis, does it pass the smell test.

3   So price-cost margins you can't estimate it exactly.

4   You get it from the merging parties if you're working for

5   them, but they should at least make a certain amount of sense.

6   I want to stop right there because I know that Tim,

7   sitting in the audience, always has qualms about the next

8   step, which is going and plugging these into a Bertrand model.

9   Because remember a Bertrand model actually doesn't, but

10   certain people think it always predicts, the price increase.

11   So we'll get to that.

12   Before I get to -- I want to stop right now and say

13   this is the basic information that I think that you as

14   economists at the agency would want to use to think about

15   mergers, the own- and cross-price elasticity and the cost

16   margins.

17   You don't have to plug these into a model, but the

18   whole idea of how closely competitive merging products are,

19   the merging companies are, should really depend on cross-price

20   elasticities.

21   You can go and do whatever you want with these. I

22   leave it to you to plug these into a million different

23   oligopoly models. You can test them out a lot of different

24   ways. But I always consider this to be the basic building

25   blocks.

26   And note that when we estimate these we have not

27   imposed Bertrand. Again, Berry/Pakes, the Econometrica paper,

1   they impose Bertrand when they estimate the own- and cross-

2   price elasticities to identify the model.

3   So they're already imposing the game, as Dennis calls

4   it. I don't think that's a good idea. I think you should

5   just -- if you can have the data, go out and estimate the own-

6   and cross-price elasticities, and then decide what you want to

7   do with them. That being said --

8   MR. SCHEFFMAN: Jerry.

9   MR. HAUSMAN: Yeah. Okay. That being said, you can

10   now fit -- how about three minutes? That being said, you can

11   now -- I know Dennis went over a bit. You can now fit that

12   into a Bertrand model. That's this last equation.

13   You have a firm maximizing profits. So in this one

14   I'm looking at basically Kleenex, Charmin and Cottonelle

15   merging as -- excuse me, Kleenex, Cottonelle and Scott tissue

16   were merging. This was the K.C. merger of about four years

17   ago.

18   And so you can see we had shares of 7.5 percent.

19   Cottonelle was 6 percent and Scott tissue was 16 percent. But

20   it turns out that if you go back and look at those own- and

21   cross-price elasticities, Scott tissue was the bargain brand.

22   So Kleenex and Cottonelle were pretty close but they

23   have rather small shares. The big share of that was off by

24   itself and has a very low cross-price elasticity. So when we

25   predicted the price changes, the reason the prices don't

26   always go up is, if you have efficiencies, prices can go down

27   in these models. So we also stuck in the efficiencies, and

1   it's this last column.

2   The price of Kleenex was predicted to go up 0.4

3   percent. The price of everything else was predicted to go

4   down, okay, because of the efficiencies. These were actually

5   accepted by the Justice Department. They didn't enforce any

6   divestitures here at all.

7   And so this brings me to a paper that I wrote in the

8   George Mason Law Review, and this whole thing on merger-

9   specific efficiencies. I mean, I have a different view, and

10   that is that if this merger is going to cause prices to go

11   down, we shouldn't spend a lot of time thinking of a

12   hypothetical merger of what would happen if P & G bought these

13   people or what would happen if Company G bought these, because

14   this particular merger, it's sort of the bird in the hand.

15   It's going to cause prices to go down.

16   If prices are not going to go down, then you may want

17   to go to the Guidelines approach. But I think you should

18   think very hard before saying, well, these aren't merger-

19   specific, or I'm not sure these are going to -- couldn't

20   happen otherwise.

21   The other thing this shows is just to point out that

22   the logit models can lead to very different results, but I

23   don't have time to talk about that today. Okay.

24   Then the last thing I would like to talk about is

25   testing. So everybody says we should test these models, and I

26   agree. So I have a paper coming out, and what we did was we

27   actually test the Bertrand model.

1   So everybody uses Bertrand, but does it work? So this

2   is actually the reverse of a merger. This was what happened

3   when a new brand came out, when Kleenex came out.

4   And I'm not going to have a lot of time to talk about

5   this, but this is actually what happened in the data. We see

6   that Cottonelle went down by 8 percent, Charmin went down by 3

7   percent, and so on.

8   So this is no econometrics. This is just sort of -- I

9   mean, it's a little econometrics, but just looking at the

10   prices each week and seeing what happened when a new brand

11   came in. Okay.

12   So then if you do use this Nash Bertrand model that we

13   use, you see that Cottonelle went down a lot more than we

14   predicted. I have a joke for that. That was -- but I don't

15   have time to tell it.

16   But the other ones actually, the Bertrand model does

17   quite well. Charmin, 3.5, actually, 2.8, 3.4. So all these

18   other ones pass. The only one that it fails on is Cottonelle.

19   Then we compare this to what would happen if there

20   were a cartel or -- of different types. But my point is here

21   that I think testing is absolutely crucial. You don't just

22   have to test for mergers. I mean, it would be good if you

23   could get the data there and of course, IRI – you can still

24   get it from them.

25   But also, when new brands come out, that gives you

26   another way to test Bertrand, and it also allows for -- also

27   allows for seeing what happens -- I just had a couple of other

1   points.

2   What's new in econometrics is -- one or two things.

3   One thing with these merger simulations and Tim's worry that

4   they always show prices going up and which is totally --

5   before he became the chief commissioner here -- was I think in

6   a sense they give an upper bound because we know the

7   repositioning, if anything, by the other companies will drag

8   it down.

9   So I think at Justice they have been much more

10   accepting of this. If you go in and you show that the merger

11   effects are very, very small, you know, one or two percent on

12   the merger simulation, or negative, of course, but one or two

13   percent, my perception is they typically are not very worried

14   about it, because they know that repositioning will typically

15   take care of that.

16   The distribution levels that both Mike and Dennis

17   talked about, going to retail, I have a paper that discusses

18   that, so it was on the list I gave David. It's the last one.

19   You can just get it off my website, or I'll be glad to send it

20   to you.

21   So the last two points I'd like to make is, what's

22   happened in econometrics over the last five years, and doing

23   instrumental variable estimation. So if you're going to do

24   these concentration levels that Mike was talking about, or

25   Dennis, or even the stuff I'm talking about, you've got to use

26   instruments because the stuff is definitely endogenous.

27   It has come to be known as what's called the weak

1   instruments problem. And if you don't have very good

2   instruments, which seems to come up a lot at I.O., you can get

3   stuck very badly but it's sort of least squares.

4   Now, in the demand equations actually that will lead

5   to too large a merger effect, but in the concentration ratios,

6   that will lead to a finding of no effect. And so you should

7   read up in Econometrica - that's a lecture for another time --

8   but that's become a big worry in econometrics. The results

9   may look okay and may be no good.

10   So I have a new specification test coming out in

11   Econometrica, I think it's in the November issue or the

12   January issue, that allows you to test for this. But there

13   have been five or six other papers in Econometrica that you

14   probably want to read up on.

15   And then the very last point I'd like to make, and I

16   say this every time I give a seminar here or DOJ, but it's

17   sort of had no effect, although Carl Shapiro once promised

18   when he was chief economist there to do it but didn't deliver,

19   is that the information in econometrics is complicated and

20   all, but it flows too much in one direction from the people

21   coming in, i.e. me, and there's not enough coming back in the

22   other direction.

23   I don't know how to solve that problem. There may

24   often be confidentiality things and stuff like that. So I

25   mean, I don't hold myself out as solving the problems, but

26   that is what I see as a great unresolved problem with this, is

27   that you want to do empirical work.

1   I think everybody's in favor of it, but if it all

2   flows in one direction, you have problems. And I don't want

3   to refight old battles, so I'm not going to talk about old

4   mergers or things like that, but I will just say that that is

5   what I see as the greatest perceived problem.

6   You can come in and make a theory presentation that's

7   fine, there's no data, people can agree with you or disagree

8   with you and you can have a discussion about it. But the

9   econometrics -- what you would like to do is to give it to

10   somebody here and they would work on it, or they have their

11   own data and be able to show it to you and come to some

12   conclusion about what's right and what's wrong, do you have an

13   errors in variables problem.

14   So -- I'll pick Andy since I've known him for years.

15   He finds much lower results than I do. Is that because I

16   think he has an errors in variables problem? Of course, I

17   have a specification test he could use to check that and see.

18   But if I don't know that -- but at the meeting with

19   the bureau chief he's saying, oh, I find very different

20   results. We never have the meeting of minds. So I'll end on

21   that point. I see that as a difficult problem to solve. It's

22   not a scientific problem, but I think it would allow the use

23   of empirical work within the Commission to work much better.

24   Thank you.

25   MR. SCHEFFMAN: Thanks, Jerry. I want to make a

26   couple of comments first, because I can. This is a very

27   important issue, this use of scanner data, econometrics.

1   We're devoting a lot of effort to it.

2   We actually know much more about it than anyone

3   because we have seen, along with DOJ, because we have done it

4   a lot. We have done it more than anyone. We have seen more

5   people do it. We have concerns about it.

6   I agree with the spirit of what Jerry -- what everyone

7   has said. This use of scanner data is a complement not an

8   answer. It's just an input.

9   My take on this is, I went to school with Dick at MIT,

10   and at that time I never did a field in industrial

11   organization. I did money and macro among other things, and

12   theory.

13   At that time Franco Modigliani was building the first

14   giant structural model of the American economy. And the

15   purpose of that is for forecasting. And what we found from

16   that is that big structural models do terribly at forecasts,

17   at least in the early years -- and so -- and so they were

18   swamped.

19   And it's felt that you shouldn't build structural

20   models, and structural models are much better than they used

21   to be. But we're in the forecasting business, and these are

22   very new, very complicated models, extremely complicated

23   models.

24   And a real concern we have is we don't think the

25   people who use them understand the data. We're doing a lot of

26   work to understand the data, which has been hard to do because

27   Neilsen and IRI are not very forthcoming. But we think we

1   actually know much more about the data and the limitations.

2   I'm glad to hear about retail versus wholesale --

3   manufacturing. I've been saying that for years. I'm glad

4   that people -- I even wrote a paper about it that no one ever

5   paid attention to -- that people are paying attention to that.

6   We know things in the analysis -- I think we have

7   disagreements within B.E. about how seriously we should weight

8   the stuff. No one thinks we should use it as the answer.

9   I think on average what I have seen is on average the

10   thing that comes in from the outside is not given much weight

11   in the end. That's because we find enough problems with the

12   data, enough problems in the robustness of the results.

13   I'm saying we use it; we do it inside. We do -- I

14   think we are more transparent than we have been in the past,

15   that we have more of an exchange with the outside experts.

16   What we're really trying to figure out is, as we did

17   in macroeconomics, what is the reliability of the results?

18   We're trying to do something here quite precise. That is,

19   estimating cross- and own-price elasticities, and it is very

20   important to what we do.

21   But it's very important that we be confident there's a

22   reliability in those results, and we have seen enough of these

23   things to indicate that there are questions about reliability.

24   And we're doing a lot of work and we will -- the

25   Bureau of Economics will have a paper on this, certainly early

26   next year. And we would welcome any participation by any

27   outsiders. So questions, comments from the audience on what

1   we heard so far? Abe?

2   MR. WICKELGREN: Abe Wickelgren. It's really a

3   question for any of you dealing with these simulations from

4   the structural models. I found at some points you can get

5   profit functions from these demand curves that are not

6   necessarily globally concave.

7   And so when you do the simulations, how do you make

8   sure you're choosing the starting values correctly to get the

9   -- what you think is your best guess of global profit

10   maximizing reaction function?

11   MR. HAUSMAN: I haven't actually found the problem for

12   that. I think that may depend on how far away you get from

13   initial equilibrium. These models tend to do well in the

14   neighborhood of equilibrium. If you predict very large price

15   changes, you can run into problems.

16   However, if you -- maybe -- you may be making

17   different assumptions, too. I usually assume that in the

18   neighborhood of the merger that you have constant marginal

19   costs, which solves part of the problem.

20   So then it comes down to just a demand function. And

21   if you are having problems, there are certainly techniques to

22   enforce local global concavity.

23   Lawrence Lau from Stanford had a paper about 15 years

24   ago on this. So it would be a question about whether you

25   would impose it. And if you tested for it and you failed,

26   then where are you? That's the usual problem. That is the

27   possible fix up.

1   But as I said, if we're talking about price changes on

2   the order of zero to ten percent, at least I have not found

3   that to be a problem so far.

4   MR. CARLTON: It's been my experience, too. In fact,

5   when you do -- if you read some of Jerry's papers, his issue

6   is whether you can linearize and ignore the nonlinearity of

7   the first-order conditions, or whether you have to iterate.

8   And usually it doesn't seem to make much difference

9   for the predicting of price changes, and the price changes

10   that are predicted are usually modest.

11   I would say one other thing though, and that is

12   sometimes you can get screwy results when you, say, estimate

13   an AIDS system, if you find that you get a lot of complements.

14   Because if you get a lot of complements, then two firms merge

15   and prices fall, independent of efficiencies.

16   So you better make sure when you're estimating these

17   AIDS systems that you think you're getting reasonable results.

18   If you find two products that you think are

19   substitutes turn out to be complements in your matrix, then

20   firms that produce those will, when they merge -- if you have

21   a merger you're going to get very peculiar results. So you

22   should be on guard, I think, that you have got to use common

23   sense in interpreting all these results.

24   MR. HAUSMAN: I'd like to respond --

25   MR. SCHEFFMAN: Well, let's make sure -- we have some

26   other -- other questions first? Ted?

27   MR. GEBHARD: I'm Ted Gebhard. I'm from the Bureau of

1   Competition. Going back to something that Dennis said in his

2   remarks is something that always kind of troubled me about

3   unilateral effects analysis. Dennis said you need to be

4   careful about how you relate costs to your elasticity

5   estimates.

6   And it seems to me that when we're -- when we do this

7   kind of analysis and we're trying to estimate price-marginal

8   cost margins through it, there's an underlying assumption that

9   Dennis mentioned. You made certain assumptions, but then kind

10   of glossed over what those assumptions are.

11   There has to be an underlying assumption that all the

12   firms are operating in, for lack of a better word, short-run

13   equilibrium, that they're producing at some rate of output

14   that does indeed equate marginal revenue with marginal cost.

15   But that's the only way that you can substitute

16   marginal cost for marginal revenue in the elasticity

17   calculations that you make in order to compute the price-

18   marginal cost margin.

19   And that's always troubled me, because that kind of

20   short-run equilibrium state of the world is fine in a textbook

21   presentation to a classroom. You're telling your students

22   that this is where market forces are pushing firms toward the

23   rate of output at which firms are being pushed toward, and so

24   forth.

25   But in a dynamic world with all kinds of parameters

26   changing constantly, I often wonder, are firms, at any given

27   point in time, at any snapshot, can we really conclude that

1   firms are in that state of short-run equilibrium?

2   And if not, what then does that say for your estimates

3   of price-marginal cost margins that require -- in order to get

4   marginal cost into the system of equations, it requires an

5   assumption about the relationship between marginal cost and

6   marginal revenue?

7   MR. CARLTON: I thought about that a while, and the

8   reason I think that you should also use cost data is precisely

9   for that reason. You want to get an estimate of marginal

10   costs. And cost data can sometimes help you.

11   But conversely, I think, just to reiterate something

12   Jerry said, the fundamental starting point in these structural

13   estimates is looking at the elasticities and cross-

14   elasticities. And that alone helps you a lot and can avoid a

15   lot of, I think, vagueness and the ambiguity that comes in

16   otherwise from crude market definition.

17   But, I mean, I think you're right. There are other

18   long-run influences in a dynamic model. We'll see whether

19   this short-run model works if you would do what Jerry did in

20   his presentation. You compare the implied price-cost margins

21   or the actual price-cost margin and see if they are sensible

22   or, I think, to use cost data that would give you another way

23   to ground things.

24   MR. WHINSTON: Can I just say one thing? I very much

25   agree about using the cost data as well, but one thing that is

26   important to remember is when you do this comparison you are

27   making a behavioral assumption.

1   So right there you're assuming Bertrand/static Nash

2   behavior, typically. So these two things could diverge from

3   the elasticities, from the actual margins, and the margins

4   implied from that static Nash assumption could diverge without

5   the demand elasticities being wrong.

6   MR. HAUSMAN: That's actually why I think you want to

7   start off and look at the own- and cross-price elasticities

8   carefully. I mean, you do have to make the assumption that

9   those are relatively constant over a two-year period, but it

10   doesn't seem to be that bad an assumption.

11   I had nothing to do with the Pepsi-Gatorade merger,

12   but I mean it would seem -- and there were other, I'm sure,

13   issues there. But -- it's over, right? I'm just going to

14   make a simple point, that you might well want to be interested

15   in how closely competitive Pepsi or the various Pepsi products

16   are with Gatorade. I mean, I know they had one that was very

17   close that they sold off. But --

18   MR. CARLTON: Jerry, use another example.

19   MR. HAUSMAN: Oh, okay. But what I'm saying is

20   without ever looking at cost -- or so we did -- I did Coke and

21   Barq's Root Beer. So you could look at the cross-price

22   elasticities between Coke and root beer, Barq's Root Beer.

23   And you can get a very long way in doing a unilateral analysis

24   based on that. Can I react to one thing that David said?

25   MR. SCHEFFMAN: Yeah. Just -- let me.

26   MR. O'BRIEN: Dan O'Brien, Bureau of Economics. I've

27   always thought of these simulation models as a way to

1   summarize what our estimates of own- and cross-elasticities

2   mean if firms don't collude pre and post merger. I'd like

3   your comments on whether you think that's a sensible way to

4   think about this, or troubling in any way.

5   MR. HAUSMAN: I think that's sensible. You do make a

6   Bertrand assumption when you do that, but it's a convenient

7   summarization. I think you can go further than that though,

8   in that you can use these own- and cross-price elasticities to

9   estimate, to help you determine whether you think coordinated

10   interaction is more or less likely. So I think they're

11   helpful for both, actually, for --

12   MR. O'BRIEN: Let me just follow up quickly. You say

13   that that does assume the Bertrand assumption. If you tell me

14   there's no coordinated interaction going on, you're saying we

15   should accept the Bertrand assumption as sort of a base,

16   absent collusion. And --

17   MR. HAUSMAN: Well, I often do, but I can think of

18   situations -- you have Kodak competing with Fuji where it's

19   not always clear. I can guarantee you that they're not

20   coordinating their actions, but I -- we can have a

21   conversation and I might convince you that Bertrand is the

22   wrong model to use there.

23   So I think as the standard model, Bertrand is what you

24   want to use, though. That's where you want to start, and then

25   think harder beyond that point.

26   But I do want to emphasize, I think just -- that's a

27   convenient summarization but also looking at the own- and

1   cross-price elasticities you can get pretty far without

2   necessarily using Bertrand.

3   MR. SCHEFFMAN: Other questions?

4   MR. CARLTON: May I just make one comment on something

5   Jerry said, because it's an important point? Jerry's paper on

6   instrumental variables. He also has another technique, which

7   is something that comes up a lot when you estimate demand

8   curves, whether price is on the right or quantity is on the

9   right.

10   And if you put one -- supposedly, if you're estimating

11   a demand curve it shouldn't matter, right, how you estimate

12   it? Regardless of what the dependent variable is, you'll get

13   it right if you use instrumental variables.

14   Well, it's a good robustness check whenever you're

15   doing empirical work to make sure your estimate of the

16   elasticity of demand doesn't depend on what variable you put

17   on the left.

18   MR. WHINSTON: It's the Iron Law of Consulting.

19   MR. HAUSMAN: That's the basis of the new

20   specification test I wrote with Jin Hahn. So you should look

21   at the forward and reverse if you do two-stage least squares.

22   And for the econometricians in the crowd, they're

23   $o_p(1)$, which means that they should be perfectly correlated,

24   have a correlation coefficient of one. So if they're wildly

25   different -- this is Baker/Bresnahan – in one direction the

26   elasticity is .8. In the other direction the elasticity is

27   200. So they're not $o_p(1)$.

1   MR. WHINSTON: Actually, I was just going to say one

2   other thing related to Dan's point. Coming back to Dennis'

3   reduced form versus structural analysis, I mean, currently one

4   thing you could say about the reduced form is it takes into

5   account these behavioral differences. That is, at a certain

6   concentration level, coordinated interaction starts. The

7   typical way people do reduced forms would capture that. And

8   the typical way people do structural analysis wouldn't right

9   now.

10   Now, I don't think in some long-run sense that's

11   damning of a structural analysis. If you're doing the panel,

12   you could imagine actually trying to estimate something about

13   behavior, as people have in simpler models off of the panel.

14   But -- people haven't done that.

15   MR. HAUSMAN: I'd just like to say I disagree with

16   that point.

17   MR. SCHEFFMAN: Well, we have a couple of other

18   panelists this morning. I suggest we take a very short break

19   --

20   MR. HAUSMAN: I want to make a reply to you. You're

21   not going to get away. So let me tell you what happens in

22   Europe. This goes back to the empirical work. I'm actually

23   troubled by David who -- we've been friends for years --

24   saying we know how to do it better. That -- I think he said

25   that, and that troubles me.

26   MR. SCHEFFMAN: Well, I didn't mean -- no, no. We

27   look to people like you on how -- on the state of the art. We

1   know a lot more -- we have done a lot more of it than anybody.

2   MR. HAUSMAN: But let me tell you what happens in

3   Europe, just in contrast. I do a lot of mergers in E.U. so I

4   mentioned this -- the thing on heavy trucks and what they do

5   in Europe when the staff does something or the staff of

6   consultants does something, we were given all the data and all

7   the computer output just like we give to the FTC.

8   And then they have these hearings, and we were -- we

9   put a paper in critiquing what they did. Now, as I said,

10   there are -- I know there are confidentiality problems and

11   stuff like that, but it seems to me that's a goal that should

12   be aimed for here, that is, transparency.

13   We turn our stuff over to the FTC. You turn your

14   stuff over to me. I'll give you a reasoned critique. If, for

15   confidentiality reasons, it can't be done is one thing, but if

16   there aren't confidentiality reasons, I do not see why the FTC

17   shouldn't seriously consider that, put this on an equal plane.

18   Then one side, quote, doesn't know better, and you get

19   a dialogue. And this probably won't happen anytime soon, but

20   I think it's really a goal. And if the Europeans can do it

21   where they have much more concern about privacy, I think, than

22   the U.S. on these kinds of things, I don't see why the Federal

23   Trade Commission and the DOJ can't do it as well. If the

24   consultants from the outside can sign confidentiality things,

25   we sign them all the time saying --

26   MR. SCHEFFMAN: Jerry, we understand. I think you

27   will find -- you haven't been in for a while -- we are more

1   transparent. We may not be as transparent as we could be, but

2   we're working on it. Tim?

3   **[Whereupon there was a brief discussion off the record about**

4   **unfolding events]**

5   MR. MURIS: To defend myself from something Jerry said

6   and state my own views -- obviously if you have repositioning

7   or efficiencies, the models will predict lowered price. My

8   reaction was to some economists who stated that these models

9   predicted price increases. Given the Bertrand theory it's

10   more accurate to say they assumed a price increase.

11   I do agree completely with the point made on the

12   elasticities. For example, in consulting on soft drinks I was

13   given a table by a very good economist predicting a price

14   increase. I asked to see the underlying elasticities. It

15   turned out that the data did not show that both Coke and Pepsi

16   and Diet Coke and Diet Pepsi were substitutes. This is not

17   very reassuring.

18   MR. CARLTON: Let me just point out that was not

19   Lexecon.

20   MR. SCHEFFMAN: We have enough time to get both Janusz

21   and Dick on before noon if they keep to their time. Janusz.

22   MR. ORDOVER: Thank you. It's of course difficult to

23   talk about anything as important as merger enforcement in

24   light of the news. But let me just try to say a few things

25   hoping everybody's families are safe and sound at this point.

26   Well, we are almost ten years on since the time the

27   Guidelines were promulgated in '92 and it's my view that the

1   Guidelines themselves are a useful document that has laid out

2   what I would consider a reasonably flexible analytical

3   approach to horizontal merger assessment.

4   And I don't think that so far we have heard from any

5   of the agencies that the application of the Guidelines has led

6   to a substantial diminution in merger activity or substantial

7   structural problems in any of the industries in which mergers

8   did or did not take place.

9   I recall some fifteen years ago how American firms

10   were imploring the Congress to change the joint venture

11   regulations because, but for these joint ventures, we would

12   soon be owned by the Japanese.

13   It didn't turn out that way and -- from that

14   perspective -- I would like to make sure that we do not

15   overstate the problems facing merger enforcement.

16   I think the most difficult -- there is a problem of

17   trying to delineate difficult from less difficult

18   transactions, but I think overall the process has worked very

19   well, thanks to people like those assembled here today.

20   Now, I do find some problems with the Guidelines, even

21   though maybe I have had a hand in creating some of them.

22   One area which we have not really talked about is

23   coordinated effects. And it was historically the case that

24   coordinated effects were, in fact, the cornerstone on which

25   the merger enforcement was built.

26   I told Mr. Rill that the inclusion of the unilateral

27   effects story in the Merger Guidelines is going to, in fact,

1   create the boom for econometrics and for complex data

2   estimation, which I think is a great thing. But which, I

3   think, could be pushed way too far. Because in many

4   circumstances, I have found, it really decouples people from

5   trying to understand the actual microstructure of the industry

6   or marketplace in which they are performing this analysis to

7   almost maddening preoccupation with profound econometrics

8   issues, which I think is important, but which I think can also

9   at times be highly distracting.

10   And as Tim pointed out, when one gets these rather

11   peculiar answers to one's estimations without trying to

12   understand why: whether it's the model that is wrong or maybe

13   there's something actually going on in the industry that we

14   don't know about, then I think it's critical to go back to

15   first principles and try to figure out exactly what it is that

16   we are concerned here about.

17   Now, when I am thinking about the unilateral effects

18   I'm thinking along the lines that have been discussed for the

19   most part of this morning, but what about the coordinated

20   effects? We really do not have any sound econometrics in that

21   area.

22   It could be that perhaps these various post mortem

23   studies will be able to extract from the effects of

24   transactions on whether or not firms have changed in the way

25   they price, in the way they set their R&D investment

26   expenditures or their promotional advertising expenditures.

27   But -- and so far as I can tell, we do not have an

1   easy way to predict, other than immediately through these very

2   reduced form correlations between concentration and prices,

3   whether or not a change in concentration will or will not have

4   the effect on how the game is played, which is what

5   essentially the coordinated effect theory is all about.

6   It's not necessarily about the fact that a price

7   increase will result from simply removing a firm while

8   maintaining a Cournot game, but in fact it is founded upon the

9   notion that the Cournot game, assuming that's the base game

10   that's being played, will be replaced by a somewhat more

11   collusive type of an enterprise.

12   And I think that's a big problem which I think at the

13   same time drives a lot of brilliant minds to, in fact, mining

14   beautifully and creatively the kind of scanner data that has

15   now become available and the kind of evidence that we now have

16   to estimate the minute -- possibly minute -- effects from

17   transactions.

18   Now, if anyone were to tell me 15 years ago or 20

19   years ago when I started in this business that one could

20   actually predict that the price of bread as a result of a

21   transaction, specific kind of bread, as a result of a

22   transaction would go up by 1.5 percent, I think I would have

23   changed fields because that sounds to me like total magic.

24   And however much I adore these models, I do remain skeptical

25   about the ability to draw profound conclusions from such

26   pinpointed estimates, with extremely tight standard errors

27   around these estimates.

1   I am still drawn back in my own mind to a large extent

2   thinking about coordination and how that works its way

3   through. And if you buy into the coordination models, then

4   you automatically would say to yourself something even more

5   profound or perplexing than what the unilateral effects models

6   say, which is to say that every merger is bad. After all, it

7   certainly cannot be any good. The number of firms goes down.

8   Even if we play postmerger Cournot, prices go up because

9   residual demand elasticities for firms decline. But we really

10   do not believe that.

11   And we do not believe that for the very reason which

12   the Guidelines seem to shunt to the side, which is to say that

13   there has to be some motivation that is well-grounded in the

14   managers' and others' expectation of wringing out cost

15   benefits out of the transaction.

16   And yet, when it comes to actual analysis, we are

17   setting aside these efficiencies as a defense. I am, thus,

18   particularly conflicted in my own mind as to how to reconcile

19   these two views.

20   Now, one way to think about it could be that

21   efficiencies obviously are there when you think about a merger

22   between two small firms. After all, how much effect can such

23   a merger have on the game that is being played? But maybe the

24   effect is larger if the firm that is being removed is the

25   maverick.

26   Nobody has measured this -- the minimum size that a

27   firm has to have in order to earn the well-deserved status of

1   a maverick. And we always think of a maverick as a firm that

2   paces the industry's pricing down.

3   What about the firm that has found a way to signal to

4   the industry how to price up? Are there such mavericks? So

5   from my perspective we don't know how to gauge whether or not

6   a particular firm does or does not deserve the role of the

7   maverick, because when you look at the time series of prices

8   or if you look at the time series of innovations, things often

9   change.

10   And when you look at the firms' behavior over time,

11   that behavior will often change as well. Nevertheless, I

12   think that there's now going to be a fair amount of interest

13   in trying to focus on the coordinated effects models on the

14   notion of a maverick, because perhaps that's the only

15   reasonable concept that we have in the Guidelines that could

16   be actually dealt with in a serious econometric sense.

17   I am also puzzled by or often conflicted in my own

18   mind, and you must be as well in your daily practice, about

19   the issue of efficiencies and ease of entry against the

20   arguments that the firms make, in which they have to merge in

21   order to wring out these costs, while saying not to worry

22   because if we are to misbehave there is this firm that is

23   manufacturing products which seem totally unrelated to the

24   relevant market but in a jiffy, that firm will come and indeed

25   destroy all, each, and every ability of the firms in the

26   industry to elevate these costs.

27   How do we reconcile those possibly orthogonal views as

1   to how the marketplace prices? If the firms do need to merge

2   in order to wring out some cost savings, why is it that there

3   are all these many, many firms that are outside of the

4   industry that, in fact, could be seen to exercise substantial

5   constraining power in the event of a small price elevation

6   lasting the target period of time.

7   This is a difficult problem and we really do not have

8   very much empirical evidence of, in fact, the drivers of entry

9   beyond the fact that new entrants generally are firms of the

10   "Schumpetarian destruction" kind, that Dick will talk about.

11   That is, firms that find a new way to do something that has

12   been done inefficiently in the past, as opposed to the firms

13   that come in and out in order to arbitrage the small price

14   movements between the firms within the industry and the firms

15   on the outside.

16   That's an empirical area that I would think of as

17   being critically interesting. There's some work by Pakes, to

18   whom we have been referring, that suggests that, for example,

19   price-fixing, which is an alternate version of a merger, does,

20   in fact, benefit consumers by virtue of drawing in firms into

21   the industry.

22   Now, if I were to bring in Pakes and talk to you – the

23   enforcers -- in those terms when you're thinking about a

24   particular transaction or any form of competitive indicator,

25   probably somebody would throw him and me out of the room.

26   But maybe that's not the wrong way to think about this

27   issue. Maybe we have become overly obsessed with the

1   short-term effects, even abstracting from the dynamics of the

2   R&D and so on, and better understand a point that has been at

3   least modeled by Pakes and his co-workers.

4   Another area which I think requires much more

5   attention than has been heretofore given is whether or not it

6   makes any sense to our merger enforcement whether or not the

7   profit maximization model is the right foundation on which to

8   rest so much of our assessment.

9   You read -- in the Financial Times and The Wall Street

10   Journal you read two sets of stories. On one hand, you read

11   stories in which the merging firms do indeed go and seek the

12   efficiencies out of the transaction. And in the parallel you

13   read about clashes of egos, all these CEOs who are perhaps

14   driven by hubris or something else to merge or demerge or

15   invest or divest, whatever it is that drives these folks.

16   You cannot say men anymore because now there are women

17   who possibly are driven into the same sorts of mistakes.

18   Perhaps the HP-Compaq transaction will be evidence of that.

19   So people out there who are driven into these

20   decisions based on models of their own which do not have a

21   particular counterpart in the industrial organization

22   economics.

23   I did a deal -- not a merger but an alliance --

24   between Northwest and Continental in which the Department of

25   Justice was convinced that a very small share that Northwest

26   would have in Continental would, in fact, vastly change the

27   behavior of Northwest's managers.

1   It may or may not be true. Perhaps in the ideal world

2   one could devise compensation schemes that would take that

3   into account, the fact that now Northwest has -- or had at

4   that time a 15 percent share of Continental, and as a result

5   of calculating all these cross-elasticities it would lead one

6   to conclude that prices on some routes ought to go up.

7   But is it a realistic model of, first of all, of

8   managerial behavior? Secondly, is it realistic to assume that

9   firms can, in fact, tailor management contracts in such a fine

10   way as to take these new elements of ownership precisely into

11   account, especially when the share of the ownership is quite

12   limited?

13   I'm not saying that it is or it isn't. I'm just

14   saying it's one area of empirical work, and even theoretical

15   work, in which we are, at least I think, quite deficient.

16   Our colleagues in other branches of economics are

17   moving on to the world of behavioral-based models of

18   shareholder investment and so on and so on. Perhaps there are

19   some lessons to be learned from these kinds of approaches in

20   analyzing how these transactions work out, where are the

21   drivers of these transactions.

22   I think that there is inadequate mention in the

23   Guidelines of what I always thought was the cornerstone to all

24   of our analyses, which is the kind of assets that are being

25   brought to the transaction.

26   I think market power attaches to assets. The asset

27   could be a brand name. It could be market share, for example,

1   in the network industry. It could be almost anything, but I

2   think that a preoccupation with just raw measurable things

3   such as actual market share is potentially distracting in

4   thinking about the rationale for the transaction and its

5   economic effects.

6   In particular, I believe that this is so in high-tech

7   mergers in which the assets are forward-looking assets as

8   opposed to backward-looking assets, which may be a market

9   share of the firm that is actually on its skids.

10   I don't know anything about the deal, but let's say

11   Compaq's substantial market share in the PC business may be

12   quite irrelevant to how one looks to the assessment of that

13   particular transaction in a forward-looking manner.

14   So I would believe that the kind of analysis that are

15   very beautifully exemplified by these rather complex slides

16   that Jerry put up seem to me to be uncoupled from the actual

17   realities of the situation.

18   Coke and Pepsi have huge amounts of various kinds of

19   assets. There are brand-name assets. There are distribution

20   assets. There are brains of people who invent new drinks,

21   some worse than others, but some perhaps quite delightful.

22   And the same thing in the cereals business where the numbers

23   of products have been quite humongous.

24   So what I'm suggesting again is that from the

25   standpoint of empirical work, as well as from the standpoint

26   of merger enforcement itself, I would like to see -- on both

27   sides of the table, whether it's the enforcers as well as the

1   parties -- to actually try to describe how the assets that the

2   firms have, how they will be better exploited following the

3   transactions, and trying to understand whether market power in

4   some way can attach to some of these assets in a way that

5   would be exacerbated or enhanced by the transaction.

6   My last remark is that when one thinks about these

7   mergers, horizontal mergers or vertical mergers, transactions

8   in general, because not all transactions are actually full-

9   blown mergers. (There are alliances being formed, joint

10   ventures being formed, collaborations and so on.) And there

11   is no way heretofore to understand these as reactions to

12   market shocks.

13   I think that if we do believe that there is some sort

14   of equilibrium in the current circumstance, then why is it

15   that we observe a change? Now, what is it that is driving

16   that change? What is the endogenous model's theory

17   underlining the -- or what are the endogenous factors in the

18   marketplace, locally or globally, that drive the situation?

19   And how do they pertain to merger assessment?

20   Let's take the Whinston example of two and three

21   bakery towns. Well, it's true that if you were to see the

22   situation as saying that, in the two bakery town the prices

23   are higher, and now we have a three bakery town going down to

24   two.

25   Well, my God, this is terrible. I see that there's

26   correlation between the number of bakeries in this cross-

27   section -- there's a correlation between the number of

1   bakeries and price and cost margin, but do we understand why

2   this reorganization is taking place? Is it required? Or

3   maybe it's not.

4   Maybe it's because somebody realized -- they read the

5   regression results somewhere in the RAND Journal and said,

6   "Hey! Let's merge and raise prices."

7   More likely than not I would submit to you the reason

8   for this is a change in demand in the three-market town.

9   Demand may increase and therefore there may be opportunities

10   for entry but it could be that demand may be contracting or

11   technology may be changing, which is going to make a two-

12   bakery town much more efficient.

13   So I think that the starting point, and where I like

14   to start with in my own thinking on these matters, and which

15   again is very difficult to pick up in the complicated

16   econometrics analysis, is the economic and business drivers

17   for the transaction.

18   I mean, the parties will often say all kinds of

19   puffery things, but we need to really ground the analysis and

20   the assessment of how the marketplace is evolving. What are

21   the forces that are changing the incentives of firms from

22   staying apart to now coming together?

23   And we'll see that in the next six months in the

24   telecoms, in cable information technologies industries, all of

25   the industries that have been slaughtered both in the

26   marketplace but also by the exuberance of investment. And we

27   now will have to understand whether these changes and how

1   these industries are going to be structured are in fact

2   efficient or inefficient responses to a vastly changed

3   marketplace in which these firms operate. Thank you very

4   much.

5   MR. SCHEFFMAN: Thank you, Janusz. All right. I've

6   rethought. I think -- you guys aren't going anywhere,

7   actually. And I want to talk about that so I don't want to

8   marginalize Ben, so why don't we go -- you're not going

9   anywhere, Dick, I don't think. So I suggest we go out -- we

10   break and have lunch and come back.

11   We have got two speakers. We're going to have plenty

12   of time to have discussion. I do think we need to think about

13   -- we've got seven visitors here and they're all from out of

14   town. If they didn't have a hotel room, I suspect they're not

15   going to have one, so we better figure out who -- who of us

16   are going to put them up, because I don't think they're going

17   to go. So let's --

18   MR. ORDOVER: I have a bed at Omni Shoreham.

19   Everybody can stay there.

20   MR. SCHEFFMAN: We better check and see if you have a

21   hotel room. I can't imagine that there are any hotel rooms

22   left in town. Do we have phones? Are phones working again?

23   UNKNOWN WOMAN: Yes. The phones are working.

24   MR. SCHEFFMAN: So we should have someone check to see

25   if they can get a hotel room or if they don't, and make sure

26   that we have a home for everybody when we leave today. But

27   let's take a break and we'll come back.

1   [Whereupon, a lunch recess was taken.]

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1   **AFTERNOON SESSION**

2   **(1:06 p.m.)**

3   MR. SCHMALENSEE: Okay. We've had a little attrition.

4   At some level I have a very easy assignment, which is to talk

5   about what we don't know in the area of dynamic industries and

6   dynamic efficiency and so forth.

7   I could do this in ten seconds by saying we know

8   almost nothing that's very useful, but I will string it out

9   since this is all being taped.

10   If we are concerned for one reason or another with a

11   product that is not yet marketed, say a merger involving

12   people who have intellectual property in nanotechnology of one

13   kind or another, I take it we don't have a whole lot of

14   alternatives to something like the innovation markets

15   approach. You ask whether the combination of assets will have

16   a materially adverse effect on the dynamic competition

17   involved in bringing that technology to market and advancing

18   it.

19   I tend to agree with Dennis that that's a difficult

20   enterprise, except when there are very specialized assets

21   necessary for the R&D process, because it's hard to know that

22   you have identified all the players or, indeed, all the

23   possible approaches. Nonetheless, that's what we have.

24   I suggest to you that when there is actually a product

25   on the market, that problem still exists where R&D or

26   technology-change competition is important, but it is

27   intensified.

1   So let me say a little bit about what I think the

2   conceptual framework is here, or might be. I don't think it's

3   terribly controversial, although I could easily be surprised.

4   I'll then talk about the gaps in our knowledge that make this

5   a very difficult conceptual framework to think about applying.

6   Suppose now that we're not dealing with

7   nanotechnology, or we're dealing with some nanotechnology

8   aspect or product in a few years and it's on the market, but

9   clearly R&D rivalry is important, or might be important, or

10   should be important.

11   Well, then you have two concerns. You have, of

12   course, the traditional concern with short-run market power in

13   the products being marketed. And I say short-run in quotes

14   because it could be a long short-run, but market power in the

15   products being marketed.

16   And I guess I would argue that even when R&D

17   competition is the main form of rivalry, you don't want to

18   ignore short-run power. It may be possible for a firm that

19   has only a short-lived monopoly to nonetheless adversely

20   affect competition over a longer period. At least it's worth

21   thinking about whether distribution -- distribution could be

22   blocked, and so forth.

23   And, of course, in some high-tech industries network

24   effects may serve to protect incumbents. I want to say a

25   little bit about network effects, what we know about them

26   later on, but I would point out that network effects also

27   benefit consumers.

1   I sense a tendency occasionally in the enforcement

2   agencies to view network effects as an ill-gotten advantage.

3   Whether that's ill-gotten or not, it corresponds directly to a

4   consumer benefit.

5   But of course you also, in dynamic industries, worry

6   about dynamic competition. Particularly, you worry about the

7   kind of dynamic competition that can disrupt market

8   structures.

9   And I think that's an important distinction to be

10   made. The kind of R&D competition that leads to steady

11   advance doesn't, I think, pose it dramatically because it

12   tends to involve established players. And it tends not to

13   disrupt competitive regimes, so it doesn't raise terribly new

14   conceptual issues. It's like R&D competition, product

15   quality.

16   Of course, as we all know from textbooks, anything

17   that affects that steady march of nondisruptive innovation can

18   have enormous welfare effects. Thus, we have to worry both

19   about that and about price competition, about competition in

20   the market.

21   But the competition that raises new conceptual issues

22   and difficult empirical issues is the kind that Schumpeter

23   talked about, the kind that threatens to disrupt market

24   structure.

25   The Schumpeterian argument, which I think is

26   noncontroversial in principle but enormously difficult to

27   apply and controversial in practice, as I'll mention, is that

1   when the kind of creative destruction that Schumpeter talked

2   about is important, antitrust should go softer, go easier on

3   market power among the products in the market and the exercise

4   of that market power, except when it imperils dynamic

5   competition.

6   There are really two sides to the argument. The first

7   side is, you don't need to pay as much attention to short-run

8   competition if disruptive changes in market structure are

9   likely. If you have mayfly monopolies that will have market

10   power for a short period of time, that power poses less of a

11   threat because it's less extensive in time.

12   The second argument is that one can do positive harm

13   when the main action is R&D competition, because if you

14   subject market leaders to tough scrutiny, even though

15   everybody says you don't, in fact, you do make it more

16   difficult for the leader to compete. This has direct harm and

17   reduces the incentives to compete for leadership.

18   Now, the poster child in these kinds of arguments, and

19   the one I always use, is word processing. Wang dominated,

20   then WordStar dominated, then WordPerfect dominated, and now

21   the numbers suggest Word dominates.

22   And at any one of those stages you could find lots of

23   people who would point to network effects, widespread

24   acceptance, de facto standards, incredible margins, and

25   enormous profits, all of which were true, and all of which for

26   Wang, WordStar and WordPerfect vanished.

27   Now, in the face of that kind of competition, would it

1   have been worthwhile to pursue Wang or Word or WordStar for

2   small violations?

3   And I think most people would say with the bright

4   light of hindsight, no. The hard part is, okay, you're there.

5   And you see WordStar. How do you judge the importance or the

6   likelihood of the sort of creative destruction that makes

7   WordStar's pricing a whole lot less important than the race to

8   build the next generation of word processor?

9   Well, others can add to the list of things we don't

10   know, but I'll just sketch a few of them, things we'd like to

11   know. Let me start with the theory of R&D competition. There

12   are a lot of models in a lot of journals. I suggest it is of

13   the "could happen" kind of theory. It provides lots of

14   thoughts about how markets of some kinds might evolve, but I

15   don't find it of much empirical use.

16   The flip side is, if you look hard at the empirical

17   evidence and you ask the question, here we are looking at --

18   just to take this example -- WordStar and we're trying to

19   decide, is this a situation where the real action is so much

20   about R&D that we really aren't going to worry too much about

21   how they license? We're going to care a lot about the

22   intensity of that R&D competition.

23   There isn't much empirical work either that's useful

24   in that sort of situation. Even on a subject like network

25   effects which bears here, where there's a ton of theory, ask

26   yourself what's been written that's persuasive on the

27   importance of network effects in particular cases, the

1   empirical importance. Many have beaten up on the

2   Liebowitz/Margolis work, but I would argue it's about the best

3   there is, and that's not a terrific situation.

4   Now, there are a couple of basic measurement problems,

5   both of which I confess I stubbed my toe on in a case I don't

6   particularly want to talk about.

7   The first is, how do you assess the current state of

8   dynamic competition? If you say well, there may not be a lot

9   of price competition, but there's intense innovation

10   competition, how do you support that or refute it? That's not

11   easy. And it's not easy for the kinds of reasons Dennis

12   pointed to. It's hard to know that you have got your arms

13   around the right set of firms and innovative activities.

14   It's hard to measure what they're doing because people

15   haven't actually liked to tell you their research budgets,

16   approaches, competence, and stock of proprietary intellectual

17   property, all of which you would like to know. You would like

18   to know if, while WordPerfect was dominating word processing

19   there were seven people spending jillions of dollars working

20   very hard to displace them.

21   That's an interesting question. Whether anybody is

22   even trying to displace the leader tells you something about

23   whether they might be successful. It's also hard to answer.

24   You're very likely in this kind of assessment to miss small

25   firms.

26   You are also very likely to miss firms taking odd,

27   eccentric approaches to innovation, most of which, of course,

1   will fail, so most of which deserve to be missed. But you

2   don't know which ones, and you don't know how likely one is to

3   succeed. So that's hard.

4   And I think that's the innovation markets problem, but

5   I think to walk away from it, either for products not on the

6   market or for products on the market, and say we can't make

7   that assessment, and to just make a presumption that either

8   this kind of competition isn't important or that it trumps

9   everything else whenever it's present, either one of those is

10   going to lead to significant error.

11   The hardest thing, and the thing where I think we know

12   the least, is the likelihood of or how you think about the

13   possibility of disruptive innovation of the Schumpeterian

14   kind.

15   It has been argued in some cases that, even though a

16   firm looks like it's dominating the market, basically on the

17   old General Dynamics case, current market position is not a

18   good predictor of future prospects, and the firm is scared to

19   death and working very hard to compete with those that might

20   displace it in a winner-take-most market dominated by network

21   effects.

22   Well, how do you support that point? How would you

23   establish that that's likely? You can look at history, but

24   history is not a great guide, because many markets go through

25   this sort of a standard evolution where a lot of different

26   design approaches are followed and leaders are displaced and

27   that, as my Sloan colleague, Jim Utterback describes it, a

1   dominant design emerges.

2   Look at automobiles. There was a period of vast

3   experimentation, a lot of ferment. Not a high-tech industry,

4   but very typical of big disruptive innovation when GM with

5   closed bodies displaced Ford from market leadership. Very

6   dramatic, full stop. Lots and lots and lots of incremental

7   innovation since then, but it is hard to find anything

8   disruptive.

9   So if you looked at automobiles as of 1925, you would

10   say this is the Schumpeterian industry. We see people just

11   topple from leadership. We see firms rise. We have seen all

12   this great Schumpeterian competition, and then it stopped.

13   So how would you make the argument that this is going

14   to continue? I find this very hard. How would you make the

15   argument in 1910 that railroads were threatened by those noisy

16   automobiles outside, and that really that's the disruptive

17   force, even though it's hardly the same market.

18   Again, take -- just to stay in software for a moment,

19   compare the turnover in leadership in word processing

20   packages, where there are obvious network effects that protect

21   leaders, with the stability in personal finance software,

22   where Quicken has been the market leader for a long time

23   despite, as far as I can tell, the absence of anything that

24   looks like network effects.

25   I find much of the likelihood of change depends not on

26   history but on the contours of what's unknown terrain in

27   technology and consumer demand spaces.

1   Patterns of investment can tell you something. If

2   there are a lot of people trying to displace Quicken and

3   spending money trying to do it and pursuing innovative

4   techniques, it at least suggests that people think it's

5   possible or are willing to bet on it. It doesn't prove it

6   will happen. It doesn't even prove it's likely.

7   You can learn something from talking -- from reading

8   the trade press and talking to experts. But only a little,

9   because the trade press, I think, tends to play up challenges

10   to leadership and maybe exaggerate for the sake of having

11   something to write about. And experts, as we all know, have

12   their own biases.

13   So I think dynamic efficiency, R&D competition,

14   Schumpeterian competition, are potentially very important in

15   particular cases. I'm not a believer that they are important

16   everywhere, all the time. They are very important potentially

17   in particular cases, but they pose measurement problems and

18   evidentiary problems that, at least from my experience, I find

19   very frustratingly difficult.

20   And this is an area where economists have said for the

21   last 50 years, to only limited effect, that we need to do a

22   lot more work. Thank you.

23   **[Whereupon, a side comment was made]**

24   UNKNOWN WOMAN SPEAKER: May I interrupt one moment.

25   Just -- we need a head count on those who need car service,

26   limo service to BWI.

27   **[Whereupon, there was a brief discussion off the record.]**

1   MR. SCHEFFMAN: Dick, instead of having a response,

2   I'd like to ask a question of the panel. We talked a little

3   bit about this last night. What do we think is the economic

4   consensus of what is the empirical relationship between market

5   structure and innovation?

6   Do we think there's a definitive result, empirical

7   result? Do we think still despite structure-conduct

8   disappearing that for some reason there is a relationship in

9   product markets between concentration and requirements with

10   barriers?

11   MR. SCHMALENSEE: I think most people believe that

12   certainly moving away from the monopoly pole at least some

13   distance tends to increase R&D rivalry.

14   If you press me -- or, my guess would be, most of us -

15   - for the definitive evidence that supports that belief, I

16   think we'd have a hard time coming up with it.

17   MR. HAUSMAN: I would -- I think it partly depends on

18   how you want to measure this because -- I'll mention just one

19   company and you can say to yourself what kind of industry it's

20   in and has changed over time. But depending on how you

21   measure things, Intel will swamp this whole thing.

22   So I think you want to be very careful. I will be

23   glad to give -- I'm always glad to give my opinion on

24   everything, as many people in the room know. But I don't --

25   I'm just saying that Intel went through a period arguably

26   where they didn't have much competition. They probably have

27   more now, but just in terms of innovation you just want to be

1   very careful -- you want to measure things in terms of

2   revenues and all.

3   And if you get a company like Intel which, again, I do

4   not want to start discussing cases that Dick testified in, but

5   there are structural reasons that you could say in that type

6   of situation, even if Intel were a monopolist, it had a huge

7   incentive to be very innovative.

8   So it just depends on which level of competition you

9   look at and what the structure is. So even in there, I would

10   argue that you have to do a structural analysis. I would

11   never base anything on a reduced form analysis of

12   concentration levels and say concentration level was X. The

13   likely outcome is Y. I think that's a nonstarter.

14   MR. SCHMALENSEE: I agree with that. The one thing I

15   would say is that when I answered quickly I was thinking about

16   the extent of the number of players in the R&D game or

17   potential number of players. I think looking at current

18   market shares is pretty useless.

19   MR. HAUSMAN: I also think counting the number of

20   players isn't very helpful either.

21   **[Whereupon, the panelists all spoke at once.]**

22   MR. CARLTON: That's what Dick said -- you don't know

23   how to count who's in the race.

24   MR. SCHMALENSEE: Well, you don't know how to count

25   and you also, as a practical matter, don't know how to weight.

26   MR. CARLTON: I think there are two things, though.

27   Empirically, what's known from these cross-sectional studies

1   is very little. And I agree with Jerry. These cross-

2   sectional studies, just like the concentration studies where

3   cross-sectional -- by cross-sectional it usually means across

4   industries --

5   MR. HAUSMAN: Yeah.

6   MR. CARLTON: Tell you very little.

7   MR. SCHMALENSEE: They're even worse.

8   MR. CARLTON: The best thing you can -- the best thing

9   you can say is, if you can observe an industry sort of that

10   has -- and watch its structure change, a time series, sort of

11   a difference of difference approach, then you can get perhaps

12   some information. But even there I think it's very hard --

13   MR. SCHEFFMAN: Well, let me give you my point. We

14   have moved, and I think most people are fairly comfortable

15   within product markets that have three going to two, where

16   it's a bona fide three to two, should be very difficult to get

17   through.

18   And I don't think there's much disagreement in the

19   economics profession about that. I don't know why, because I

20   don't know what the empirical support for it is, but I'm

21   comfortable with it, too.

22   But -- that it should be very difficult. What about,

23   if you think you really do have three to two in an innovation

24   situation, should we have that strong presumption?

25   MR. HAUSMAN: Well, I think Dick said something which

26   is very important, and that is, it -- and I think this really

27   varies with the structure and industry -- what Dick said,

1   which I agree with a hundred percent, is if you see a lot of

2   people trying to do -- if you see a lot of people --

3   MR. SCHMALENSEE: This is a historic moment right

4   here.

5   MR. HAUSMAN: Yeah. I know -- 25 years.

6   MR. SCHMALENSEE: First time, yeah.

7   MR. HAUSMAN: But if you see a lot of people actually

8   attempting this, I think that's a very important market factor

9   to take into account. So no matter how you count, if you see

10   people doing it -- most people aren't fooling themselves. In

11   a lot of these industries their incentives to come in are very

12   large. And then -- so therefore when you think about three to

13   two I think there's a big difference between something like --

14   something that's not a merger going on for now.

15   Take a chemical -- certain aspects of the chemical

16   industry. I'm not talking about new products in the chemical

17   industry. I'm talking about the DuPonts of the world, which

18   Dave and I have a certain experience in.

19   There, counting up the number of innovators might make

20   sense because people maybe are less likely to come in from the

21   outside, depending on the structure of the industry. But I

22   think in these industries, these dynamic industries such as

23   semiconductors, DRAM, software, et cetera, I don't think you

24   can count because you don't know who's out there. So I don't

25   think you can do three to two.

26   MR. LEARY: I have a cynical question and observation.

27   If we're not sure we know what we're doing, what's the value

1   of embarking on speculation one way or the other as to whether

2   there's destructive innovation out there?

3   If it is out there, it doesn't make any difference

4   whether we approve a merger or turn it down. And if it isn't

5   out there, it doesn't make any difference that we have ignored

6   it. So, on a decision tree basis, I'm wondering what

7   practical use is it for me to speculate?

8   MR. SCHMALENSEE: I'll give you a simple example.

9   Suppose you had a situation in which, just looking at current

10   products, the merger promises efficiencies but promises a gain

11   in market power. Suppose it promises efficiencies

12   particularly on the R&D side because people are bringing

13   assets in.

14   If the increase in market power is going to last six

15   weeks, because of R&D competition, you shouldn't care as much,

16   I would argue, as if R&D competition isn't going to amount to

17   much. In the latter case, you would reject the merger.

18   MR. LEARY: Yeah, but then it doesn't do any harm

19   because the industry is going to turn upside down anyway.

20   MR. SCHMALENSEE: But it may take a longer time.

21   MR. CARLTON: Flip it around. Suppose there are

22   short-run efficiencies that are undeniable but the concern is

23   there is a long-run concentration in innovation markets. Then

24   it seems to me you are taking a speculative harm in the future

25   and then that seems to me the place where the concept would

26   get you into trouble.

27   MR. LEARY: No, I'm being even-handed. I'm suggesting

1   that there may be not much profit at this present stage in our

2   knowledge trying to speculate too hard as to whether or not

3   that kind of innovation is out there.

4   MR. SCHMALENSEE: But you're operating under a

5   presumption that it's not, and that will -- well, you have a

6   presumption one way or the other.

7   MR. LEARY: Because if it is, it doesn't make any

8   difference whether we approve the merger or not.

9   MR. SCHEFFMAN: Let me ask another question, and then

10   we have to move on, and a harder question, one we're very

11   interested in, because this Commission is very interested in

12   the nexus between intellectual property and antitrust.

13   What is our belief about the importance of

14   intellectual property for innovation? As I view the empirical

15   literature, which I don't believe for a lot of reasons, but as

16   I understand the empirical literature the conclusion is, for

17   example, the length of the patent term, except maybe in a few

18   industries, is irrelevant to the state of the innovation, is

19   what I read the empirical literature as saying.

20   I don't believe it but -- so is that what we believe

21   and do we believe strong intellectual property protections are

22   important for innovation?

23   MR. SCHMALENSEE: We do believe it, but not

24   necessarily on the basis of patents. I mean, as I read the

25   literature, patents are important in a few industries and

26   they're very important in those industries. How much

27   difference patent life makes I don't think we have much of a

1   clue, frankly, because breadth and various other issues also

2   matter.

3   MR. CARLTON: I think there's been a lot of work --

4   MR. SCHMALENSEE: But there are other forms of

5   intellectual property, and those are certainly important in

6   other industries.

7   MR. CARLTON: I would say I think there's been quite a

8   bit of work. There's a person by the name of Park, and he has

9   a series of articles in which he has gone around the world and

10   characterized the strength of intellectual property laws and

11   finds there's a very strong correlation between development

12   and the particular phase of intellectual property protection.

13   And there was a guy who did his thesis, Craig Scalise

14   who looked at the -- at Chicago -- and looked at what happened

15   in Singapore as Singapore grew.

16   And the bottom line is, if you don't have strong

17   intellectual property laws, not just patent life, but in

18   general protection of trade secrets and --

19   MR. SCHEFFMAN: Copyrights.

20   MR. CARLTON: Copyrights and all that, it's very hard

21   to get engineers and innovators to work. You might think

22   stealing things for free is great, but it turns out you can't

23   attract the human capital to implement a lot of these things.

24   MR. HAUSMAN: I'd like to make one comment about how -

25   - or the empirical work and all, and that is that if you

26   believe that there is a new economy, which I believe there is,

27   I mean, it may not be magic new economy but there's a new

1   economy out there, that new economy I think is largely

2   dependent on intellectual property rights.

3   It's not just patents. It's other types of intellectual

4   property.

5   So before you or the DOJ did anything I would think

6   about that very, very seriously. And it's interesting, the

7   evolution of certain industries. Once upon a time in the

8   semiconductor industry, everybody cross-licensed everybody

9   else. Now, you have IBM making over a billion dollars a year,

10   and people now are protecting their patents like Intel to a

11   very great extent.

12   So the old things about trade secrets for the chemical

13   industry and what that might have to say about intellectual

14   property could be very, very different from the so-called new

15   economy. So I think you have to think about that very hard.

16   MR. SCHEFFMAN: Unfortunately, we don't have Steve

17   here who would have given us some counter to this, but I'd

18   like to go out of order because Ben is the only guy that is

19   not going to leave today, I don't think, so I want to make

20   sure that he -- so, and some people are going to leave so I'm

21   going to go a little bit out of order and take Ben next.

22   MR. KLEIN: Will I ever leave?

23   MR. SCHEFFMAN: So I'm going to take Ben, so he get's

24   to talk before -- in case there's a mass exit, because Mike

25   has talked a little bit. So I asked Ben to come talk about --

26   not slotting, but he may talk about slotting -- I asked Ben to

27   talk some about price discrimination, which is a major topic

1   in our merger investigations these days.

2   MR. KLEIN: Yeah, David told me that he wanted me to

3   talk about price discrimination and slotting allowances. And

4   then when I arrived today he said, "Don't say too much

5   specific about slotting allowances because we have a report

6   coming out." I'm not sure what the relevance of me not saying

7   anything about it but, you mean, you don't want to make any

8   changes in it?

9   MR. SCHEFFMAN: No, no, no. So, you can go ahead and

10   talk about slotting.

11   MR. KLEIN: Good, because what I prepared was

12   slotting. Price discrimination, I guess I could say a few

13   things about price discrimination. And that is, number one,

14   price discrimination is all pervasive and it doesn't imply the

15   presence of market power or any competitive problems.

16   I mean, and this is just so obvious to, I think, every

17   economist but this is what I think David wants everyone to

18   hear. I mean, you see coupons in the supermarket. I mean, I

19   can price discriminate as evidenced by the fact of what I'm

20   charging today.

21   I didn't realize the price was going to be as high as

22   this but it -- but all you need to price discriminate -- all

23   you need to price discriminate is a negatively sloped demand

24   curve, and therefore every realistic differentiated product

25   market is going to have -- can potentially have price

26   discrimination.

27   And the degree of the negatively sloped demand is --

1   that is the firm's own-elasticity of demand and the ability to

2   price discriminate is not a measure of market power. It

3   measures the ability to affect your own prices, and I might

4   have the ability to affect prices.

5   I could charge higher prices to people that I have

6   worked with in the past and I have a reputation with, but I

7   have no ability to affect market prices, which is what we care

8   about for market power. That any changes in my consulting

9   services, the quantity of my consulting services, is not going

10   to affect the market price of consulting services.

11   And that, of course, begs the question of what the

12   definition of the market is. But clearly it is not a market

13   for client services. But just the fact that you see price

14   discrimination does not necessarily mean that there is a

15   separate market.

16   I guess I should also say the implications of this for

17   merger analysis, which is also what David wanted me to say

18   something about. I mean, I'm not sure what we know about

19   this, but the fact that theaters price discriminate by

20   charging a lot for popcorn doesn't mean that there's no

21   competition in the theater business or that there's -- that's

22   in any way relevant for the mergers of theaters. Or the fact

23   that printers are cheap and the cartridges cost a lot for

24   printers does not mean that in any way that's anticompetitive

25   and we should look at that very differently if we're talking

26   about those types of companies merging.

27   In terms of how to define markets, if we see that

1   there are different prices in some areas rather than -- I was

2   going to say relative to cost, but oftentimes when you look at

3   these things more closely you'll see that the price/cost ratio

4   is really not that different.

5   The price-marginal cost margin may be different but,

6   like, for gasoline -- gasoline there might be a higher margin

7   in some cities than in other cities, but once you take account

8   of the fact that there are different land costs, and people

9   drive different amounts, and the density of stations is

10   different, so that people have more or less -- individual

11   retailers have more or less inelastic demand, you're going to

12   get an equilibrium where the prices can differ geographically

13   relative to marginal cost.

14   But what we care about in terms of defining geographic

15   markets, obviously, is substitution on the margins there.

16   I don't know if I said enough about price discrimination.

17   I wasn't going to really say anything. Can I go on to

18   slotting now?

19   MR. SCHEFFMAN: I'll ask you some more questions, but

20   go on.

21   MR. KLEIN: I'm certain you'll have the questions.

22   Okay. Because this is -- slotting fees is something that I

23   have thought about, and I think one of the keys here is, how

24   we should think about these problems as we learn more about

25   it? Because there's a lot of theorizing, but we really have

26   to understand more clearly how the market is operating. And

27   presumably your report has done that.

1   MR. SCHEFFMAN: We're working on it.

2   MR. KLEIN: You're working on it. And I guess there's

3   two general ways to think about it, either as what an

4   economist calls nonlinear pricing problem, where the payment

5   to the retailer is partially per unit time, or the way I like

6   to think about it is the competitive process about

7   manufacturers competing for retail distribution and that we

8   have to make sure that this competitive process in some sense

9   is open.

10   But when you think about it the first way there's this

11   question that, does the payment for shelf space lead to lower

12   prices? And if it's a per unit time payment, obviously it

13   does not necessarily lower the retailer's price, because it

14   doesn't lower the retailer's marginal cost of that product.

15   I'm assuming that we have a shelf space payment that's

16   per unit time, and it's not any performance measure that's a

17   function of sales, because then it really is equivalent to

18   lowering the wholesale price.

19   But in most of these industries like -- I guess the

20   paradigm is the supermarket industry -- we knew that the per

21   unit time payments are very likely to be passed on to

22   consumers, because the retail supermarket industry is so

23   competitive in almost all geographic markets in the United

24   States.

25   It's one of the most competitive industries in the

26   United States, and therefore it's likely to be passed on in

27   low prices. But it's also likely to be passed on on other

1   products that get the consumer into the store.

2   Now, unfortunately there's no good model of multi-

3   product firms that I think are very descriptive, but we expect

4   -- what you would expect -- you have a product -- the example

5   I like to give, and I don't know if it's the best example,

6   but, is dog treats. And nobody is going into the supermarket

7   to buy their dog a treat. And this is something that has a

8   very, very high margin, and it's what the marketing people

9   call an impulse buy almost always.

10   And you would expect that what retailers would do is

11   that they would lower the prices on other products that get

12   people into the store, that people are price sensitive about,

13   and increase the traffic, and then increase the sales of these

14   impulse type products.

15   So I just think the testimony before Congress is just

16   too simplistic about how these slotting fees add $10 billion,

17     $16 billion. There's all these estimates that you just add up

18   the slotting fees and assume that this is not getting passed

19   back to consumers. So my prediction would be that it's

20   getting passed back on other products.

21   Now, the second way of looking at -- about this

22   competition for retail distribution, I think that that's a key

23   part of the competitive process for many products, that

24   retailers are not passive transmitters of consumer

25   preferences.

26   The way economists usually model this is the retailers

27   are just -- it's a competitive industry in there and there's

1   consumer preferences and manufacturers producing these

2   products. But for many products manufacturers have to get

3   this desired shelf space, and the shelf space is what

4   determines what consumers are going to buy, that for lots of

5   products, as I said, it's these -- it's this impulse purchase.

6   And the analytical point is that the manufacturer

7   really can't leave it entirely up to the retailer's decision

8   on this margin with regards to the shelf space, basically,

9   because the shelf space is not an effective margin for him to

10   retail competition, but in the aggregate it increases the

11   manufacturer's sales quite a bit.

12   So the retailers are going to supply too little of it

13   in competing with one another but -- and the retailers are

14   supplying something that has a cost that's per unit time and

15   there's no reason that they shouldn't be compensated for the

16   per unit time.

17   And the interesting question -- and I guess I should

18   say I don't know what's in the report, but the usual

19   procompetitive rationales for this about the risk shifting

20   stuff and all that I really don't believe that's -- because I

21   think there's plenty of other ways to guarantee to the

22   supermarket or to the -- however you want to write this

23   contract, some kind of performance contract, there's no reason

24   to have to have it the way they do it if you're concerned

25   about risk shifting.

26   The problem comes, and I think the important economic

27   question is, when the slotting fee has an exclusivity attached

1   to it, and whether the payment for retailer shelf space is per

2   unit time or in the lower wholesale price, why do the parties

3   insist on exclusive dealing, particularly the manufacturer

4   insist on exclusive dealing, either actual or de facto

5   exclusive dealing and whether that somehow makes the

6   competitive process less than perfect.

7   And my major reason is that the retailer is providing

8   this promotional effort, and in particular supplying the shelf

9   space. And it may be shelf space at an end cap or at the cash

10   register that's extremely valuable for impulse sales.

11   And basically the price the manufacturer is paying is

12   going to be related to whether it's exclusive. And basically

13   without the exclusivity the retailers can collect twice. It's

14   a way of monitoring that effort. You can promise the

15   promotional effort to one person, and then also sell it to

16   another person.

17   Now, there obviously are possible anticompetitive

18   effects -- I'm not sure how much time I have but --

19   MR. SCHEFFMAN: A few minutes.

20   MR. KLEIN: Okay. There are possible anticompetitive

21   effects here, but most of the examples of anticompetitive

22   effects I think are really unlikely because there are no large

23   economies of scale.

24   All of the models where an exclusive dealing can drive

25   out competitors, you need some kind of economies of scale in

26   manufacturing. And if there are no economies of scale, then

27   it's in the interest of every individual retailer to cheat on

1   what is essentially a cartel. That is, I mean, the way -- I

2   guess the easiest way to think about it.

3   In an anticompetitive way there's an incumbent

4   monopolist, and they increase the wholesale price to the

5   monopoly level, and they're signing exclusive dealing

6   arrangements and sharing the monopoly returns in some way with

7   the retailer.

8   If that's the model, then it's in every individual

9   retailer's interest to cheat on the cartel by dealing with the

10   entrant, that any individual retailer can make more money, no

11   matter how much -- what percentage is getting shared by each

12   individual retailer to make more money by dealing with the

13   entrant.

14   Then you're not going to get equally or more efficient

15   competitors foreclosed from the market. This is if there are

16   no economies of scale.

17   If there are economies of scale, as you obviously

18   know, or Michael will tell you, what happens when there are

19   economies of scale is the competitive process can break down

20   in a number of ways. But I don't think in the supermarket

21   industry we're dealing with those types of products.

22   MR. SCHEFFMAN: Let me ask you a question, Ben. I put

23   forward the empirical observation that there are lots of

24   economies of scale because if you look at the margin, the

25   manufactured margin, on some of these products that they have

26   exclusives, they are very large. And so you have -- probably

27   have some sort of Chamberlinian competition where they have

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1   competitors and they are competing, but their margins as we

2   usually measure them, are very high.

3   MR. KLEIN: The price-marginal cost.

4   MR. SCHEFFMAN: Yeah, right.

5   MR. KLEIN: Margin is high but you have to see what

6   they're paying. Just like the land costs or for the gasoline,

7   you have to see what they are paying for the shelf space. I

8   mean, deodorants are an example where there's huge margins,

9   production costs, very low economies of scale --

10   MR. HAUSMAN: My favorite is, does Michael Jordan

11   cologne have market power?

12   MR. KLEIN: Right. Okay. Perfumes -- I mean, perfume

13   -- the thing about perfumes, though, is it's clear that there

14   is a brand name in competition for that -- for that market.

15   And I understand that advertising and R&D is competing

16   away the profits in that industry, but you have some product -

17   - I meant by like -- deodorants like these things that you

18   hang on your car.

19   I'm certain none of us here hang these things on our

20   car rear view mirror, but when you go into the store, you

21   don't really care which -- it's not like Michael Jordan

22   cologne, but you don't really care which one -- which pine

23   tree you get to hang on your windshield. And you would say,

24   well, why the hell is that company earning at such a huge

25   margin?

26   Well, once you figure out how much that company is

27   paying for a slotting fee, and there's a lot of competition

1   among all these companies to get -- to be the car deodorant

2   that's going to be in the supermarket.

3   And nobody wants the variety. It's optimal from the

4   supermarket's point of view to only have one company in there.

5   So you get an equilibrium. I mean, this is just the basic

6   problem of looking at price-marginal cost as a measure of

7   market power.

8   MR. SCHMALENSEE: But the Chamberlinian model isn't

9   necessarily bad. I mean, they have a downward sloping demand

10   curve like everybody else.

11   MR. KLEIN: Right. Yes.

12   MR. ORDOVER: And you have entry into supermarkets

13   that guarantees that everybody makes a normal rate of return

14   across the board.

15   MR. KLEIN: You got it. So we need -- we need Michael

16   here to ask the question that's not agreeing with me.

17   MR. SCHEFFMAN: Michael's coming up next.

18   MR. CARLTON: You said economies of scale in

19   manufacturing. What about economies either of scale or scope

20   in retailing? I'm sure Michael will say something.

21   MR. KLEIN: Well, there also -- there could be

22   economies of scale in production with --

23   MR. CARLTON: I'm saying at the level of supermarket.

24   MR. KLEIN: I understand. I mean, I don't want to get

25   into McCormick, obviously, but there could be economies of

26   scope in having every single spice, right? And that would

27   probably be an economy of scope in production. Now, economies

1   of scope in the marketing, I don't know. I'm not sure what

2   you're talking about.

3   MR. CARLTON: I'm a supermarket. If I don't have the

4   number one brand, people are going to think I'm crazy. And

5   therefore I need the number one brand. Now, there's the

6   number two brand that a few people buy --

7   MR. ORDOVER: Spice Island.

8   MR. KLEIN: Yes, well, another way to get the shelf

9   space is just to advertize and create the brand name for your

10   product and the demand for your product and then -- I think of

11   that as paying for the shelf space by creating the direct

12   demand by the consumer.

13   And then for the second brand, then there's going to

14   be competition among whoever's going to be the second brand on

15   the shelf by paying the slotting fees.

16   Or people can be competing -- the second brand is also

17   competing in this advertising wave but there could be -- if

18   there's economies of scale in creating the brand name, then

19   what happens is the level of -- even if there's economies of

20   scale I would say just as long as that process is in some

21   sense open, which we have to talk about, if that process is

22   open, then all the rents will be dissipated and competed away,

23   and consumers presumably get all the benefits of that process.

24   Are there any questions?

25   MR. SCHEFFMAN: Well, I think it's good that Michael

26   will be a good bookend for this, so Michael do you want to go

27   next?

1   MR. WHINSTON: Okay. It's not fair that Steve isn't

2   here.

3   **[Whereupon there was a brief discussion off the record about**

4   **unfolding events]**

5   **[The overheads referenced by Mr. Whinston are reproduced in**

6   **Appendix B on page 144]**

7   MR. WHINSTON: I want to just take my first minute,

8   actually, to talk about one horizontal issue that wasn't on

9   the agenda. And it's an issue that actually the FTC isn't

10   particularly interested in, but that I thought I would spend a

11   minute on since it's all one antitrust community and I have my

12   colleagues here. It's about price-fixing and just what we

13   know about that.

14   Price-fixing is the bread and butter of antitrust.

15   We're all sure we know about price-fixing, right? The

16   conference on what we don't know didn't include price-fixing

17   as a topic because supposedly we all know exactly about

18   price-fixing.

19   But I just want to suggest we actually probably know a

20   little less than we think. Recently, some people in DOJ have

21   gone around giving policy speeches about some high-profile

22   cases suggesting that we see huge effects from price-fixing.

23   But actually, one of the things that has surprised me

24   is, if you actually look at the published literature, it's

25   very hard to find evidence about this. For example, there's

26   one paper by Sproul in the JPE that finds really no evidence

27   of an effect of indictments for price-fixing.

1   There are a number of other papers that kind of find

2   similarly inconclusive results. There's an older paper

3   looking at local bread markets by Block, Nold and Sidak in the

4   JPE that finds small effects: the mark-up is lowered by 4.6

5   percent. (By that I mean 25 percent markup might become 21

6   percent or 20 percent markup after an indictment.)

7   And really the only paper that I could find that

8   documents larger effects is Porter and Zona's recent paper on

9   Ohio milk options where, on average, they get a 6.5 percent

10   price effect that they estimate from collusion, and when you

11   go market by market in some markets it's quite a bit larger.

12   (For comparison, the mark-up on milk was about 25 to 30

13   percent of price.)

14   So this is just a pitch actually for whoever of you

15   have the opportunity to actually document it -- it would

16   actually be very useful, I think, to actually have some

17   published evidence.

18   And my suspicion is people here have seen things, but

19   it just doesn't end up in the published record for various

20   reasons. And I think it would be good if it did.

21   Okay. Vertical foreclosure. So I guess my assignment

22   was mainly to talk about exclusive dealing and tying, but a

23   lot of the things I'll say apply for vertical integration

24   stories as well, which Steve would have talked about if he

25   were here.

26   So along the lines of what we know and what we don't

27   know, the basic story for this was we, the courts, the

1   antitrust community, thought for a long time that these

2   practices were just obviously anticompetitive, exclusive

3   dealing, tying.

4   And then we thought they were just obviously not

5   anticompetitive. This was the Chicago School view: that

6   other things were explaining the use of these practices.

7   And I think basically the short summary of the

8   literature on all three of these topics is that what we now

9   know is that they could be anticompetitive under some

10   circumstances, but they also could be procompetitive.

11   And this makes this area a very difficult area. So

12   let me just take a minute to sort of give you an example --

13   thinking about what people have written about exclusives,

14   which have come up just in Ben's talk a little bit.

15   So the Chicago critique of the earlier view in asking

16   whether exclusionary contracts with buyers can deter a

17   competitor's entry was to say well, in principle, if these

18   contracts were signed, yes, but an incumbent monopolist would

19   not find it profitable to induce buyers to forsake

20   competition.

21   The reason is that buyers would need to be compensated

22   for the loss of competition. So if you look at a very simple

23   model of this if you have an incumbent with a cost of C_I and

24   one buyer who has a demand function. The monopoly price is

25   P_M. There's a potential entrant who can enter with cost C_E

26   with some fixed entry cost F. If entry occurs, the price

27   would end up being C_I under a broad range of circumstances.

1   So suppose entry would actually occur if there was no

2   exclusive contract signed, but that if there's an exclusive

3   contract, the entrant can't come in. So that would basically

4   be this, algebraically, this assumption that I have written at

5   the bottom.

6   So the question is, in this circumstance would we see

7   exclusives? The incumbent could sign this buyer to an

8   exclusive contract and deter entry. But the Chicago story

9   basically says, no, that it won't happen. And the reason it

10 won't happen, as I said, is it's not going to be profitable.

11   And why is that? Well, this buyer is going to be

12 anticipating the loss in competition from signing an

13 exclusive. What will the buyer need to be paid in return for

14 signing? Well, the buyer's lost consumer surplus is the

15 entire light plus dark shaded area in this picture: the price

16 will be P_M if he signs. He'll be monopolized versus C_I if

17 there's entry.

18   So that's what the incumbent would need to pay. Well,

19 what will the incumbent make by being a monopolist? Well, the

20 dark shaded area is the monopoly profit. So the dead weight

21 loss is the difference, and it's going to turn out not to be

22 profitable. The incumbent, although he could, in principle,

23 pay enough, will find that it's not profitable to do so.

24   This is a very compelling story and the fact that

25 there was actually a model out there was extremely powerful, I

26 think, intellectually. But it turns out that the model is

27 fragile. That is, the result depends heavily on a number of

1   assumptions that were built into the model.

2   The first model that was written down that got some

3   kind of anticompetitive effect was due to Aghion and Bolton.

4   Just like the Chicago School story, there was a single

5   supplier, S I'll call him now, and a buyer, B, and a potential

6   entrant.

7   What Aghion and Bolton said is well, if it's possible

8   to commit to a penalty, then that can actually serve as a way

9   of extracting some of the profits that the entrant earns by

10   entering. And we can get anticompetitive effects that way.

11   Now, it turns out that's not such a great story if

12   you're interested in pure exclusion, in pure exclusive

13   dealing. And the reason is that what's critical in that story

14   is that the entrant actually has to come into the market in

15   order for you to extract some profits. So you can't have an

16   infinite penalty, or a penalty that's high enough to really

17   keep the guy out all the time.

18   Nevertheless, what is useful about this model -- and

19   it is common across all the other models of anticompetitive

20   effects, is the idea that there's an externality. That is,

21   that the parties signing this contract impose some kind of

22   externality on other parties that ends up making this

23   anticompetitive. It makes it worthwhile to sign this for

24   anticompetitive reasons.

25   There are several different models of this sort. One

26   of the main classes of models was originally introduced in a

27   paper by Rasmusen, Ramseyer and Wiley in AER (I have a paper

1   with Ilya Segal that looks at this model as well), where

2   basically all that you do is you introduce two buyers. Now,

3   each buyer -- and this comes to Ben's point -- you introduce

4   two buyers and you suppose there are economies of scale.

5   So now, whether it's profitable to enter depends on

6   how many free unsigned buyers there are. And what that means

7   is that each buyer, in deciding whether to sign with the

8   supplier, exerts an externality on the other buyer. He

9   doesn't consider the fact that he's providing essentially a

10   public good of preserving competition anymore, and so buyers

11   will tend to sign too readily with the supplier.

12   And, in fact, in many cases in these models it turns

13   out the buyers will sign for free, because they think someone

14   else will sign if they do not.

15   Another class of models -- actually it is too bad Dan

16   O'Brien isn't here anymore, because I didn't remember off the

17   top of my head last night what the date of his paper is --

18   appears in O'Brien and Shaffer, Hart and Tirole and a paper of

19   mine in JPE with Doug Bernheim. These models go in a slightly

20   different direction and turn the entrant into an active firm

21   competing for these contracts. The key feature is that

22   there's some other sphere of competition where they compete

23   outside of their contract with this buyer.

24   So, for example, in my paper with Doug Bernheim, this

25   other sphere is maybe some other retail market and there are

26   economies of scale so that if your sales are reduced in one

27   set of markets you may be less competitive in competing in

1   others.

2   O'Brien and Shaffer and Hart and Tirole actually, it's

3   the same kind of story except S1 and S2 actually are

4   retailers, and B is a manufacturer. So it's turned upside

5   down. And the other sphere of competition is that once S1 and

6   S2 buy units from B they then compete on the retail market in

7   selling it. And so the motivation for signing an exclusive is

8   that you reduce competition in the retail market.

9   But the underlying mechanics are basically the same.

10   And although I didn't prepare this because I thought Steve

11   would talk about his own paper, I should say that the Ordover,

12   Salop and Saloner paper is another paper that (although it's

13   ostensibly about vertical integration) also gives you a model

14   for anticompetitive exclusive dealing although there it's for

15   a different reason. It's because of linear supply contracts,

16   and not so much because of these externalities.

17   So this is just sort of giving you an idea of how one

18   of these three literatures has moved. So what do we think

19   about this? Well, I think we have, in some sense, learned a

20   lot but we have also not learned a lot in some dimensions.

21   I think there are two kinds of problems currently with

22   the literature. In some sense these are possibility theories.

23   We had straw man which was the Chicago view. And so you could

24   write papers and get published showing that actually

25   reasonable models could generate anticompetitive exclusion.

26   But I think these papers have looked at very stylized

27   settings and haven't really looked to see how robust these

1   conclusions are. Now, I think conceptually it's clear that

2   these kind of forces will be present in many settings, but

3   whether they are overwhelmed by other factors, or which

4   factors tend to undercut them, and to what degree, I think, is

5   not entirely clear.

6   (For example, in the case where you have retailers,

7   maybe you have several retailers, and buyers can move across

8   retailers. Well, it's clear that that's going to tend to

9   undercut the incentive for an exclusive at one retailer,

10   because you don't have a captive market.)

11   So there are a number of directions I think it would

12   be useful for the theory literature to go to provide more

13   guidance than it has.

14   I think the second point is there's really essentially

15   no (convincing) evidence. There are a handful of papers that

16   claim to have evidence on these issues, but I don't find any

17   of them particularly convincing in either documenting these

18   kind of effects or showing that these effects aren't there and

19   that, in fact, it's a procompetitive story that's at work.

20   So that's where the literature is. So the question

21   is, what would we like to know? Well, I think there are two

22   separate things that in principle an enforcement agency would

23   want to know.

24   One is, in a given case, how do we judge which theory

25   applies? Maybe we're looking at exclusive dealing and maybe

26   it's an anticompetitive story. Or maybe it's a story about

27   protecting specific investments -- so which one is it?

1   Well, I think there are two ways you can go. I think

2   one is that you can try to judge which one is realistic based

3   on the assumptions of the models.

4   So, for example, a driving force in many of these

5   models is scale economies, or network effects, or something

6   like that that can create these kind of externalities from an

7   exclusive contract. So one question is, is this a market

8   where you actually see those kinds of things?

9   Likewise the procompetitive stories work under some

10   assumptions and they don't work under others. So you can try

11   to judge whether the assumptions fit in. I think, in fact,

12   this is nearly always what's actually done right now. Almost

13   all of the time when people are looking at these situations,

14   they're trying to match up with assumptions.

15   The second thing you might hope to do is something

16   that's much more like much of the empirical work in economics,

17   which is based on predictions of these models. That is, the

18   models will generate predictions about things you should see,

19   comparative static effects that should occur in the market,

20   and you might hope to be able to actually judge the model

21   based on some of these auxiliary predictions. And there's

22   really essentially nothing there that I know of where people

23   have done that.

24   For example, in the Microsoft case the closest thing

25   to this that the DOJ did was trying to show that where

26   contracts were signed Netscape's share was lower. Well,

27   certainly that's a necessary condition. If that wasn't true -

          1   -

          2   MR. KLEIN: Stop wasting their money.

          3   MR. WHINSTON: -- the DOJ's case would be in trouble.

          4   But it really could be consistent with either pro or

          5   anticompetitive stories. I mean, if an exclusive contract is

          6   improving some kind of investment, you would expect that trade

          7   might shift to the exclusive partner.

          8   So I think one thing that's at fault in the theory is

          9   that it hasn't been very clear about generating these kinds of

         10   predictions. And I think this will happen. But I think

         11   people haven't figured out how to do it yet.

         12   The second thing you might want to know is more

         13   general, which is, in some sense, on average or at least

         14   conditional on things that are easily observed, how likely is

         15   the behavior to be anticompetitive?

         16   So this is more if I look at a certain level of

         17   concentration or something like that, is it worth even

         18   bothering to try to do this kind of detailed study on this

         19   kind of behavior? Under what circumstances would it be at

         20   least reasonably likely that things may be anticompetitive?

         21   And again, I think we don't know much about that.

         22   Right now, again, I think it tends to be more based on looking

         23   at the assumptions of the models: we take a quick look at

         24   whether their assumptions seem to fit at all.

         25   Just a last point which further adds to all of these

         26   difficulties in this area: Even in these anticompetitive

         27   models, the welfare implications are in some cases unclear.

1   A first question of course is, what measure of welfare

2   are we talking about? I think that isn't entirely clear to

3   begin with. Are we looking at consumer welfare? Are we

4   looking at aggregate social surplus? The economic literature,

5   theory literature has tended almost exclusively to look at

6   aggregate welfare, but it's not at all clear that that's what

7   the courts are focused on.

8   Second, there are a number of effects that can lead

9   exclusionary behavior to actually not necessarily lower social

10   surplus.

11   So since entry, for example, can be excessive,

12   deterring entry isn't always terrible. Likewise because of

13   things that Dick talked about: if this is a dynamic industry,

14   it may be that giving leaders a greater advantage leads to

15   greater R&D.

16   The same thing with network effects: If you think

17   there are network effects, you have losses when you start to

18   break apart the network and start to try to switch what the

19   network is.

20   So welfare conclusions can be quite difficult for

21   those kinds of reasons. And then one last issue is, it's

22   important when you're thinking about the welfare what the

23   alternative is. For example, suppose you -- and here you

24   bridge a little bit into remedies -- you are banning explicit

25   exclusives; another thing that can happen is that firms can

26   try to use quantity dependent pricing to achieve exclusion.

27   Now, when you ban exclusives it's going to be harder

1   to achieve exclusive dealing. So for example, in the

2   supermarket case, suddenly the maker of dog treats has to buy

3   up the whole supermarket. And they're probably not that

4   likely to do that.

5   On the other hand, if they do it in order to squeeze

6   out other dog treat manufacturers, it's a much worse outcome

7   than if they just get their little exclusive. So what

8   behaviors are still possible and what they're going to

9   substitute into is, in itself, I think an important issue, but

10   one that has received only a little bit of attention.

11   MR. SCHEFFMAN: Thanks, Mike. I want to ask a couple

12   of pointed questions and then have some more questions. Ben,

13   we didn't really join on a couple of things. One, is price

14   discrimination.

15   This is -- Dennis knows a lot about this because he

16   actually testified in one of his first big cases. You have

17   got an industry which is -- in the easiest case you have an

18   industry where the competitors seem to have adopted practices

19   in recent history which lead to geographic pricing and

20   differentials in pricing which don't seem to be related to

21   cost.

22   And the litigation analysis in that case is you have

23   an industry with competitive problems, so you probably

24   shouldn't allow any mergers in that industry. So that's

25   Ethyl.

26   Or the more typical thing is you see an industry in

27   which you actually see price anomalies, usually geographic but

1   sometimes product pricing anomalies, and in which there are a

2   number of competitors, and you don't have a differentiated

3   product story, but there are pricing differences which do not

4   seem to be explainable by cost.

5   And again, that suggests that there's some sort of

6   funny thing going on in the marketplace and that it's not the

7   sort of marketplace that you would want to allow to get more

8   concentrated. So any of you --

9   MR. KLEIN: Well, I mean, there are some unfortunate

10   presumptions in the law with regard to price discrimination.

11   I mean, I don't know if that's what you're saying, but if when

12   you say that they can't be explained solely by cost, I would

13   say, first of all, let's not look just at marginal cost. And

14   you have to really -- I have to look in more detail at the

15   facts of the situation.

16   MR. SCHMALENSEE: There's so much price

17   discrimination. I have to say that presuming a competitive

18   failure where there's price discrimination is assuming that

19   most markets are not effectively competitive, if you look at

20   them closely.

21   And I just think that's nuts. I mean, price

22   discrimination in the Microsoft case was used to prove

23   monopoly power. That's crazy. Judge liked it but it's crazy.

24   MR. CARLTON: One thing I would say, when I did a

25   study of contracts, for ten years of data at NBER, Stigler and

26   Kindahl collected for relatively homogeneous goods, I was

27   struck by how different prices were for what you would think

1   about as pure homogeneous commodity goods.

2   And what that tells you is it's very hard to describe

3   the product. You can describe the physical characteristics,

4   but there are other characteristics like the speed of

5   delivery, the timeliness of delivery, the reliability of

6   delivery. All of these are very hard to measure, and account

7   for very wide differences in prices.

8   There are certain industries where, and I think both

9   agencies have had difficulty dealing with, where availability

10   of the product is a characteristic of the industry.

11   I used to do a lot of work on this, and there are

12   other people who have now done work on it. Just take

13   something like a simple model of hotels on a line, as in a

14   famous model by Prescott in which people when they come into

15   town they go to the first, lowest-priced, hotel and then the

16   second one and then the third one. But there are a random

17   number of people who come into town.

18   Well, what you get in a model like that, which is

19   perfectly competitive, is the -- it's perfectly competitive

20   but the assumption is you have to post your price first. What

21   you get is you get the first hotel charging a low price but

22   having a high probability of not having a room, because

23   everybody goes there first.

24   Then they go to the next hotel which has a higher

25   price but a higher probability of having a room and so on.

26   Hence, you get a price distribution.

27   So here's a market that's very competitive. You have

1   free entry. You have price distributions. There is some work

2   I'm doing with Jim Dana, and Jim Dana is -- actually has a

3   paper in the Rand Journal where he says, look at markets in

4   which customers randomly show up at stores and the question

5   is, what's the probability they're going to get the good?

6   And you can show that in those models you get price

7   distributions and, what's interesting, is the variance of

8   price increases as markets become more competitive.

9   And I'm pretty sure that's what Rose and Borenstein

10   found empirically in the airline industry. The more people

11   you have competing on the route, the greater, in a sense,

12   variety of product, even though it looks the same, a seat on

13   an airline.

14   So I think it's endemic, and I also think there's not

15   an appreciation about availability of goods, which leads to

16   one other sort of footnote. This comes up a lot in industries

17   where there's rationing and shortages, availability of goods.

18   And there aren't very many industries, but

19   occasionally during peak business cycles you see rationing and

20   shortages. And then what you get into is something the FTC

21   used to study a lot: swaps between firms.

22   And anytime you guys would see a swap you would say,

23   anticompetitive. There's something screwy going on in this

24   industry. Now, it's an unusual practice that economists

25   hadn't studied very much, but I would just caution you that

26   the same thing -- reasoning that leads you to think that price

27   discrimination means market power, the same reason that's

1   erroneous, so too this is. A lot of industries have swaps in

2   order to ensure they satisfy customers. It's an insurance

3   policy not anticompetitive.

4   MR. SCHMALENSEE: Just look at the magnitude of

5   dealing in supermarket products. That's discrimination over

6   time. You get huge variations in price over time which do not

7   correspond to huge variations in cost across lots and lots of

8   businesses.

9   Again, it's one thing to say you can explain a lot of

10   price differences if you look at them closely. It's also the

11   case that if you look at a lot of pricing closely, I think you

12   find differences that are explained by small amounts of market

13   power and differences in customer susceptibility to switching.

14   MR. SCHEFFMAN: Jerry.

15   MR. HAUSMAN: I think this is a place, in my

16   experience both here and at DOJ, where econometrics really can

17   help out a lot. I think this is more true of the lawyers than

18   the economists, but the lawyers sometimes are frustrated and

19   want to get more narrow markets. And so they'll posit price

20   discrimination, and as you say, when you look closely at the

21   prices you will see different price-cost margins.

22   So I did a telecommunications equipment merger -- I

23   don't know, about a year and a half ago at Justice -- and

24   prices varied all over the place as people -- and these were

25   sophisticated buyers, and they are buying equipment.

26   And they varied over -- so I think where empirical

27   stuff can help here is, I think before you believe there's

1   something really wrong here, you should be able to run a

2   regression and say, here are the characteristics of the buyers

3   who are being price discriminated against.

4   Usually, what you find in these models is that price-

5   cost margins are completely unexplainable. It's like some

6   people are good bargainers; some people aren't. Some people

7   bought early; some people didn't. And if there's not

8   systematic price discrimination, then my sort of suggestion is

9   forget about it. You really don't have anything.

10   On the other hand, if you can find systematic price

11   discrimination, then there may be some worries about it. But

12   it's remarkable -- this is a case where you want a low R^2

13   rather than a high R^2. It's sort of the opposite of usual.

14   But what I found -- when this has come up, which it

15   often does in merger reviews, how difficult it is to find

16   systematic price variations. I just think there's a lot of

17   randomness and there's just a lot of different skill in

18   bargaining and all.

19   Dennis' thing about rationing and all, I think that's

20   an older story. And what I've been struck by in the '90s was,

21   despite the boom, how there was almost no rationing

22   whatsoever, at least that I came across.

23   So you can get it for that reason, customer relations.

24   But by and large in the modern economy I have been -- there

25   are certainly situations, but you don't find systematic price

26   discrimination.

27   MR. ORDOVER: I don't know. For example, in the

1   Exxon-Mobil case that we had in front of the FTC, there was a

2   substantial amount of stress put on the fact that, at retail

3   at least, there is a lot of so-called "zone pricing" in which

4   gasoline delivered to particular gas stations might have been

5   priced differently depending on the zone in which they were

6   priced to.

7   And that was viewed as a failure of some market,

8   although that was not clearly specified which market exactly

9   that was failing, or which one was evidencing the presence of

10   market power.

11   But I would -- I mean, I agree with what folks are

12   saying on this panel, which is to say that mere evidence of

13   that sort does not at all signify for cost reasons and others

14   that there is actually price discrimination, as opposed to

15   differential retail prices.   Moreover, at least under

16   the Guidelines, one is required to ask whether a particular

17   transaction would in some way exacerbate or enhance the

18   ability of the firms to engage in that kind of discriminatory

19   pricing so that prices would go up more in some areas than

20   others, or whether they arbitrage on the margins. That is,

21   people driving from one gas station to another, whether or not

22   that in and of itself would depress or bring back the markups

23   to their pre-merger levels.

24   So again, I do believe consistently with what

25   everybody is saying that in my experience there is almost no

26   industry, perhaps with the exception of financial markets, in

27   which price discrimination of some sort is not present. And I

1   prefer to talk about differential pricing, because I think

2   it's frequently easy to confuse the two for a variety of

3   reasons. One of which, of course, has been discussed

4   extensively. And that is that a product delivered has so many

5   dimensions and so many potential cost differences, that to

6   observe different prices and infer anything from it is likely

7   to be a mistake.

8   So I think that one should temper one's desire to draw

9   conclusions about how badly markets perform by noticing some

10   deviations from what may appear to be a textbook model of

11   perfect competition.

12   The question really is, are those deviations

13   persistent, of the sort that are symptomatic of significant

14   market power, as opposed to temporary or disruptions in the

15   grand equilibrium, in which one would hope the economy to

16   exist but it never does? And moreover, will that particular

17   deal that you're examining, or particular form of restraint

18   solidify, exacerbate the kind of distortions that you think

19   create inefficiencies in the way the market operates?

20   And I believe that that is rarely the case, and I was

21   very chagrined, frankly, in the Exxon-Mobil case in which I

22   participated, that inferences regarding unrelated markets were

23   drawn from the observation that zone pricing was, in fact,

24   practiced in a variety of different ways by different

25   suppliers of gasoline.

26   MR. CARLTON: There's this underlying notion that

27   uniform pricing is the right thing. And the prevalence of not

1   only just non-uniform but just say non-linear pricing if

2   anything is going up in our economy. All these people who are

3   keeping records of people's purchases at either supermarkets

4   or on the Internet are using it in order to use non-linear

5   pricing.

6   So -- one other -- the outcomes of having all this

7   information could have gone either way. We could have had

8   either more uniform or less uniform pricing. My prediction is

9   these people are trying to use -- and there is more and more

10   non-linear pricing.

11   MR. ORDOVER: It could go either way. If you're going

12   to the Prescott model, if for example, search costs of the

13   hotel were completely reduced so you don't have to actually

14   visit the hotel but you can log on the Web site, Orbitz or

15   whoever, and find out what its availability is, then you would

16   expect again the Prescott effect to sort of disappear because

17   even if you post the price, you can -- think of five hotels

18   that you are picking from, and you can see immediately

19   availability or prices on all of them. There are no

20   transaction costs in choosing either one of them.

21   Now, of course, if you have to actually travel from

22   one to the other that is going to be --

23   MR. CARLTON: Well, actually, in the Prescott model

24   the reason I use this is because there are no transaction

25   costs. You always know which is the lowest cost one and you

26   just sequentially go. I mean, obviously if there are

27   transaction costs, then you would get a distribution.

1   MR. ORDOVER: Right.

2   MR. CARLTON: It's just that you have to post your

3   price first in the Prescott model.

4   MR. SCHEFFMAN: Okay. I'd like to get the audience on

5   page, so we're getting near the end. I have one final

6   question, but not yet. The ultimate question for these guys

7   to earn their high pay --

8   MR. HAUSMAN: For today especially.

9   MR. MURIS: Combat pay will apply.

10   MR. SCHEFFMAN: Questions from the audience for the

11   panel? Alden?

12   MR. ABBOTT: One general question the Professor

13   Whinston's comment about different exclusive dealing models,

14   all of the ones that show some sort of anticompetitive effect

15   story presume imperfect capital markets in the background.

16   MR. ORDOVER: No.

17   MR. CARLTON: No.

18   MR. ABBOTT: Isn't that given?

19   MR. SCHMALENSEE: Not true.

20   MR. ORDOVER: Next question.

21   MR. SCHEFFMAN: There's your answer.

22   MR. ORDOVER: Let me answer that because Salop is

23   caught up somewhere. One, the OSS paper really is not about

24   the absence of non-linear contracts. Actually, we have shown

25   that some non-linear contracts are permissible and you still

26   get the effect.

27   I think the nicest part of the model was to show that

1   even the firm that allegedly was trying to engage in some kind

2   of an exclusive foreclosure style behavior has to be mindful,

3   and this is where I think more work is needed, that going

4   overboard, so to speak, misbehaving by too much in the

5   marketplace will trigger the equilibrating reaction.

6   And we indeed were able to demonstrate that there's a

7   limit to how much a vertically integrated firm postmerger can

8   try, quote, unquote, to induce the remaining sellers to

9   exploit the unintegrated ones. Because if they were to try to

10   do too much of it, then the unintegrated sellers would simply

11   go back and buy the suppliers, or the suppliers would be

12   willing to sell themselves or would be willing to buy the

13   unintegrated buyers.

14   So there is a point to be made which I think is a

15   critical one. And that is that even these models that we have

16   looked at, in which these kind of anticompetitive behaviors

17   are possible, even there we always have to go back to what

18   Frank Easterbrook always taught us to think about which is,

19   what anticompetitive counter strategies are available to

20   overcome the problem that is potentially created by the

21   vertical restraint?

22   And in the OSS paper in fact it's the ability to

23   vertically integrate or forward integrate that has to be

24   sufficiently controlled under the modeling assumptions in

25   order not to trick this countervailing effects.

26   So I think that even further exacerbates the

27   difficulty in assessing how bad these practices are or are

1   not, but that's a point that I think is important in

2   understanding what it is that the victims can do to protect

3   themselves against being victimized.

4   MR. CARLTON: I want to go back to the question that

5   everybody seemed to unanimously say you don't need capital

6   market imperfections. I'm not so -- I think it's actually

7   quite a profound question if you think about it for a second

8   because -- for the following reason -- for the following

9   reason.

10   In these vertical models you create an inefficiency,

11   usually the set-up is, are you deterring the entry of a more

12   efficient firm? Anytime you're doing that, and the answer to

13   that question is yes, it means you're foregoing an efficient

14   transaction so that if you're -- and therefore the Coase

15   theorem tells us there's something better that could be done

16   amongst the participants at least. And therefore -- and you

17   should let this guy in and subcontract to him. There would be

18   more money and do whatever you were going to do.

19   MR. WHINSTON: This is true of all of antitrust.

20   MR. CARLTON: I know. So the point -- the point is

21   anytime you have any monopoly power, the Coase theorem says

22   well, the customer should negotiate with the firm. He should

23   get down to marginal costs.

24   So in some sense you're correct. There is an

25   imperfection that there's some contracts that aren't done.

26   And therefore in evaluating some of these exclusive dealing

27   models, I think it's relevant not only to ask about counter

1   strategies -- counter strategies is just another way of

2   Easterbrook saying the Coase theorem must work.

3   Can't I contract around them? You should ask, what

4   are the conditions under which you think you can contract

5   around them? And one of the hard questions for exclusive

6   dealing or relevant questions has to do with in a dynamic

7   environment it's hard to contract with parties who aren't yet

8   in existence.

9   That's what I think is interesting. And if everybody

10   is in existence, maybe it's hard to contract with them, maybe

11   not. But if they're not yet in existence, then it's obviously

12   hard to write a contract with someone, a contingent future

13   contract. So I actually think that you got too quick an

14   answer to your question.

15   MR. SCHEFFMAN: Other questions? All right. I'll

16   give the Chairman's question, and you'll all earn your money.

17   This has been a really interesting discussion panel. We have

18   learned a lot, but we want comments from each of you about

19   what we and others like you should be doing to move forward,

20   particularly the empirical research agenda, so that we can

21   figure out better what we should be doing or the effects of

22   what we do. You want to start, Ben?

23   MR. KLEIN: Okay. Well, presumably I found out this

24   morning that he did already -- in terms of a slotting

25   allowance which you apparently accomplished already what I

26   would want you to do is to look at the type of contract across

27   types of stores, like the Wal-Marts apparently don't ask for

1   the slotting allowances.

2   There seems to be variation in how much people are

3   paying for a slot per SKU in the east versus the west. I

4   think there's an obvious intuitive reason for that. There's

5   very large differences within a store in the types of

6   products.

7   Apparently, the frozen foods that get into the frozen

8   food cabinet you have to pay more. So, I mean, that's very --

9   that's very specific about slotting allowance.

10   Hopefully, if one collected all that type of

11   information and how this thing has changed over time -- but

12   one thing, I guess, I'd like to make a general comment about

13   empirical work and that I think lots of good empirical work is

14   not necessarily a regression.

15   And if we can do a careful case study -- in fact, it's

16   too bad Steve's not here because I think I have -- I have the

17   only documented case out there of his raising rivals' cost

18   with this Rockefeller case that I came up with. He's thanked

19   me many times for coming up with that.

20   But just work like that and industries -- study your

21   case studies. I think we learn an enormous amount about

22   whether these practices exist and what the conditions where

23   they're likely to exist.

24   MR. SCHEFFMAN: Mike?

25   MR. WHINSTON: I think I would do merger follow-up

26   looking at the evolution of the market following mergers. I

27   can think of bank mergers in Boston where I think it would be

1   very interesting to look at what happened with entry

2   afterwards.

3   And also looking backward with the benefit of

4   hindsight at how different techniques for evaluating mergers

5   using only pre-merger data would have done or did do.

6   MR. SCHEFFMAN: Well, we're very interested in that,

7   and if any of you are personally interested or you have

8   graduate students or colleagues, we are working with Orley

9   Ashenfelter in looking at one class of mergers. And he's

10   quite interested in it, but that's just one in one industry

11   grouping.

12   So if you are personally interested, or you have other

13   folks to work on this sort of thing with --

14   MR. MURIS: Jerry's idea about new products is

15   probably useful there, too.

16   MR. SCHEFFMAN: Yeah. Right.

17   MR. SCHMALENSEE: I was going to say the same thing,

18   frankly. You have obviously used models and evaluated

19   efficiency projections to make internal predictions about what

20   will happen after mergers that you have approved are approved.

21   And it seems to me following that through

22   systematically would be very useful. Price may be hard to

23   get, but data on shares may not be. The trade press may tell

24   you something about whether efficiencies were realized.

25   And I think you need to do a fair amount of it,

26   because the issue isn't, do people exaggerate efficiency

27   claims? Of course they exaggerate efficiency claims. The

1   issue is to try to find a pattern. And did the models get it

2   wrong? Well, of course the models will get it wrong. But

3   what's the pattern? And to do that it seems to me you need to

4   design a fairly extensive experiment.

5   The other thing I would look at, although frankly I

6   don't have a focused research agenda, is dynamic competition.

7   It is actually depressing how little we understand about

8   dynamic competition, particularly Schumpeterian competition,

9   when it happens, how important it is, what are the

10   determinants.

11   And that's a broader question. I don't have a

12   particular topic for the FTC, but there's a lot of room in

13   there for useful work.

14   MR. ORDOVER: Well, we have too many economists

15   agreeing so I will have to do the same thing, as the logic

16   stands. It's very hard to say what you should be doing that

17   is different from what the academic economists are doing.

18   Obviously, that's impossible to say.

19   The only thing that I would add to the earlier comment

20   is that you folks have several advantages over people who

21   reside in the academia. And that is you have access to the

22   database, the kind of information that people routinely do not

23   have.

24   And in particular you have information related to

25   particular deals. You have information related to a sequence

26   of deals in a particular industry at a fairly detailed level.

27   Now, the question is, can that information be used

1   without breaching confidentiality issues, how far can it be

2   scrubbed in order to not reveal what is not publicly

3   available?

4   But I would urge and second the notion that there is a

5   lot to be learned from the postmortems. I think there will be

6   a lot to be learned by people who are practicing the fancy

7   econometrics of differentiated product models to get an

8   assessment of how different the predictions from these models

9   are in the particular set of modeling experiences.

10   Just as an anecdote, I was stopped one day on

11   LaGuardia Airport by a lawyer who said to me, look, I have

12   four models that I can present, one in which the effect of the

13   merger is one percent, three percent, all the way up to seven

14   percent. What should I do?

15   Well, I told him, look, the best thing to do is find

16   one in which there is a price reduction. And we can always

17   get those as well if you just put enough stuff in it.

18   So that I think would be very valuable in some sense

19   to get an insight, if we can get it, as to what are the

20   sources of bias. What are the sources of the effects of the

21   assumptions on how these measurements and calculations will

22   come out in the end?

23   In the tuna merger that Mike was on one side and I was

24   helping Bobby on the other side, we had predictions which

25   seemed quite different from those that DOJ had as to the

26   effect of the transaction.

27   But in the end, one does not know other than in the

1   particular context of the circumstance. And even then it's

2   very difficult to figure out exactly what is driving these

3   results. One would like to know -- to begin to gather the

4   body of information that will tell us which of the modeling

5   approaches are designed or inevitably generate effects of

6   higher price increases, or would generate the lower ones, if

7   one can generalize. Or maybe there isn't any generalization.

8   But nobody has a bigger data set than you to at least begin to

9   think about these issues.

10   MR. WHINSTON: Can I just add one thing? Going back

11 to something I said before, at least -- I mean, I would really

12 urge you to think about this issue of trying to get the

13 companies to continue the information flow afterwards. You

14 may be able to do it, you may not, but that would be

15 important.

16   MR. HAUSMAN: I have three things, I think one of

17 which has been mentioned. One is that I think you want to

18 look after the fact at mergers, but I would do it in a

19 different way.

20   So Dennis stop me if I'm treading into -- I think this

21 is over. Once upon a time I had kids. They're in college now

22 or done with college, but there were basically two toy

23 companies. And there was Toys R Us and there was Child World.

24 Child World was out of Quincy, MA so I would take my kids

25 there where we could go to the headquarters. And one day

26 Child World went Chapter 11 and then went Chapter 7.

27   So I said to my son, this is a great natural

1   experiment. He actually became a biologist at MIT, so this

2   didn't take. I said this is a great experiment to see what's

3   going to happen to prices.

4   And I have never worked for Toys R Us in my life. I

5   know Dennis has. But I have noticed over the years -- since

6   it happened about '93 or '94 their profitability has gone to

7   hell, their stock price has gone to hell, excuse my language.

8   And their prices have never gone up.   And I have always

9   thought here within the FTC especially, I don't know whether

10   you want to call it submarket analysis or whatever, but people

11   convince themselves all the time that there are special types

12   of stores that do this.

13   But -- so if you look ex post at mergers that didn't

14   happen and you say to yourself what's happened since then, I

15   think you can learn a lot.

16   I always try to tell my business school colleagues

17   that, unfortunately, that we tend to focus on the good stories

18   and not on the bad stories. And since I teach a course in

19   telecom economics, this year the enrollments are down by about

20   one-third. But I have a lot of bad stories to tell the

21   students. We were just talking about that.

22   So I think you should look at mergers that happen, but

23   also enforcement actions or mergers that you stop, to see

24   whether you got it right. Because in my Toys R Us example, if

25   you guys got it right, we should have seen prices go through

26   the roof.

27   And I still can't understand how these guys, whatever

1   their market share is, 23 percent of toys in competing with

2   Wal-Mart, the gorilla of the world, are exercising all this

3   market power that certain people believed here a few years

4   ago. As I say, I was never involved in those cases.

5   And then I think the third thing to do is -- this goes

6   back to what Janusz said this morning. We were talking about

7   this last night at dinner. Part of the problem with the

8   collusion models, or whatever you want to call them,

9   coordinated interaction models, is they tell you too much and

10   too little. You've got a story that can explain everything.

11   I had a co-author, Zvi Griliches, who unfortunately

12   died, but no matter what econometric result you got he could

13   explain.

14   It's the same here. You have got one sample point and

15   you have got a million stories, so you can explain anything.

16   And I have always thought that's the problem with coordinated

17   effects. It explains everything and explains nothing at the

18   same time.

19   I think with respect to the unilateral effect where

20   there's been a lot of concentration on, I think this idea of

21   going out and testing Bertrand since -- Dan O'Brien is gone

22   now, but I mean, his view was that he wants to use Bertrand as

23   a summary model to understand all the own- and cross-price

24   elasticities.

25   There's nothing stopping you from -- there have been

26   some cereal mergers. I worked on some of them. There's

27   nothing stopping you from going and getting the data. There

1   are new brands coming out, but there have been new brands

2   coming since the 1970s in cereals. So what happened after

3   Ralston got bought out? I can tell you the Bertrand model

4   works pretty well. I mean, I have done it. But you guys let

5   the merger go through.

6   And why don't you go check and see what happened to

7   Wheat Chex and Rice Chex after General Mills took them over?

8   It's very easy to get the data.

9   And it's my understanding that IRI and Nielsen will

10 give data to Ph.D. students if it's about a year old. So

11 they'll certainly give it to you guys if you ask for it, I

12 think.

13   And, if we're going to put so much weight on the

14 Bertrand model, let's test it out. I think that would be a

15 great thing to do.

16   MR. WHINSTON: I have heard something that they

17 thought it didn't -- that it often wasn't doing so well, so it

18 would be great to look at.

19   MR. HAUSMAN: And this is our workhorse model now.

20   MR. SCHMALENSEE: Absolutely. And if there are

21 departures from it, let's figure them out.

22   MR. MURIS: What's the "it" that's not doing so well?

23 I missed that.

24   MR. WHINSTON: Bertrand.

25   MR. HAUSMAN: I think for cars that's true. I don't

26 know that he's ever done cereals.

27   MR. WHINSTON: Aviv.

1   MR. CARLTON: I guess I would join with what everyone

2   has said that testing postmerger –

3   MR. HAUSMAN: Especially Toys R Us.

4   MR. CARLTON: No. The Toys R Us decision was a

5   mistake. And some of the people in this room -- I think at

6   least one other would agree not but the -- so I agree post

7   merger testing of models is important.

8   The only thing I would add is beware of a self

9   selection process. Don't just choose a few models and a few

10   industries that you attack and then say well, how well did the

11   model do there, because obviously there are other industries

12   that you want to have a wider sample on.   So you just

13   don't want to choose the worst industry and then extrapolate

14   from it. It's the old story, if you do a survey of

15   price-fixing conspiracies, a lot of them are associated with

16   trade associations. And from that people leap to the

17   conclusion, ah ha, there's a trade association. It must be a

18   price-fixing conspiracy.

19   So you really have to be careful that you have a wide

20   enough base both of cases you have attacked as well as cases

21   you haven't attacked, from which you are doing your study.

22   I think that there has been very little -- as I said

23   earlier -- actually, just to follow up on something Jerry

24   said. Obviously, testing the Bertrand assumption is

25   important.

26   Testing of the change in the oligopoly game before and

27   after merger I think is very important. And doing what I

1   suggested and what Mike emphasized in his comments, comparing

2   the reduced form to a structural model, I think, is very

3   important for you to do in terms of ex post predictions.

4   As I said earlier, there has been very little done on

5   efficiencies, especially efficiencies over time when there are

6   declining industries. I think that's important when there are

7   multiple plants.

8   It used to be an interesting topic. It's kind of

9   fallen off the horizon, but the size distribution of firms is

10 something that I.O. economists used to pay attention to.

11 Where are productivity increases coming from? Where is growth

12 coming from? Those are interesting questions that could have

13 an impact on policy that there really has not been a lot of

14 recent literature --

15   MR. ORDOVER: By the way, just to -- there's some work

16 by Boyan Jovanovich on that, but he, by definition, assumes

17 perfect competition all around, so it's very hard to figure

18 out exactly what the probative value of it is.

19   MR. CARLTON: And I guess the final area envisioned --

20 not to repeat what everyone said -- but they put up a new area

21 that we haven't spoken about very much today. It has to do

22 with entry.

23   There has been work done on the entry process not only

24 by Sutton, but by Dixit and Pindyck. And Dixit and Pindyck

25 embed the problem in a model in which there is uncertainty.

26 And when you have uncertainty, then you don't get the typical

27 entry stories that we usually have. We get people waiting to

1   resolve uncertainty and then entering.

2   And whenever you have waiting as a possibility, that's

3   the same as no entry. So then the question is, what are the

4   bounds? We have in the typical competitive model of prices

5   above long-run average cost you can enter immediately.

6   Well, in these models there's a band now where you'll

7   get entry if price goes above one point, but there's a band in

8   which you are uncertain and you wait. And then if the price

9   goes too low, you exit.

10   I think that's an interesting area that really needs

11   more study. Entry is so important to many of your analyses

12   that if you're looking for areas that people aren't doing much

13   research in that matter to policy, I would say entry is

14   probably one of the key areas.

15   MR. SCHEFFMAN: Let me give you my wish list. We have

16   principals here from some of -- not all the major consulting

17   companies. Unfortunately, we don't have Steve here and some

18   of the other firms.

19   We don't get as much help from the outside as we need

20   in actually doing empirical work. I guarantee that an

21   economist coming in and telling a story that price

22   discrimination is not a problem is going to lose against the

23   lawyers every time.

24   We have very poor -- very poor work that usually comes

25   in on developing the facts. And that's something you may be

26   able to do econometrics on, but more likely it's what Ben was

27   talking about and we do in a lot of cases, which is careful,

1   empirical analysis, kind of simplistic but gets to the heart

2   of the matter. And we don't see a lot of that.

3   So what we have seen actually -- we see economists

4   used to doing unilateral econometrics and then the lawyers

5   don't let them do anything else. That's changing. We want to

6   see what you have. But you better come with something more

7   than stories.

8   You can really move the needle because it's a

9   litigation thing, when you come in for your clients. But do

10   some good empirical work, because I guarantee the stories

11   aren't going to work.

12   MR. ORDOVER: What about stubborn facts, then?

13   MR. SCHEFFMAN: The stubborn facts. That's right.

14   The stubborn facts.

15   MR. WHINSTON: Senior citizens' discounts.

16   MR. ORDOVER: We would like the Commission to say what

17   exactly is an unstubborn fact versus a stubborn fact, so we

18   know which ones to emphasize.

19   MR. MURIS: I learned from Dave Stockman what he would

20   call a factoid which is --

21   MR. ORDOVER: Factoid, right.

22   MR. MURIS: If you moved the dot over the "i" a

23   millimeter, the whole thing fell apart. I have seen these in

24   the antitrust field, maybe not as good as Stockman was with

25   budget stuff.

26   MR. ORDOVER: So you mean robustness, really, of the

27   analysis --

1   MR. MURIS: Yes.

2   MR. ORDOVER: To some -- the storytelling.

3   MR. SCHMALENSEE: I have got to say something just in

4   reaction to your comment, David. If economists come in and

5   say, look, there are senior citizen discounts in movie

6   theaters. That means there's price discrimination. That

7   means there's some market power, but this market is not

8   failing. You say that loses to lawyers.

9   Well, unfortunately, the argument is right. If it

10   loses, it loses. And you can't tell us not to make the

11   correct economic argument. You can caution us that lawyers

12   won't listen to that argument, but the argument is right.

13   MR. SCHEFFMAN: No, no. But our cases aren't that

14   stupid. Janusz can tell you -- I know what he was dealing

15   with is not that stupid. And it really requires some serious

16   empirical work to deal with it.

17   And it's my guess, actually, if people would actually

18   look at transactions prices, they would find, in fact, that

19   there isn't the systematic pattern that's being alleged. But

20   I don't think anyone ever did it. That, for example, that

21   would be the first place to start -- but if it is there, then

22   the issue is what are the implications? And it's empirical

23   research.

24   I have been doing this for 20 years and I hardly ever

25   -- and it's always been a big issue in some industries for

26   years. I have never seen anyone come in and deal with it

27   effectively.

1   MR. KOVACIC: Dave, could I ask the panel a variation

2   on the question involving the use of after-the-fact

3   assessments? And all of you have done consulting work. Many

4   of you have had enforcement responsibilities, so I would like

5   you to think about this from the perspective of what you have

6   seen from clients and from your experiences as enforcement

7   officials.

8   Suppose the following circumstance comes up. It's a

9   merger proposal. There are efficiency arguments offered.

10   They are necessarily somewhat speculative and involve

11   assessments about the future. But they are plausible, they

12   might even be attractive in some sense.

13   Would it be sound as a matter of analysis and policy

14   to do the following: to say you go ahead with your deal, but

15   you contract with us that X number of years into the future we

16   get to come back and have complete access to the relevant

17   database you have internally that gives us a sense about

18   whether the efficiency claims were manifest, as a way of

19   assessing whether or not we find that these kinds of claims in

20   the future ought to be taken seriously.

21   Is that a contract that an enforcement agency, one,

22   ought to take and, B, that firms that are really keen on

23   saying the claims are plausible, you ought to err in this

24   direction, would be willing to make?

25   MR. HAUSMAN: Could I just ask a clarifying question?

26   But you don't have any plans to unwind the merger, so this

27   would just be data gathering?

1   MR. KOVACIC: Let's start with the cleanest, simplest

2   case. We're going to collect data and we're going to publish

3   studies.

4   MR. HAUSMAN: So this would be like a CID or something

5   like that, whatever you guys call it over here. And then --

6   MR. KOVACIC: It's a compulsory -- and basically --

7   I'm going to put aside the --

8   MR. HAUSMAN: I don't know the terminology.

9   MR. KOVACIC: I'm going to put aside the possibility

10   that an agency were going to come in and say we're going to

11   upset the deal later on. It's not a crown jewel provision.

12   It's not some contingent remedy that comes back, but simply as

13   a matter of empirical assessment we're going to say, here's

14   the trade. It's a close call. We can either go into court

15   and fight you out with all the tools that we have, or we let

16   it go ahead. But you are going to advance our empirical

17   agenda and assessment by giving us access, pre-specified, to

18   the following kinds of information so we can do an assessment

19   about it, and we have the ability to publish a report later on

20   or to make available to consultants of our choice, access to

21   the information with appropriate confidentiality safeguards.

22   Again, is that a deal that is a matter of -- is a

23   matter of advancing the empirical ball an agency ought to

24   think about and second, is it the kind of thing that firms

25   would consider appropriate if again you put aside the

26   possibility of the subsequent undoing of the deal?

27   MR. HAUSMAN: Since I'm an empirical economist, let me

1   start.

2   MR. ORDOVER: No, since you're Jerry Hausman you get

3   to start.

4   MR. HAUSMAN: I think the answer is yes, and I think

5   there are two conditions that need to be done. Number one is

6   you tell them at the time of the merger what data you want

7   because what's very expensive for people is to have to go back

8   and start to screw around with their computer systems. I

9   mean, it's still amazingly hard -- I see this all the time

10   when I ask for data.

11   So number one, you say we looked at such and such data

12   and we would like in five years time or three years time,

13   whatever, just to spell out this data. And they will keep it

14   for you and they will do it.

15   I would say the only thing with confidentiality, I

16   think you would want to do this for the public welfare as

17   well, is you want to be very careful because you don't want to

18   let competitors know what cost levels are. So if you're going

19   to use these in studies, they would have to be aggregated,

20   disguised, whatever.

21   There are actually companies out there, Ira Magaziner

22   who was infamous for the health plan, since Tim brought up

23   Clinton, he ran a consulting company in which they -- and I

24   have seen this before -- they -- very successfully they tried

25   to figure out what companies' costs were in specific product

26   lines. So you don't want to be publicizing that.

27   But other than that -- of course, it's easy for me to

1   say and I'll be glad to help you do the study because it

2   sounds like a great idea. I think it could be done actually.

3   MR. SCHMALENSEE: Confidentiality is going to be the

4   issue, I think. The question is, can you specify a data

5   request in advance such that when the data come in and you

6   have a sample of 20 or 30 of these, it will be impossible to

7   sort which is which? At least for an outsider, that's going

8   to be a little tricky. But if you don't do that, I think

9   you're going to have problems getting companies to do the

10   deal.

11   MR. KOVACIC: You see the dilemma here, of course,

12   which is part of what you're saying is that there are a number

13   of difficult judgment calls that have to be made. There are

14   different respects in which specific propositions ought to or

15   ought not to be given credence in advance.

16   And I guess a more general way of thinking about the

17   question or the variation is how would an enforcement agency

18   go about testing in a meaningful way which of the predictions

19   or hypotheses makes --

20   MR. ORDOVER: One point -- two points. One is that I

21   find it astounding how differently the firms keep data for

22   their own strategic management planning purposes and the way

23   data ought to be kept for antitrust assessment purposes.

24   I mean, it's not like you can walk in and you look

25   into somebody's cost accounting -- I spent way too much time

26   looking into American Airlines' cost accounting practices.

27   And surely, none of them were designed with the eye towards

1   gauging whether predation did or did not take place on the

2   routes that the Department of Justice challenged.

3   And now to figure out how these companies ought to now

4   prospectively, for five years or however many years, jiggle or

5   restructure their accounting systems to keep numbers precisely

6   the way that might be useful for an antitrust assessment is a

7   complicated question. And I don't know whether there would be

8   additional costs or not.

9   MR. SCHMALENSEE: But it's not an antitrust

10   assessment. It's an assessment of --

11   MR. ORDOVER: I'm not talking about antitrust

12   assessment in the sense of what --

13   MR. LEARY: One of the problems, based on my

14   experience in industry, is that companies themselves don't do

15   this even internally. I remember when I was working for

16   General Motors I asked one time, after I sat through all these

17   committee meetings and I saw all these projections about the

18   impacts of this action or that action, do you ever go back to

19   see whether any of those projections hold true?

20   MR. ORDOVER: They will fire the CEO more likely.

21   MR. LEARY: One reason was because the attempt to

22   isolate five years down the road what the impact was of that

23   particular decision wasn't worth it because there are so many

24   intervening events.

25   So what you would have to do, it would seem to me,

26   would be to ask companies to somehow or other perform that

27   exercise. And that might not be the easiest thing in the

1   world for them to do.

2   MR. CARLTON: Ask for data five years in advance.

3   MR. SCHEFFMAN: No, no. I think there is an easier

4   way.

5   MR. CARLTON: The longer out --

6   MR. SCHEFFMAN: I think there's an easier way to do

7   this, and that's what I have advocated to my clients who are

8   merger recidivists, that is large companies that do a lot of

9   mergers -- if we're doing a merger with something and it's

10   close to something else we did, which is often the case, let's

11   show them that we did what we said we were going to do. Let's

12   go in as part of our economic presentation and let's show them

13   we did it.

14   And I guarantee you if anyone comes into me with a

15   good efficiency story, and they have come in before, and they

16   have done something similar, the first thing I'm going to ask

17   is, show me what happened last time. And that can move the

18   ball a lot.

19   **[Whereupon, the panelists all spoke at once.]**

20   MR. CARLTON: The longer you ask for the data, if it's

21   five years down the road it's going to be much less reliable

22   than if it's three years, that is because so many things are

23   going to change, especially with technologies and

24   efficiencies.

25   **[Whereupon, the panelists all spoke at once.]**

26   UNIDENTIFIED AUDIENCE MEMBER: How about this? How

27   about something along these lines where you say, you've got an

1   efficiency story for us. We're intrigued. How would we test

2   that later on, that is, this is important? We think this is a

3   transaction that has benefits.

4   How would we go about assessing that in the future so

5   that three, five, X number of years from now when someone asks

6   why on earth did you let that go through well we relied on

7   this argument do you know if it worked or not that we would

8   have an answer for that?

9   MR. SCHMALENSEE: Well, I think there is this real

10   tension between being able to answer that in public, in which

11   case you're probably giving out confidential information. And

12   they will fight putting you in a position to be able to do

13   that, as opposed to being able to do it internally and say,

14   yeah, we studied it. We have had our people work on it. We

15   have a confidential working paper. The details aren't public

16   but, yes, we're confident. I think that's really the right

17   model.

18   Unfortunately, those of us who are interested in this

19   may have to stay in house to get the data without enormous

20   pain. But I think it's worth doing. I would also suggest you

21   wouldn't just want to do it on the closed cases.

22   MR. SCHEFFMAN: If the company doesn't have in place a

23   way to measure these objectives they claim that they are going

24   to achieve, we shouldn't pay any attention -- if you can't

25   measure it, it's meaningless. In a lot of deals I have worked

26   on it's in place. We need to get those sort of efficiencies.

27   We have accountability and I have looked ex post at what they

1   have. If they don't have procedures in place to tell whether

2   it happened or not I wouldn't say they have much credibility

3   to their story at all.

4   MR. LEARY: Well, let me just ask a more general

5   question that's sort of a variant. Evaluating efficiencies, I

6   have to say, is to me the most frustrating thing that we have

7   to deal with. In part, it is because, unlike some of the

8   other things we deal with, there's not an adversarial

9   proceeding.

10   I mean, it's all very easy for people to come in with

11   efficiency claims that have been presented to the Board of

12   Directors. They can be totally fictitious too, and we also

13   know from economic literature that a very substantial number

14   of mergers do not achieve the results in contribution to

15   shareholder value -- which may not be the same thing as

16   achieving efficiencies, and I understand that, too.

17   But what are we to make of that? Are we to conclude

18   that we should have a very, very high level of skepticism

19   about efficiencies and require people to prove them with a

20   great deal more specificity than they have in the past? Then

21   the counter argument is, your presumptions from concentration

22   are just assumptions in the blue and it's not fair to require

23   people to prove with great specificity the rebuttal to

24   something that is purely an assumption anyway. You see what

25   I'm driving at. I don't know what to do with that.

26   MR. SCHMALENSEE: They can't meet a tough standard of

27   proof for efficiencies. I mean, if you look -- I've been on

1 boards and had these presentations and you look behind them

2 and it's a pretty good study but there are a lot of

3 assumptions in there, and people are making judgments.

4   And you don't see the other side which is the cultural

5 problems, the systems problems, the integration problems that

6 they don't quite see but that pop up and offset the

7 efficiencies they might see.

8   I think the frustration will be with us a long time

9 because I don't see a way around it. If there were a way

10 around it, you wouldn't have so many mergers fail, because

11 they have every incentive to get it right internally.

12   MR. CARLTON: If you look at the distribution --

13   MR. SCHEFFMAN: It's just not simple.

14   MR. CARLTON: Of efficiencies. It's something we were

15 talking about last night. It's not a bell-shaped curve.

16 There are like some few home runs, grand slams and most of

17 them fail.

18   So even if on average you're doing -- most of these

19 efficiencies don't materialize, the expected value of them

20 could be quite high because there are few real successes. So

21 in doing any follow-up studies, you have got to be very

22 attentive to the fact that it may be a highly skewed

23 distribution and many people may be wrong.

24   MR. HAUSMAN: I would just like to give a counter

25 thought to what you said. I agree with Dick Schmalensee that

26 these are very difficult.

27   However, in my experience it's very unlikely that

1   efficiencies are going to let a really bad deal through. It

2   would be remarkable if merger to monopoly or something close

3   to it were allowed through because of efficiencies.

4   So you might want to look at this partly from a

5   decision theory point of view. And that is, if it's very

6   close, but the efficiencies tip the scale, if efficiencies

7   don't come through it's very unlikely that prices are going to

8   go up very much. That's why you let it through anyway.

9   And so, I would be against the higher standard. If

10   somebody came in and you guys thought the prices were going to

11   go up 25 percent and they were arguing for 30 percent

12   efficiencies, then we're talking about another world.

13   But in my experience where people were worried the

14   prices may go up three, four, five percent and people coming

15   in and saying I got six, seven percent efficiencies. It's

16   pretty close. If the efficiencies don't come true, not that

17   much is lost.

18   MR. LEARY: Are you saying the sliding scale in the

19   Guidelines is right?

20   MR. HAUSMAN: The sliding scale in the Guidelines -- I

21   guess with respect to efficiencies, yeah, although I think

22   again as I said before you can come in and make a convincing

23   case.

24   I think there's a harder thing to convince the lawyers

25   here than about price discrimination and that is even a

26   monopolist passes along cost savings. That's what -- on my

27   tombstone they can say he succeeded.

1   But when you take that into account just going back,

2   if you can convince people that prices are going down, period,

3   then I don't think you should have a sliding scale at all.

4   I'm talking about where you are afraid that prices might go up

5   a little bit, but the more you expect them to go up, yes, I

6   think you should have greater proof of efficiency.

7   MR. ORDOVER: What I don't get, what is the economic

8   model that predicts without cost benefits or efficiencies of

9   some sort that you will have falling prices? You have got to

10   have some complementary assets that make you act in a way that

11   actually forces you or induces you to lower costs.

12   So I think in almost prima facie, you get the

13   efficiencies into it one way or the other, because there's no

14   simple economics otherwise.

15   But I also think that if the efficiencies tend to

16   fail, what you will see that heads are going to be rolling

17   pretty quickly in the companies. Look at Daimler Chrysler

18   acquisition, what is going on. They promised the sky and

19   nothing happened. In fact, everybody is getting laid off and

20   fired precisely because whatever they promised was not

21   delivered.

22   And I agree completely with Jerry that in such cases,

23   prices are not likely to go up. What's likely to happen is

24   that the management team is going to be kicked out. Those who

25   made promises will be replaced, and the new investment bankers

26   will be brought in to try to figure out how to salvage the

27   mess.

1   And in that case, probably the costs of the wrong

2   decision are likely to be less, as well, because people do

3   have after all the incentive to protect shareholder value

4   whether or not the FTC steps in or does not. Just because

5   they are worried about plaintiffs' lawyers suing them for not

6   delivering.

7   And I think that's a very strong constraint on what

8   the people are willing to do and how they are willing to

9   proceed based on those flimsy models that, of course,

10   investment bankers are excellent at cooking up.

11   So I do believe that efficiencies are important and

12   they come in right off the bat. We don't make them come in

13   right off the bat because we say we don't worry about

14   transactions which, on the face of it, don't look bad but

15   even, I think, at the larger scale do come in because we need

16   to find a rationale for the transaction. And this is where

17   the economic analyses and business analyses and I think join

18   in --

19   MR. LEARY: Janusz, I don't know whether Daimler

20   Chrysler was anticompetitive.

21   MR. ORDOVER: No. Certainly I don't see why.

22   MR. LEARY: But assuming it were, the mere fact that

23   some heads have rolled because they didn't perform postmerger

24   is very small comfort.

25   MR. ORDOVER: Well, I think that's -- no, I think the

26   incentive -- the comfort comes from the fact that people who

27   have a lot of specific human capital have a strong incentive

1   to make things work. And the more specific --

2   **[Whereupon, the panelists all spoke at once.]**

3   MR. ORDOVER: Well, I think that is --

4   MR. SCHMALENSEE: This one just happened to fail

5   across the board.

6   MR. ORDOVER: Yes. Most of them do.

7   MR. SCHEFFMAN: Well, we're about right on time. This

8   is a day we obviously unfortunately will never forget, but it

9   has been a very useful exchange. I think we're going to keep

10   up our dialogue with you in two ways, what you can do for us

11   and what we can do for you. Thank you very much for coming.

12   **[Whereupon, the conference concluded at 3:08 p.m.]**

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1   **C E R T I F I C A T I O N   O F   R E P O R T E R**

2

3   DOCKET/FILE NUMBER: _____

4   CASE TITLE: <u>EMPIRICAL INDUSTRIAL ORGANIZATION ROUNDTABLE</u>

5   HEARING DATE: <u>SEPTEMBER 11, 2001</u>

6

7   I HEREBY CERTIFY that the transcript contained herein is a

8   full and accurate transcript of the notes taken by me at the

9   hearing on the above cause before the FEDERAL TRADE COMMISSION

10   to the best of my knowledge and belief.

11

12   DATED: 9/24/01

13

14   _____

15   DEBORAH TURNER

16

17   **C E R T I F I C A T I O N   O F   P R O O F R E A D E R**

18

19   I HEREBY CERTIFY that I proofread the transcript for

20   accuracy in spelling, hyphenation, punctuation and format.

21

22   _____

23   SARA J. VANCE

Appendix A

This is a reproduction of the table referenced by Jerry Hausman in his remarks.

Table 3: Own and Cross Price Elasticities

		With Respect To The Price Of						
		Kleenex	Cottonelle	Charmin	Northern	Angel Soft	ScotTissue	Private Label
	Kleenex	-3.293	0.502	0.679	0.707	0.207	0.086	0.016
		(0.103)	(0.068)	(0.089)	(0.080)	(0.072)	(0.059)	(0.049)
	Cottonelle	0.560	-3.304	0.737	0.360	0.621	-0.147	0.129
		(0.075)	(0.098)	(0.086)	(0.082)	(0.072)	(0.058)	(0.048)
Elasticity	Charmin	0.255	0.242	-2.292	0.471	0.262	0.280	0.079
Of		(0.026)	(0.023)	(0.042)	(0.028)	(0.025)	(0.021)	(0.017)
The	Northern	0.493	0.230	0.933	-3.078	0.391	0.065	0.021
		(0.053)	(0.050)	(0.064)	(0.078)	(0.051)	(0.041)	(0.034)
Demand	Angel Soft	0.326	0.765	1.132	0.804	-4.066	0.378	0.172
For		(0.090)	(0.082)	(0.099)	(0.094)	(0.127)	(0.081)	(0.064)
	ScotTissue	0.098	-0.079	0.656	0.097	0.204	-1.803	0.027
		(0.043)	(0.039)	(0.052)	(0.045)	(0.049)	(0.069)	(0.036)
	Private Label	0.024	0.165	0.233	0.023	0.146	0.012	-1.685
		(0.070)	(0.062)	(0.081)	(0.073)	(0.073)	(0.069)	(0.073)

Appendix B

These are reproductions of the overheads referenced by Michael
Whinston in his remarks.

Price-Fixing

❏ **Evidence on Size of Effects?**

➢ In notable contrast to common presumptions (and
recent policy speeches), the published literature
showing significant effects is sparse:

- Sproul [*JPE,* 1993]

  Finds no evidence of effects of indictment
  in 25 industries.

- Block, Nold, Sidak [*JPE*, 1981]

  Find evidence, but economically small
  (lower mark-up by 4.6%) in local bread
  markets.

- Porter and Zona [*RAND,* 1999]

  Average effect of conspiracy estimated to
  be 6.5% price elevation (mark-up was
  approx. 25-30%) in local ohio school milk
  markets. As high as 49% in some districts.

Horizontal Mergers

❑ **Structural vs. Reduced Form Analysis: "Which Works Best"?**

> ➢ What do we mean by this?
>> o If we have the right model, every structural model has an equivalent reduced form.
>>
>> o But…
>>> ▪ The reduced forms we use are not "true" reduced forms: they include endogenous variables (CR) and are not related to any underlying structural model. Creates difficulties of interpretation.
>>>
>>> ▪ The structural models (and quasi-reduced form models as well) often omit important factors
>
> ➢ Example: Merger of two local bread manufacturers.

❑ **Non-price (middle/long-run) effects can be important: e.g., entry; R&D; capacity**

➢ E.g., Pakes-McGuire [*RAND*, 1994]

❑ **How should we think about "ease of entry"?**

➢ Entry caused by a merger may be worse than no entry (e.g., Mankiw-Whinston [*RAND*, 1986]).

➢ Seems ease of entry is important because of Farrell-Shapiro [*AER*, 1990] reasons – makes merger unprofitable absent significant cost savings.

❑ **Useful to have case studies of actual effects of mergers**

➢ Data from companies after merger?
➢ Partner with academics?

Vertical Foreclosure (Exclusive Dealing; Tying)

❑ **The Basic Story…**

We thought these practices were plainly anticompetitive (early court cases)…

…then we thought they plainly could not be anticompetitive (The Chicago School)…

…now we know that they *could* be anticompetitive (but could also be procompetitive).

❑ **The problems:**

➢ The "possibility" theories have looked at quite stylized settings. How robust are these findings? What factors make anticompetitive exclusion less likely?

➢ Essentially no (convincing) empirical work documenting these effects.

❑ **What would we like to know?**

➢ Which theory applies in a given case?

o Based on assumptions (what is nearly always done).

o Based on predictions

➢ How likely is the behavior to be anticompetitive? (really: conditional on easily-observed variables)

❑ **Welfare Difficulties**

➢ The welfare implications of even the "anticompetitive" theories are often unclear.

o Which measure of welfare?

o Entry; investment; compatibility effects

o Substitution into acceptable forms of exclusion