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## FEDERAL TRADE COMMISSION

I N D E X

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FEDERAL TRADE COMMISSION

In the Matter of: )  
) )  
HEARINGS ON GLOBAL AND ) Docket No.: P951201  
INNOVATION-BASED COMPETITION )

Wednesday,  
October 25, 1995

Federal Trade Commission  
Sixth and Pennsylvania  
Room 432  
Washington, D.C.

The above-entitled matter came on for hearing,  
pursuant to notice, at 9:30 a.m.

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RICHARD T. RAPP  
National Economic Research Associates, Inc.

PROFESSOR DENNIS YAO  
University of Pennsylvania

MICHAEL SOHN  
Arnold & Porter

JUDY WHALLEY  
Howrey & Simon

P R O C E E D I N G S

1  
2           COMMISSIONER VARNEY: Good morning, welcome back to  
3 day seven of our hearings. Today we are going to continue  
4 our discussion of antitrust enforcement and the role of  
5 potential competitiveness analysis or the concept of  
6 innovation markets in enforcement actions. It is a  
7 particular pleasure for me this morning to welcome back Dr.  
8 Richard Gilbert. He is a professor of economics and business  
9 administration at the University of California at Berkeley,  
10 again well represented at these hearings. We have to have a  
11 Berkeley school of thought.

12           PROFESSOR GILBERT: Absolutely. If we could agree,  
13 yes.

14           COMMISSIONER VARNEY: He is also a principal in the  
15 Law and Economics Consulting Group. From 1993 until May of  
16 '95 he was the Deputy Assistant Attorney General for  
17 Economics in the Antitrust Division, where I first met him  
18 and where he played a major role in making the Antitrust  
19 Guidelines for Licensing of Intellectual Property, and that  
20 was indeed a great experience. Before serving at the  
21 Department of Justice, Professor Gilbert was the director of  
22 the University of California Energy Institute and the  
23 associate editor of the Journal of Economics, the Journal of  
24 Economic Theory and the Review of Industrial Organization.  
25 He has written extensively on topics including antitrust

1 economics, intellectual property and research and  
2 development, and your article with your colleague Steve  
3 Sunshine was the topic of great debate here yesterday, so we  
4 will start with you.

5 PROFESSOR GILBERT: Sure. Good morning. Good  
6 morning, Mr. Chairman, good morning commissioners, it's  
7 really a pleasure to be here to participate in this very  
8 important session. The question posed to our panel this  
9 morning is should antitrust enforcers rely on potential  
10 competition analysis or the concept of innovation markets and  
11 my answer is yes. It's not an either/or choice. Each  
12 approach has its place. It depends on the particular factual  
13 and institutional circumstances of the case.

14 Innovation markets can be useful because innovation  
15 markets can identify competitive effects in situations where  
16 competitive effects cannot be adequately addressed using  
17 conventional product market analysis. I propose to describe  
18 today two situations that illustrate how innovation markets  
19 can be useful. I will not limit it to two situations, but  
20 those are the ones that I can discuss today, there may be  
21 others.

22 One situation is where a merger acquisition or  
23 joint venture has substantial spillover effects in markets  
24 where the parties to the transaction are not actual or  
25 potential competitors. A second situation is where the

1 transaction creates a new product making conventional product  
2 market analysis or potential competition analysis either  
3 difficult or in some cases impossible.

4 As an example of the first situation, I will use  
5 the often-cited General Motors/ZF case, and since we have  
6 participants in the panel who know about that case, I will,  
7 if necessary, talk about a hypothetical General Motors/ZF  
8 case since I think what is important here is to show that  
9 there are situations where innovation market analysis is  
10 appropriate, whether or not they were appropriate to a  
11 particular case.

12 In the General Motors/ZF case, the situation that I  
13 will describe is one where General Motors and ZF were  
14 competing in Europe in the production of heavy duty automatic  
15 transmissions for trucks and buses. They were not competing  
16 in the United States except with the exception of isolated  
17 product markets involving only a small amount of customers.  
18 The merger presented typical product market difficulties in  
19 Europe; however, the antitrust enforcers in the U.S. could  
20 not be certain that the European antitrust agencies would, in  
21 fact, act the way the U.S. agencies would act and prevent an  
22 anti-competitive merger based on a product market analysis in  
23 Europe.

24 The main effects of this transaction on U.S.  
25 customers were the likelihood that the merger would slow the

1 development of new products which would be available to U.S.  
2 consumers in markets where General Motors sold transmissions,  
3 also in markets where General Motors competed with ZF, but  
4 mostly in markets where General Motors was a monopolist and  
5 ZF was not either an actual competitor or even a likely  
6 potential competitor.

7           Nonetheless, if a new product were developed, a new  
8 generation of transmissions were developed arising from  
9 innovation competition which was driven by the parties  
10 product market competition in Europe, that new product would  
11 be available to U.S. consumers. And if for some reason that  
12 new product was not made available, then U.S. customers would  
13 suffer as well.

14           As I said, the General Motors investigation  
15 presented the dilemma. The dilemma was that we did not have  
16 jurisdiction to attack the merger based on product market  
17 analysis in Europe. There was also an issue as to whether or  
18 not if we attacked the merger based on the isolated product  
19 markets in the United States, that could be fixed by a small  
20 divestiture in those product markets or it's possible the  
21 courts would have viewed that the U.S. product market effects  
22 were de minimis and thereby not be sufficient to sustain the  
23 challenge.

24           The bottom line, really, was that the innovation  
25 market analysis allowed the Department of Justice to focus on

1 what were the true competitive impacts of the case. It  
2 seemed to us inappropriate to focus on minor product market  
3 effects when, in fact, the real concern about the case for  
4 U.S. customers was the likelihood that the transaction would  
5 have slowed the development of new products available to U.S.  
6 customers.

7 Now, of course, if we had, in fact, challenged this  
8 merger, the agencies would have to establish that there was  
9 an effect on innovation, on research and development  
10 expenditures and that that effect would translate into a  
11 reduction of innovation and that would hurt U.S. customers. I  
12 certainly believe that the agency would have to bear that  
13 burden and that was something we were prepared -- we meaning  
14 the Department of Justice at the time -- were prepared to  
15 bear that in court. Again, I don't know if the facts of the  
16 situation would have actually supported it or not. I think  
17 that's something for the courts to decide, but principally  
18 the concerns were valid concerns.

19 Now, another example that I will mention of the  
20 second situation where a transaction may affect the  
21 development of new products, I can use as an example of this  
22 example four in the joint Department of Justice/Federal Trade  
23 Commission Intellectual Property Guidelines. That is an  
24 example of a research joint venture where the joint venture  
25 is organized to introduce a new product, in this case it was

1 a new biodegradable plastic for disposable containers.

2 Now, in the transaction, of course, many -- most,  
3 if not almost all joint ventures in research and development  
4 are formed with procompetitive objectives and have  
5 procompetitive effects, but one can imagine a situation in  
6 which a research and development joint venture has an intent  
7 which is anti-competitive. It is possible to imagine a  
8 situation, for example, where the parties of the transaction  
9 are concerned that they may if they -- if the technology is  
10 proven, be required to introduce the new technology which  
11 would cause their existing assets to become obsolete and be  
12 written off, and this would be disruptive and possibly very  
13 expensive and reduce industry profits. Perhaps because they  
14 have to comply with environmental regulations. An example of  
15 this was the automobile manufacturers case in which this type  
16 of intent was alleged.

17 The difficulty of challenging a transaction like  
18 this using the potential competition framework is clear  
19 because this is a situation in which the product itself  
20 doesn't exist yet. So, if you're talking about potential  
21 competition, you have to say it's potential competition to a  
22 hypothetical or inchoate product market. Moreover, the  
23 effect of the combination or the joint venture may be to  
24 delay the development of this new product so that the issue  
25 isn't whether or not the product gets developed or the state

1 of competition in the new product once it's developed, but  
2 rather will it get developed in 1997 or 1998 or 1999 so that  
3 one was now looking at competitive effects over some time  
4 period.

5           Again, I don't in any way view a research and  
6 development joint venture that is intended to slow innovation  
7 as at all typical. I think this is a very unusual situation,  
8 but I also feel that the tools of antitrust have to be ready  
9 to be applied to unusual situations. I think we are  
10 fortunate in our economy that antitrust abuses are not  
11 common. And however when we do find an antitrust abuse, we  
12 have to have the tools available to analyze it properly.

13           As I mentioned at the beginning, of course not all  
14 types of competitive circumstances warrant an analysis based  
15 on an innovation market, many times potential competition  
16 theory would be perfectly adequate. For example, I'll use I  
17 think it's example 11 in the antitrust guidelines, there the  
18 example deals with a firm that has a dominant market position  
19 in a particular product. There is one likely competitor of  
20 that product. The dominant firm that has that product offers  
21 the potential competitor a license to use its product, the  
22 license may include a condition that says if you take this  
23 license, you are required not to compete in the development  
24 of any similar product.

25           I think that's an example of a competitive

1     circumstance that can be analyzed quite adequately using the  
2     potential competition framework. And I don't think an  
3     innovation market is particularly necessary although it could  
4     be used. I don't think it's necessary, because the product  
5     exists and this other firm is a likely potential competitor  
6     of it.

7             Now, there's been a lot of discussion about whether  
8     economic theory and whether economic evidence can support an  
9     innovation market claim. And I would like to speak to that a  
10    little bit.

11            In our paper, Steve Sunshine and I briefly  
12    summarized the literature on the theory and the empirical  
13    evidence related to research and development and market  
14    structure in competition. And we acknowledge that the link  
15    between market structure and investment and research and  
16    development and the link between research and development and  
17    the pace of innovation is very complex. We also acknowledge  
18    that the theoretical evidence supporting the link is quite  
19    weak.

20            However, I do not believe it is fair to say that  
21    the evidence supporting a link between market structure,  
22    competition and innovation is nonexistent. I think that is  
23    an exaggeration, I don't think it's a fair statement.

24            In theory, there are a number of theoretical  
25    models. If we had a blackboard, I would be happy to put one

1 up on the board that demonstrates under certain assumptions  
2 that the combination of firms is likely to reduce the  
3 incentives to invest in research and development. And the  
4 argument is very simple, the argument is that a monopolist, a  
5 firm with a lot of very concentrated market has an existing  
6 product or process and has to worry that the development of a  
7 new product or process will make its existing product  
8 obsolete. And that's often not a happy occurrence. Sometimes  
9 the monopolist benefits from it, but benefits only by the  
10 difference, the extent to which the new product or process  
11 adds value to the existing product or process.

12 Now, contrast that with a new competitor into the  
13 marketplace, the new competitor gets the whole benefit of the  
14 new product because it didn't have an old product. So, it  
15 has a greater incentive in that sense.

16 Now, I understand the argument that there are  
17 economies of scale often in the generation of research and  
18 development. I also understand the argument that has been  
19 made that often the incentive to do research and development  
20 is limited by the ability to appropriate the benefits of that  
21 research and development. Jon Baker has written on that  
22 issue. A monopolist, because a monopolist has the whole  
23 market, appropriates all of the benefits or almost all the  
24 benefits, at least the benefits that are specific to that  
25 industry.

1           There are those arguments, but there are also other  
2 arguments showing that there is a disincentive for a  
3 monopolist to invest in research and development. And as in  
4 any theoretical exercise, what it comes down to is do the  
5 facts of a particular situation fit one theoretical  
6 description or does it fit another theoretical description,  
7 which one is the right one. And I just think it's really not  
8 correct to say that there is no theoretical evidence.

9           On the empirical side, I acknowledge that the  
10 empirical side is quite weak. Industry-specific effects tend  
11 to dominate in any statistical analysis, but there are many  
12 anecdotes. We have Michael Porter's study of what  
13 contributes to innovation across different nations and the  
14 observation that innovation tends to thrive in competitive  
15 market structures. There's some interesting work by Nelson  
16 and Merges on what happens when there's innovations that are  
17 freely licensed and there are multiple factors in the  
18 industry.

19           I think we all have our own anecdotal situations to  
20 look at and review and see that there is a sense that  
21 innovation thrives in competitive market circumstances. And  
22 on a more basic level, I'll also quote I believe it's Sir  
23 John Hicks, many people say it's Adam Smith, but quote that  
24 "a monopolist's greatest reward is a quiet life." Innovation  
25 is hard work, and you really have to work in an innovative --

1 in an environment where there's competition, you have to  
2 work to stay ahead, to continue to innovate and beat your  
3 customers. A monopolist doesn't have to do that.

4 I acknowledge it is difficult, I acknowledge it is  
5 complex, I acknowledge the empirical support is very, very  
6 weak. But I also stress that the agencies are extremely good  
7 at identifying particular factual circumstances related to a  
8 particular case. And I think the case specific investigation  
9 can deal with innovation market effects.

10 I caution that innovation market analysis should  
11 not be used in an indiscriminate fashion. I do think that  
12 the facts that we have weak empirical support and mixed  
13 theoretical models means that you have to be very, very  
14 careful and very deliberate, but I think as in all tools, if  
15 it's a tool that's appropriate for the job, even if that job  
16 only comes along on a very infrequent basis and very  
17 infrequently, then you use the right tool for the right job.  
18 And innovation is so important that we need to use the right  
19 tools.

20 COMMISSIONER VARNEY: Thank you, Richard. I think  
21 we'll do what we did yesterday, if that's acceptable to  
22 everybody, we'll go around and hear all the views before we  
23 start questions and dialogue. I would like to introduce  
24 Richard Rapp, who is the president of the National Economic  
25 Research Associates. He is a highly regarded writer and

1 lecturer on a variety of antitrust issues, particularly  
2 relating to research and development, innovation, technology  
3 industries and health care. Mr. Rapp is also an extremely  
4 experienced expert witness. Mr. Rapp is a member of the  
5 American Economic Association, the Licensing Executive  
6 Society and on the Board of Editors of Antitrust Report. He  
7 is a member of the ABA Task Force on Market Power and  
8 Intellectual Property and a member of the New York Bar  
9 Association Committee on the U.S. in the Global Economy. It  
10 is a pleasure to have you here this morning.

11 MR. RAPP: Thank you, very much. I am delighted to  
12 appear before the Commission this morning and present my  
13 views about the innovation market approach, particularly as  
14 it applies to mergers.

15 I want to begin my testimony by declaring my  
16 respect for the fair and even-handed presentation that  
17 Professor Gilbert and his co-author, Stephen Sunshine, have  
18 afforded us in their paper on incorporating dynamic  
19 efficiency concerns in merger analysis, which is the focus of  
20 my critique of the innovation market approach. And the  
21 presentation that Professor Gilbert just gave is I think a  
22 perfect example of the scholarly and constructive spirit in  
23 which their contribution has been made. Nobody could doubt  
24 that.

25 In a paper that I wrote that will be published in

1 the Antitrust Law Journal later this year, I have raised a  
2 number of objections, nevertheless, to the innovation market  
3 approach. And my attempt to boil these objections down to  
4 their essence for the purpose of these hearings leaves me  
5 resorting to the language of scientific testing. And  
6 adapting that jargon to this particular circumstance, we  
7 might say that's a false positive, which is my main concern,  
8 that a false positive is a finding by the Federal Trade  
9 Commission or the Department of Justice in a merger inquiry  
10 that a merger will substantially lessen competition in a  
11 relevant innovation market when, in fact, the merger does not  
12 do that.

13 My main objection to the innovation market approach  
14 is that both the probability and the social cost of false  
15 positives are so high as to outweigh the real benefits that  
16 Professor Gilbert has pointed out in his remarks. The risk  
17 of false positives is high because we can't measure  
18 innovative output or innovation output the way that we  
19 measure output in product markets. If we could, an  
20 innovation market test based upon the restriction of  
21 innovation output might work, presumably would work as well  
22 as the merger guidelines approach works on output restricting  
23 implications of mergers in product markets. But because  
24 measuring innovation output is not possible, the innovation  
25 market approach takes recourse in examining market power

1 issues by reference to research and development activities  
2 and restrictions in research and development activity. And  
3 in my view, this is the source of the problem.

4 A decrease in the number of firms engaged in  
5 related or overlapping R&D projects does not reliably signal  
6 whether total R&D activity or innovative output in the market  
7 will either increase or decrease as a result. Moreover, when  
8 R&D output is cut back, there is still no principled way of  
9 telling whether either the reasons for cutting back or the  
10 effects of cutting back are pro-competitive or  
11 anti-competitive. If you add those infirmities together, my  
12 point of view is that it simply makes the innovation market  
13 approach too dangerous to use.

14 The design of the innovation market approach to  
15 resemble the market power analysis in product markets where  
16 horizontal merger guidelines are used is based on a false  
17 analogy in my view. In product markets price increases and  
18 output restrictions are unequivocally bad for consumers.  
19 There's no debate about that.

20 By contrast, in innovation markets, the optimal  
21 amount of research and development is simply not known, and  
22 therefore when we observe a cutback in R&D, or the potential  
23 for a cutback arising in a potential merger or acquisition,  
24 we can't say whether competition or economic welfare is aided  
25 by discouraging that cutback, by predicting it in some

1 sense.

2 We can investigate a little more deeply these  
3 assertions of mine by looking first at the need to police R&D  
4 activity in merger -- in the merger review process and then  
5 to look at the risk of doing so. In conventional merger  
6 analysis, the guidelines address the -- a merger's potential  
7 for increasing first the likelihood of anti-competitive  
8 coordination and second single firm market power. The first  
9 of these I think we can, if not dispense with, just mention  
10 briefly, and perhaps if it -- if the issue arises again, look  
11 at it in closer detail.

12 I think that there is a general agreement that the  
13 potential for collusive restriction in R&D is much less than  
14 the potential for output-restricting agreements in product  
15 markets. Briefly, this is because of the difficulty of  
16 policing R&D restricting agreements or coordination because  
17 R&D takes place in secret and also because the gains in  
18 cheating on some kind of R&D agreement are enduring in the  
19 way that the gains from cheating on a price fixing may not  
20 be.

21 I must say that I have the sense in reading the  
22 Gilbert and Sunshine paper and also the outline of testimony  
23 that Professor Gilbert supplied for a hearing this afternoon  
24 that -- as well as your remarks today, Professor Gilbert,  
25 that I think that it's fair to say that the main focus of the

1 innovation market approach as defined by the Gilbert and  
2 Sunshine paper focuses on single firm market power and indeed  
3 merger to monopoly. I'm not certain that that reading is  
4 correct, but to the extent that it is, we can pass over  
5 consideration of what I'll call the collusion side of the  
6 story.

7           Where single firm market power is the issue, merger  
8 to monopoly or something close to it, then in my point of  
9 view, the doctrine of potential competition would seem  
10 largely adequate to the task of dealing with it. And since  
11 my colleague, Dr. Addanki, is going to focus on that matter,  
12 that's another subject that I will skip over.

13           The reservation, however, is this: One of the  
14 cases that Professor Gilbert's testimony just described is  
15 the situation where potential competition analysis may  
16 falter. And that is the circumstance where there are no  
17 actual product markets for the goods or for the research that  
18 is the subject of inquiry in an innovation market analysis.  
19 Here in those settings, the factual analysis is all important  
20 and what the enforcement agency practicing the innovation  
21 market approach must do is it must predict whether or not the  
22 future product market will be less competitive as a result of  
23 the merger when future goods emerge.

24           In my view, this is more than just a tall order.  
25 Judgments -- about the only generalization I feel that I can

1 make about it runs something like this: Judgments about the  
2 future course of innovation or the competitiveness of future  
3 goods markets are more likely to be speculative the further  
4 away from actual goods markets you are. So that we are left  
5 with a situation where if the development process of goods is  
6 far enough along, then it should be possible to anticipate  
7 their outcomes in conventional product market analysis by use  
8 of means like the potential competition analysis or supply  
9 side substitution or what have you. The further back you go  
10 from that condition to the point earlier in the research  
11 process where there are no goods to talk about, the more  
12 speculative and therefore dangerous the enterprise.

13           The more innovation intensive a market is, the less  
14 there is to worry about in terms of the monopolization or  
15 increasing concentration or restrictions in competition along  
16 the lines that the innovation market approach attempts to  
17 interdict. In markets where innovation is frequent, we can  
18 assume that the life span of these interferences is likely to  
19 be shortened.

20           In the 1950s when the Cellophane case was being  
21 litigated, polyethylene and other plastics were already  
22 making inroads into the market for food wrapping, and a paper  
23 by Ray Hartman and others on the subject of leap frogging  
24 innovation in medical scanning devices is another good  
25 example of the effect that I had in mind.

1           All of those lead me to conclude that the need for  
2 the innovation market approach is not great. I don't want to  
3 be overly categorical about that. I wish to acknowledge that  
4 there are circumstances that are not completely covered by  
5 the innovation market -- by the -- sorry, by the potential  
6 competition approach, but again, my point of view is that the  
7 dangers of applying the approach and adopting it as a matter  
8 of policy outweigh the gains in analysis that arise in those  
9 few circumstances.

10           Following up on that point, the main risk, the risk  
11 of false positives, arises from the fact that R&D cutbacks  
12 are not a sign of reduced competition. In my paper, I use  
13 the pharmaceutical industry as an example of that and we know  
14 I think this story well. The advent of managed care in  
15 institutions like pharmacy benefit managers and mail order  
16 pharmacies has put downward pressure on the prices of  
17 pharmaceutical products. And if we assume for present  
18 purposes that that's so and that that will continue, then it  
19 follows as the day does the night that there will be research  
20 projects that under the old pricing regime would have been  
21 profitable that now will not be.

22           Pharmaceutical cutbacks in pharmaceutical research  
23 in that setting are inevitable, although the strongest firms  
24 are doing their best, as I understand it, to maintain and  
25 even increase their pharmaceutical budgets. The question is

1 when that arises and merger or acquisition is part of the  
2 story, should those cutbacks in research and development  
3 arising from competitive causes be interdicted by  
4 enforcement policy. My answer is no.

5           The implications of these observations is that R&D  
6 cutbacks can be pro-competitive in both their causes and  
7 their -- and their effects. In fact, economic theory  
8 teaches, I think, that we should expect periodic  
9 overinvestment or overcommitment to R&D by firms and the  
10 inevitable corollary that R&D cutbacks must occasionally  
11 happen. When you have goods -- factories for goods, those  
12 factories remain useful as long as the demand for the goods  
13 persists. When you have goods factories devoted to  
14 individual ideas, once those ideas are discovered and made  
15 public, the idea factories or at least most of them become  
16 redundant in some sense.

17           A last point, turning to practical policy issues,  
18 is the fact that merger enforcement in recent years seems to  
19 reside mainly with the Federal Trade Commission and the  
20 Department of Justice and less with the courts. It has  
21 become, and I think this has been well observed, a regulatory  
22 process. One of the chief dangers, therefore, in the  
23 innovation market approach is the ease with which agencies  
24 can impose divestiture and compulsory licensing and the  
25 willingness of merging parties to -- to divest or submit to

1 licensing in response.

2           The reason for that assumed willingness is that in  
3 a big merger, any R&D project that happens to overlap can be  
4 presumed to -- to loom small in the sense that the effects or  
5 the benefits of R&D are out in the future and they are  
6 uncertain. And the implication of that perhaps overstatement  
7 or overgeneralization of the situation is that when these  
8 conditions arise, the merging parties are likely to be  
9 willing to sacrifice their interests in a research project  
10 for the sake of getting the merger through, to a degree that  
11 is not paralleled in the analysis and enforcement of mergers  
12 in product markets.

13           I conclude that since it is extremely difficult to  
14 distinguish good cutbacks from bad ones, and perhaps I should  
15 state that more strongly and say impossible in most  
16 circumstances, I conclude that the innovation approach to  
17 market power analysis of R&D competition even if it is  
18 performed studiously on a case-by-case basis and limited to  
19 the extreme cases is unpredictable and prone to error.

20           Thank you.

21           COMMISSIONER VARNEY: Thank you very much. We are  
22 going to turn to Dennis Carlton now. Dr. Carlton is a  
23 professor of business economics at the Graduate School of  
24 Business at the University of Chicago. Prior to that he was  
25 a professor of economics at the University of Chicago Law

1 School and before that he taught in Chicago's economics  
2 department. Dr. Carlton is also executive vice president of  
3 Lexecon. He is the author of numerous articles and wrote  
4 along with Jeffrey Perloff the well-known textbook Modern  
5 Industrial Organization. Dr. Carlton is the co-editor of the  
6 Journal of Law & Economics and associate editor of the  
7 International Journal of Industrial Organization. Pleasure  
8 to have you here, Dr. Carlton.

9 PROFESSOR CARLTON: Thank you. Thank you, it's a  
10 pleasure to be here.

11 I will -- since I have prepared written testimony,  
12 I won't go through it all, just highlight what I think are  
13 the most important points.

14 I would say by and large I'm in close agreement  
15 with the comments of Dr. Rapp, and not in agreement with the  
16 analysis of Rich Gilbert, though I think his analysis is  
17 insightful and by being so clear in his presentation, I can  
18 be clear in my criticisms of what I disagree with him about.

19 It's obvious that technology changes have resulted  
20 in dramatic improvements in our standard of living and  
21 therefore it does seem appropriate that we should investigate  
22 whether antitrust policies should pay more attention than it  
23 has in merger analysis to the effect of a merger on R&D. And  
24 the recent suggestion is that the antitrust policy should use  
25 the concept of an innovation or R&D market to examine the

1 effect of a merger.

2 I'm skeptical of the benefits of following such a  
3 suggestion. As a matter of logic, antitrust policy could be  
4 used to prevent mergers that would harm consumers by  
5 concentrating an innovation market. However, in practice,  
6 the ability of the antitrust authorities to reliably identify  
7 such instances is likely to be very low.

8 This low reliability is in stark contrast to the  
9 greater reliability of, say using the merger guidelines to  
10 identify and prevent anti-competitive mergers that leads to  
11 higher prices for existing products. A movement towards  
12 relying on innovation markets to prevent mergers could easily  
13 lead to a vast decline in the reliability of enforcement in  
14 improving welfare. And I think the reason is simple.

15 Current policy has focused mostly on the  
16 competitive harms that a merger would cause in the near  
17 future. A policy relying on potential competition in the far  
18 future in yet unknown products requires the analyst to  
19 predict the far future. And the far future is much harder to  
20 predict than the near future. Any active antitrust policy  
21 that foregoes certain efficiency gains in the near future to  
22 achieve speculative competitive gains in the far future is  
23 likely to harm and not help consumers.

24 What I would like to do today is just very briefly  
25 outline the chain of logic you need in order to use

1 innovation markets to identify anti-competitive mergers. I  
2 would like to show that each link in the chain of logic is  
3 weak both theoretically and empirically.

4 Now, once one understands the weak links, it is, of  
5 course, possible to devise a narrow policy aimed only at  
6 those special cases where the logic applies. But I think  
7 that makes sense only if those special cases cannot be  
8 addressed already with existing doctrines and if the new  
9 policy were to be narrowly applied only to those special  
10 cases. And I'm not convinced of either possibility. And I  
11 hasten to add it's not that I don't think that people at the  
12 enforcement agencies don't work hard, don't do a good job and  
13 don't look at very fact-intensive investigations carefully.  
14 It's just that I think this problem is too hard and that the  
15 use of innovation markets will lead us down the wrong path.

16 There's virtually no theoretical dispute that a  
17 reduction in competition, all else equal, leads to higher  
18 prices and decreased output, and that's bad. There's several  
19 empirical studies of individual industries that show that the  
20 number of competitors matter, although there's disagreement  
21 at what level of concentration prices might start to rise.  
22 But it's fair to say there's a general theoretical and  
23 empirical support for an antitrust policy that aims at  
24 mergers that concentrate an existing market. Current  
25 antitrust policy focuses on whether an anti-competitive harm

1 will occur in the near future by and large.

2           If price, for example, is going to rise, and for  
3 the first two years after a merger, you're likely to stop  
4 the merger. Arguments that significant efficiencies are  
5 going to occur in year three and beyond, my hunch would be --  
6 would fall on deaf ears. And I think there's good reason for  
7 that. It's pretty hard to predict the future. Future  
8 benefits from halting a merger would have to be discounted  
9 not only for the future, but for the likelihood that they  
10 would occur. The anti-competitive harm in contrast is  
11 immediate and highly predictable and I think the current  
12 policy has made antitrust enforcement much more reliable as a  
13 mechanism to increase social welfare.

14           Now, it's a small step in logic to extend this  
15 antitrust policy to deal with a merger of two firms that do  
16 not currently compete but would compete in the absence of the  
17 merger. That's the potential competition doctrine. As a  
18 theoretical matter, the issues are identical to those I just  
19 stated when competing firms are merging. The only practical  
20 difference, of course, is that now you have to be predicting  
21 the future and since all mergers, even of noncompeting firms,  
22 often have efficiencies, if you stop a merger with a  
23 potential competition doctrine, you are trading off benefits  
24 today for speculative benefits in the future. And that can be  
25 hard to predict those benefits.

1           Now, you might think that the innovation market  
2 doctrine is just a small step removed from the potential  
3 competition doctrine. Yet it is no small step in logic  
4 removed, it's actually a giant step it seems to me. There  
5 are at least three claims that are required for the  
6 innovation market doctrine to make sense. First, reducing  
7 R&D expenditures is bad. Second, if there are fewer firms  
8 performing the R&D, there will be less R&D and fewer new  
9 products. Third, and this is what I find the most  
10 troublesome, there are not enough other firms to perform R&D  
11 to develop future products to compete with the future  
12 products of the merged firm. There's neither theoretical nor  
13 empirical support for the general validity of any of these  
14 three claims. Let me go through each of them briefly.

15           First, reducing R&D expenditures is bad. Well,  
16 that statement just is generally not true. We all know that  
17 R&D is an input, it's not an output. R&D can be made more  
18 efficient, you can -- by a merger, you could get rid of  
19 duplicative R&D, you could make R&D more productive by  
20 allowing a large group of scientists to communicate with each  
21 other. So, the simple point is that you have to allow for  
22 the fact that less R&D could actually be desirable and  
23 actually have no effect at all on the output of new products  
24 or, in fact, would actually increase the output of new  
25 products.

1           Second, fewer competing firms will lead to less R&D  
2 and fewer new products. There is absolutely no theoretical  
3 or empirical consensus that reduced competition leads to less  
4 R&D and fewer new products. When imitation is possible by  
5 existing firms, a more concentrated market allows the  
6 innovator to capture more of the value of his innovation. So,  
7 in this way, market concentration solves the appropriability  
8 problem. Indeed, patents are specifically designed to create  
9 market power in order to provide the incentive to innovate.  
10 It strikes me there's a tension, that a tension exists  
11 between an antitrust policy that's premised on the notion  
12 that market power is bad for R&D and an intellectual property  
13 policy or patent policy that's premised on the notion that  
14 market power is good for R&D.

15           Now, the various economic theories predict that  
16 competition can have an enormous effect on R&D activity, and  
17 I agree with what -- with what Rich Gilbert said, we do have  
18 economic theories that show that it can have an enormous  
19 effect on our -- that competition can have an enormous effect  
20 on R&D. The trouble is depending on your assumptions, you  
21 can get any results you like.

22           For Schumpeter and the line of research in his  
23 following, big market concentration can aid innovative  
24 activity. For Arrow and for that line of research, market  
25 concentration is bad. However, it's easy to change the

1 assumptions in Arrow's model and reverse his results.

2 As Professor Gilbert was explaining, if the  
3 monopolist isn't worried about someone coming along, the  
4 monopolist may have a slower incentive to innovate. You  
5 start making that monopolist a little nervous about who's  
6 breathing down his neck and he now has a greater incentive to  
7 innovate with the competitive firm. It's not that you can't  
8 model where competition affects R&D, it's just that verifying  
9 the assumptions of these various theoretical models strikes  
10 me as very hard.

11 In the more developed literature on patent races or  
12 type to innovate, you get the exact same theoretical  
13 ambiguity. It seems like a wonderful opportunity for  
14 empiric, empirical analysis to resolve the theoretical  
15 ambiguity, but the empirical analysis does no such thing. In  
16 fact, I'll just read you one quote, this is from Baldwin and  
17 Scott, "There is no unambiguous evidence of an important,  
18 generally valid, relationship between concentration and  
19 innovative activity."

20 In summary, neither theory nor empirical work  
21 provides any general justification for an antitrust policy  
22 aimed at preserving competition in innovation markets.  
23 Moreover, I want to add that even if you were concerned about  
24 controlling competition in R&D markets, you should, I think,  
25 recognize that collusion in R&D markets is not likely to be

1 as much of a concern as it is in traditional product markets.  
2 Because of the nature of R&D, it's often secret, there are  
3 often large payoffs to the R&D. These are all factors that  
4 are likely to make collusion quite difficult. That suggests  
5 that if you do pursue such a policy, the levels of  
6 concentration you use should be different and you should  
7 tolerate higher levels of concentration probably than you  
8 traditionally do.

9 Let me turn to the third point, because I think  
10 this is the most troubling for me. The third requirement or  
11 a large underpinning for the innovation market doctrine is  
12 there are not enough other firms to produce R&D in the  
13 future. It strikes me that identifying future competitors  
14 for unknown and unknowable products is extremely difficult.  
15 The longer the time period between the R&D and when new  
16 products are coming out, the less reliable is the prediction.  
17 Moreover, in industries that are dynamically changing  
18 rapidly, your ability to predict who are the firms is going  
19 to be very low.

20 I don't have time now to go through all the  
21 examples, I go through several in my paper, where I show how  
22 difficult it is to predict not just the firms, but even the  
23 industries from which R&D will come that will affect various  
24 product markets.

25 If you do define an innovation market, you have to

1 include logically the innovation activity of all those firms  
2 with R&D efforts that might be producing products that are  
3 going to be competitive in the future. Now, it's not obvious  
4 to me how you construct such a market measure. How do you  
5 weight the R&D of different firms, do you weight it equally,  
6 do you handicap some of the R&D depending upon who's ahead in  
7 the race, who's closer to fruition. Do you weigh it  
8 differently depending upon whether the likely output is going  
9 to be produced with a supply curve that's elastic or  
10 inelastic and in low supply.

11 The fact of the matter is that we don't know how to  
12 weight to get a good estimate of shares, and I suspect market  
13 shares in any innovation market that you define are going to  
14 be extremely crude, even cruder than they usually are.

15 Now, I think it's rare, though not inconceivable,  
16 that an analyst will be able to identify with a fair degree  
17 of confidence the firms who are likely to be pursuing R&D  
18 that will lead to competing projects several years in the  
19 future. Perhaps in industries where government approval is  
20 necessary, certain types of drug testing, or certain types of  
21 government funding are required, like defense contracting, it  
22 may be possible to identify who the firms are who are going  
23 to be competing in the future in new products.

24 In those rare cases -- well, even in those cases, I  
25 want to add, the longer the time period between the R&D and

1 the new product coming out and the more dynamically changing  
2 the technology, there still are prediction problems. But  
3 even if I can put those aside and focus on those few rare  
4 cases where you may be able to predict which firms will be  
5 competing in the future, it would seem to me that the  
6 potential competition doctrine could be used to prevent an  
7 anti-competitive merger.

8 I understand that this might mean that you will  
9 have to apply the potential competition doctrine to new  
10 products that are not yet in existence but whose existence  
11 can be reliably predicted. The focus of the analysis in that  
12 case, though, would be the restriction of output of those new  
13 products, not a decline in R&D activity. It's really still  
14 focusing on an output market, and if that requires an  
15 extension of the potential competition doctrine, that should  
16 certainly be one that I would be very comfortable with since  
17 it seems to follow logically. I would much prefer that to  
18 using an innovation market doctrine because of the difficulty  
19 of that doctrine in its reliability.

20 Let me just turn briefly to application of the  
21 doctrine. Professor Gilbert made mention of the GM/ZF case,  
22 and I do want to comment on that, and I should also comment  
23 that I served as a consultant for GM and ZF on that case. The  
24 Justice Department prevented the merger between ZF -- the  
25 acquisition by ZF of the Allison Transmission Division of

1 General Motors.

2 First, let me notice -- note that this product was  
3 truck transmissions, it is -- it was not I think an industry  
4 that anyone would claim is a new R&D type industry. So that  
5 if it's a notion that new industries are developing that's  
6 requiring use of innovation markets, that's certainly not  
7 exemplified by this particular case, I don't think.

8 But second, this was a case -- the more important  
9 point is this, this was a case where the Justice Department  
10 alleged that there were three markets that would be adversely  
11 affected, one a product market in the United States of truck  
12 -- of transmissions for transit buses; two, a product market  
13 in the United States of automatic transmissions for refuse  
14 trucks; and three, a worldwide market for innovations in  
15 automatic transmissions. Specifically, the Justice  
16 Department was concerned that ZF would not continue to engage  
17 in R&D in as vigorous a fashion after the merger as before.

18 Now, assume with me for a moment, because I don't  
19 want to get into the specifics of the case, that it would  
20 have been possible to structure a settlement, perhaps through  
21 an independent licensee, that would have completely allayed  
22 all fears of anti-competitive harm in the product market. And  
23 further suppose that consumers would have benefitted as a  
24 result of this settlement. Well, the transaction was stopped  
25 two years ago. In the intervening time, I understand that no

1 new products have emerged from ZF in automatic transmissions,  
2 and moreover ZF has withdrawn from the market in refuse  
3 trucks.

4 I think it's important to follow this case and  
5 other such cases to see when exactly these benefits from R&D  
6 that the Justice Department thought likely will emerge. And  
7 when they emerge, they should be discounted back and we  
8 should see whether those benefits exceed the benefits that  
9 consumers have been deprived of and that were achievable by a  
10 well-structured settlement.

11 Well, let me just briefly conclude, antitrust  
12 policy to prevent mergers that reduce competition in existing  
13 product markets is based upon well-accepted theoretical and  
14 empirical research. There's no such widespread theoretical  
15 or empirical support for an antitrust policy aimed at  
16 preventing innovation markets from becoming concentrated.

17 Although there's a clear chain of logic by which a  
18 reduction in R&D competition in innovation markets could harm  
19 consumers, it's a chain of logic that is not one for which  
20 there is any general theoretical or empirical support. I see  
21 the following practical problems with applying an antitrust  
22 policy towards mergers involving innovation markets:

23 One, the inability to determine whether a decline  
24 in R&D expenditures is undesirable; two, the inability to  
25 predict the total R&D and the resulting number of new

1 products would decline as a result of the merger; three, the  
2 inability to identify the other firms engaged now or likely  
3 to be engaged in the future in R&D that will lead to products  
4 that would compete with the products of the merging firms.

5 Even if you can get over these three hurdles, I  
6 caution you on the following: A benefit today is more  
7 valuable than one tomorrow. Benefits in the future are more  
8 likely to be uncertain compared to immediate efficiency  
9 savings.

10 Two, in dynamically changing industries, the  
11 products from R&D are going to be hard to predict, so it's  
12 going to be especially hard to figure out who are the firms  
13 that are in the market.

14 Three, collusion in R&D is not likely to be as much  
15 of a problem as it is in traditional product markets.

16 Four, R&D competition or the R&D competition  
17 doctrine as based on the use of innovation markets is a more  
18 speculative doctrine than the potential competition doctrine  
19 because it requires more difficult and less reliable  
20 predictions.

21 So, I'm skeptical that a general antitrust policy  
22 aimed at preserving R&D competition in innovation markets  
23 will improve society's welfare. Application of existing  
24 doctrine, especially that of potential competition, can  
25 likely deal with mergers that harm society by reducing

1 competition in R&D. If antitrust agencies do use the policy  
2 of preserving competition in innovation markets to prevent  
3 mergers in certain industries, I urge that they follow those  
4 affected industries to see whether the predicted gains from  
5 increased R&D competition ever materialize, and if they do,  
6 whether it was worth the wait. Thank you.

7 COMMISSIONER VARNEY: Thank you very much. I think  
8 what we'll do is maybe go one more and then we'll take a  
9 break and come back for our last speaker before we start our  
10 round table.

11 I would like to introduce Dr. Sumanth Addanki, he  
12 is a vice president of National Economic Research Associates.  
13 During the past nine years he has specialized in the  
14 application of microeconomics and econometrics to litigation.  
15 Before joining NERA he worked at the National Bureau of  
16 Economic Research on the measurement of industrial  
17 productivity and on the role of research and development in  
18 mergers. He was an instructor in economics and a teaching  
19 fellow at Harvard where he received his Ph.D. in economics in  
20 1986. Good morning.

21 MR. ADDANKI: Thank you. It's a pleasure to be  
22 here.

23 Do we need new antitrust tools to analyze high tech  
24 deals? Do we need an antitrust paradigm? Probably the most  
25 extreme form of a high tech merger is what you might call a

1 merger of ideas. A merger between two firms with no  
2 products, no sales, busy research and development facilities,  
3 but not even any technology ready to be bottled and sold.

4 Can such a merger even raise antitrust problems?  
5 The answer is in principle yes. It could in principle slow  
6 the pace of innovation, but to show that a merger like this  
7 is going to slow the pace of innovation is a very different  
8 category from ordinary merger analysis. And in practice as  
9 it turns out, a merger like this is unlikely to result in  
10 slower innovation unless the merging parties are potential  
11 competitors in some product market.

12 In other words, if you are going to want to stop a  
13 merger because it's likely to result in slower innovation,  
14 the chances are you are going to want to challenge that  
15 merger anyway on more traditional antitrust grounds such as  
16 that it's going to interfere with actual or potential  
17 competition.

18 I think an example is going to help. Imagine with  
19 me that there are two firms that want to merge that are  
20 working to commercialize so-called micro motors which are  
21 very small electric motors, so small that a half a dozen  
22 would fit on your thumbnail. They are initially suspected to  
23 be used in medical implants, but their future uses are wide  
24 open. Both of the firms are well funded startups and they're  
25 exploring essentially the same technologies based on ceramic

1 materials and microscopic manufacturing techniques. Neither  
2 firm has a commercially viable product so far.

3 A merger between these two firms is largely immune  
4 to the usual market definition-market shares-market power  
5 kind of formula. That's because there are no products, no  
6 sales, and no market price that may or may not be affected by  
7 the merger. In fact, the only principled basis on which an  
8 antitrust enforcement agency might challenge this merger is  
9 that it's going to result in reduced innovation or slower  
10 innovation. And as I said, to do that, they're going to have  
11 to follow a somewhat different course from a routine merger  
12 analysis because showing that something is going to reduce  
13 innovation is different from showing that it's going to  
14 reduce -- it's going to reduce output in a product market,  
15 which is what conventional merger analysis is largely about.

16 To begin with, as we've heard from almost everyone  
17 today, collusion is unlikely to be a problem in the pure R&D  
18 situation. I won't repeat what you've already heard,  
19 incentives, monitoring and the means to enforce a collusive  
20 agreement on R&D are likely to be simply lacking in the pure  
21 merger of ideas case. So, logically we should only be  
22 concerned about this merger if it's going to unilaterally  
23 reduce the pace of innovation. The merged firm is going to  
24 unilaterally reduce the pace of innovation.

25 Let's simply go to the extreme case of that. Let's

1     assume this is a merger taking us from two to one. In other  
2     words, the only two firms in the U.S. known to be doing  
3     research on micro motors want to merge. If the agencies want  
4     to block this merger on the ground that it's going to reduce  
5     innovation, slow innovation, what do they have to show? They  
6     have to show two things, first that the merged firm will have  
7     the ability and second that the merged firm have the  
8     incentives to reduce the pace of innovation.

9             Let's start with ability first. The agencies will  
10    have to show that the merged firm holds unique and  
11    specialized assets which are needed for the development of  
12    micro motors and that no one else could readily either have  
13    those assets or could readily acquire and copy those assets.  
14    And that's because no one else should be able to pick up the  
15    slack if the merged firm does, in fact, try to reduce the  
16    pace of innovation.

17            The second thing they have to show is that the  
18    merged firm has the incentive to reduce the pace of  
19    innovation. And what that means essentially is that you have  
20    to show that for each firm the activity of the other firm was  
21    the primary spur on innovative activity for this firm, and  
22    hence, the removal of one as an independent participant in  
23    this business and in the business of innovation is going to  
24    take away the primary incentive for the merged firm to be  
25    sustaining its innovative program.

1           So, you have to show that there are going to be  
2 unique assets which can't be copied, and second that the  
3 products of -- that the merged firms -- that the merged firm  
4 will be trying to develop, which is micro motors, are not  
5 going to compete with other products that might be in the  
6 innovation pipeline at other firms, simply because the  
7 potential of that kind of innovation is a pretty potent spur  
8 to your own innovative efforts. Showing these two things is  
9 hard.

10           Let's consider the assets first. Let's note first  
11 that when innovation is what's at issue, we have to look  
12 worldwide for people who could supply it. The supply of  
13 innovation is borderless in that sense. The question then  
14 boils down to this, is there no firm in the world that has  
15 the assets that are required to develop micro motors. For  
16 instance, Mabuchi is the world's leading producer of small  
17 although not micro motors. It makes four million motors a  
18 day. Would Mabuchi have the interest and expertise to  
19 develop micro motors?

20           Buehler and Faulhaber are the leading European  
21 manufacturers of high precision small motors, their products  
22 are very highly regarded, very well engineered. Might they  
23 have the interest and expertise to develop micro motors. The  
24 problem is that the very nature of R&D is such that firms are  
25 going to be secretive about their R&D efforts.

1           You are never going to be able to know for a fact  
2 who is or isn't engaged in a particular line of research and  
3 development or who might or might not be able to acquire the  
4 assets needed to do it, and finally, who might or might not  
5 be able to copy or duplicate or in some way acquire these  
6 assets.

7           Let me put aside the question of unique assets for  
8 a moment and go on to the question of incentives. The -- as  
9 I said earlier, what has to be established is that no  
10 products in the innovation pipeline at other firms are going  
11 to compete with micro motors. Well, the micro motors are  
12 expected to be used, as I said, initially in medical implants  
13 and that's because their ability to provide controlled  
14 mechanical motion in a very small package makes them ideally  
15 suited for this purpose. But is there no other nascent  
16 technology that could provide the same advantage and which  
17 could supplant or replace micro motors if they are too late  
18 in getting to market?

19           For instance, so-called Shaped Memory Alloys or  
20 nickel-titanium alloys are specially treated to have a very  
21 unique property: They expand and contract quite perceptibly  
22 when an electric current is passed through them. They have  
23 yet to be refined and have not been used yet in medical  
24 implants, but certainly it's not a huge leap to imagine that  
25 they would be, particularly if micro motors are delayed in

1 getting to market.

2 This really points up a more fundamental problem.  
3 It's notoriously difficult to try to second guess the process  
4 of innovation. Funny things happen on the way to the patent  
5 office. Promising lines of research wind up leading nowhere  
6 and path-breaking innovations can come from the unlikeliest  
7 sources. You can't tell before the fact where the next major  
8 innovation in a field is going to come from and we've heard  
9 some mention of that here today.

10 The micro motor firms want micro motors to be the  
11 next path breaking innovation for intermechanical implants  
12 but the shaped alloy implants want to be that, too, and they  
13 very well may get there first. In circumstances like this, I  
14 find it hard to see why a firm's R&D department is going to  
15 be allowed to sit on its hands simply because it's acquired  
16 its nearest competitor in R&D. As Andy Grove said, the CEO  
17 of Intel, one of the most successful semiconductor companies  
18 in the world, "Only the paranoid survive."

19 Now, I acknowledge that the situation could be  
20 different if one of the parties had substantial sales,  
21 particularly if one of the parties had substantial sales of a  
22 product that was going to be supplanted or replaced by the  
23 micro motors. Well, everything I've said continues to apply.  
24 At least now that that party has the opportunity to trade off  
25 the possibility of being late to market with the micro motors

1 with the prospect of increased profits on the existing  
2 product line, and Professor Gilbert referred to that issue.  
3 But when you have no sales as is postulated with the firms  
4 we're dealing with here, there seems no reason why the firms  
5 would delay, would risk being late to market and potentially  
6 losing the value opportunity.

7 Now, as we've heard, the enforcement agencies have  
8 been willing to challenge mergers on the grounds that they  
9 might result in reduced rates of innovation, and the vehicle  
10 primarily has been lessening of competition in the innovation  
11 market. I'm not going to debate the merits of the innovation  
12 market concept, but suffice to say that Professor Gilbert and  
13 Sunshine's article on how to apply the innovation market  
14 approach in practice really largely mirrors all of the points  
15 that I have made.

16 In other words, if you want to evaluate whether a  
17 merger is going to reduce the rate of innovation, whether you  
18 call it an innovation market approach or not, you're going to  
19 have to address two questions, will the merged firms have the  
20 ability to retard innovation, will the merged firm have the  
21 incentive to retard innovation. The ability depends on being  
22 able to control unique assets that are specialized assets  
23 that are needed to do the innovation, and which no one else  
24 can replicate or copy or acquire in some way. I think it's  
25 very unlikely in practice, but it's not inconceivable that

1 that could happen.

2 The question of incentives I think is the more  
3 interesting one. I think ordinarily you wouldn't expect  
4 firms, at least firms in the pure R&D race, to have any  
5 incentive to reduce the pace of innovation. Uncertainty  
6 about the very process of R&D intrinsic to the process itself  
7 as well as very imperfect information about what other people  
8 are doing, your other potential competitors are doing, is  
9 going to provide a valuable adequate spur in most instances.

10 I think the interesting exception arises when you  
11 do have a situation where one of the firms has substantial  
12 amounts of sales, existing sales, and there you have to  
13 entertain the possibility that the merged firm might be  
14 willing to scale back the pace of innovation in order to more  
15 fully exploit an existing product.

16 But I think that case really does fit quite  
17 squarely into or ought to fit quite squarely into potential  
18 competition analysis because the firm without the existing  
19 product should be viewed there as the potential entrant into  
20 the market that is populated with the products that the firm  
21 that has the products are selling, and this firm could be a  
22 potential entrant either in its own right or by licensing  
23 some third party. And I think that's the nexus between  
24 reduced innovation and potential competition. If the  
25 products being developed have the potential to compete with,

1 cannibalize sales from, products that either of the merging  
2 parties is currently profitably selling, there I think you  
3 can see some incentives to reduce the pace of innovation, but  
4 otherwise I don't see it.

5           There is one other form of potential competition  
6 which we've heard of which I think we should touch on  
7 briefly, I think Professor Carlton touched on it, but which  
8 doesn't fit as neatly into the current doctrine of potential  
9 competition, at least legal doctrine, and that is the  
10 situation that comes up when you have two firms selling --  
11 that are about to begin selling a product for which there are  
12 no current, no good current or imminent substitutes, and I  
13 think the most realistic example probably is in the drug or  
14 pharmaceutical situation where you have very tight  
15 institutional constraints on entry.

16           So, if you have two firms that are at the final  
17 testing stage just before FDA approval for a powerful new  
18 treatment in a brand new therapeutic class, and moreover, if  
19 you don't have any other candidates close to final testing,  
20 then a merger between these two firms is going to threaten  
21 potential competition, but not in the sense of the legal  
22 doctrine.

23           The competition is potential here in that it's  
24 future competition in a potential or incipient market. But I  
25 should add, again, that this is a bit of a red herring as far

1 as innovation is concerned, it's really much more of a  
2 conventional antitrust problem of higher prices and reduced  
3 output. It's just that the market hasn't happened yet in  
4 which those effects are going to be felt. I think for those  
5 specific instances where you can say with some certainty what  
6 the incipient market is going to be and what its participants  
7 are going to be, it might be worthwhile expanding the  
8 existing legal doctrine to encompass those situations.

9 But for all other mergers where the parties don't  
10 currently compete in any product market, I think the primary  
11 concern is going to be one of innovation. And there I think  
12 the inquiry boils down to two questions, the first being a  
13 threshold one, do the firms have unique assets, specialized  
14 assets that are needed for the innovation in question and are  
15 those assets such that cannot be -- that they cannot be  
16 duplicated or acquired by anyone else, and if the answer is  
17 no, the inquiry ends. If the answer is yes, I think we move  
18 on to the more interesting question, does the merged firm  
19 have any incentive to slow the pace of innovation.

20 And I think that question can be answered by  
21 asking does the merger threaten potential competition,  
22 particularly are the products being developed products that  
23 are going to compete with any products that either of the  
24 firms is selling in a substantial way right now. So, whether  
25 you call it an innovation market analysis or not, I think the

1 questions of potential competition are going to have to be  
2 pivotal to an analysis of a high tech deal.

3 Thank you.

4 COMMISSIONER VARNEY: Thank you very much. That  
5 was a very clear explanation. Why don't we take about an  
6 eight-minute break so that we reconvene at 11:00 on that  
7 clock and we will finish up with Professor Yao. Thank you.

8 (A brief recess was taken.)

9 COMMISSIONER VARNEY: If we could reconvene and  
10 welcome former commissioner Dennis Yao. Fortunately for me  
11 he decided he wanted to go back to teaching, so I had to be a  
12 commissioner for a while. It's a real pleasure to see Dennis  
13 back here, he was a commissioner from 1991 to 1994. Dr. Yao  
14 is an associate professor of Public Policy and Management in  
15 the Wharton School, University of Pennsylvania. He also has  
16 an appointment in the strategy group of Wharton's Department  
17 of Management and developed Wharton's MBA course in  
18 competitive strategies and industry structure. In addition,  
19 Dr. Yao is a principal of the Law & Economics Consulting  
20 Group. He has published numerous papers concerning economics  
21 and policy in the areas of antitrust, defense contracting,  
22 innovation and intellectual property. He is also on the  
23 board of the Strategic Management Journal and Antitrust  
24 Counsel and he is chair of the Legal Association of the ABA's  
25 Legal Education Committee of the ABA Antitrust Section. Thank

1 you and welcome back.

2 PROFESSOR YAO: Thank you, Commissioner Varney,  
3 Chairman Pitofsky and the rest. It's a pleasure to be here.  
4 I just shared with you some of my views about the use of  
5 innovation markets. Since I'm the last speaker, a lot of the  
6 things that I had intended to say have been said and so I  
7 will gloss over some of these points.

8 One of the things that I would like to do, however,  
9 is to offer a few potentially useful tools to deal with  
10 innovation markets, if, in fact, it's the case that the  
11 Commission and the Justice Department continue to pursue this  
12 analysis.

13 Okay, I would first like to start out with some  
14 general observations concerning innovation markets, future  
15 and current product markets and I agree with the previous  
16 speakers about the problems that are associated as you get  
17 further and further from the product market. As the distance  
18 between R&D and the marketable product increased, obviously  
19 the uncertainty and the speculativeness associated with  
20 making assessments of the facts also increased. And it would  
21 be really -- it would be great if one could link these -- the  
22 R&D to the product market in all cases.

23 I don't think one can and I don't think one can in  
24 some cases that are important. And so I think that pursuing  
25 innovation markets makes sense, though it has to be done

1 extremely carefully, and certainly one has to be very aware  
2 of the learning that goes on as one goes from case to case  
3 because of the lack of consensus in the economic literature  
4 about how to link innovation and I guess welfare effects.

5           It had been mentioned by some of the others that  
6 the pharmaceutical industry was a very good example of a case  
7 in which future -- I guess you could call future product  
8 market might be a good way of thinking about innovation  
9 problems, and I think that this is probably the best case of  
10 the types of mergers that should be looked at when the  
11 product is still far from the market and largely because of  
12 the regulatory approval process and testing requirements that  
13 are associated with it.

14           One of the questions in thinking about whether or  
15 not it makes sense to pursue innovation markets is really  
16 whether there are any other candidates of approaches to deal  
17 with the kinds of problems that could be dealt with at the  
18 early stage. It would be nice, of course, if you could fix  
19 problems downstream. Let's say that there may be an  
20 innovation market or an R&D competition issue and that would  
21 show up later in a product market. If one could then take  
22 care of the problem, that would be fine, but, of course, that  
23 won't work for two reasons.

24           The first reason is that dealing with this problem  
25 in -- at a later time in the product market would not allow

1 you to deal with the question of whether innovation or the  
2 amount of innovation had been changed. And the second is  
3 it's very difficult once the merger has been consummated to  
4 go back and do anything about it.

5 And so, it may be the case that these -- looking at  
6 the R&D market will be the only chance that the agencies have  
7 to deal with this problem. I think it's important to  
8 consider. I will mention later that I think it may be  
9 worthwhile for the agency to consider whether or not there is  
10 some stepped process by which if they decide they wanted to  
11 take an action against a merging R&D market but are somewhat  
12 unsure as to the effects in the product market, maybe there's  
13 a way to have a sort of delayed action for a couple of years  
14 pending what might occur in terms of the R&D.

15 So, I don't think that one has to just limit one's  
16 self to you have to do it now and all the remedies have to be  
17 taken now. It may be possible to consider setting up a  
18 situation in which you allow something to happen, perhaps,  
19 and then on the condition that maybe in a couple of years you  
20 review it and decide whether or not at that point a license  
21 might need to be enforced on the merging parties. This is an  
22 idea that has come up before in efficiencies with a number of  
23 people, many around this table.

24 Let me go to a discussion, a short discussion of  
25 usefulness of potential competition theories for antitrust

1 merger analysis involving innovation. I agree that potential  
2 competition theory can be used to address many of the R&D  
3 issues that will come up in the merger. And that's fine, I  
4 think the problem, as Rich Gilbert had mentioned, is that  
5 there will sometimes be cases in which there will be no  
6 identifiable current or future product market and therefore  
7 potential competition is just not going to work.

8           Now, in thinking about potential competition theory  
9 and using it as an enforcement tool, one thing that we  
10 haven't done very much with is to consider whether the  
11 current state of potential competition theory lends itself to  
12 the kind of enforcement actions you want to take with respect  
13 to R&D. It's easy enough to say that potential competition  
14 in some sort of vacuum can work, and the general way in  
15 thinking about whether one of the parties to the merger might  
16 be a potential competitor and therefore blocking or causing  
17 the merger to be changed in some way on that basis makes some  
18 sense, but there is an existing way in which one deals with  
19 potential competition in the law.

20           It is not necessarily a way that was developed, in  
21 fact I'm -- I don't think it was developed with R&D markets  
22 in mind. As I understand it, many of these -- many of the  
23 requirements, the elements for proving liability under these  
24 theories often require a fair amount of evidence. That may be  
25 difficult to get.

1           Now, if that's true, and then we add to it that in  
2 the R&D markets it's pretty hard to get firm evidence all the  
3 time. One may find that the use of potential competition  
4 theory will be very difficult and it may be that it won't be  
5 useful not necessarily because the idea is a bad idea, or a  
6 way to approach it, but maybe because the way the law is  
7 structured will cause you to jump through so many hoops and  
8 contortions that it just won't work.

9           Now, having said that, maybe the law is exactly  
10 right with respect to where potential competition should be,  
11 okay, but I only bring that up because sometimes you develop  
12 a way of attacking problems based on a set of cases and if  
13 these cases don't have much to do with R&D, then they in some  
14 sense haven't been molded to include that class. And  
15 therefore they could potentially be defective procedures for  
16 that class. And that's just something to consider. It's  
17 something that hadn't come up, so I thought I would mention  
18 it.

19           Okay, I believe that innovation market analysis is  
20 a useful supplement to the analysis based upon current and  
21 future markets, but I agree with the statements I guess by  
22 everyone thus far this morning that the existing theoretical  
23 and empirical literature in economics is largely inconclusive  
24 about the relationship between concentration and R&D  
25 intensity, and whether reducing the amount of R&D is welfare

1 reducing.

2           Now, most of these studies that people have been  
3 talking about have tended to be let's say the empirical  
4 studies have been cross-industry studies. So, for the most  
5 part, we're talking about we can't find a general  
6 relationship. Professor Gilbert mentioned that there are  
7 specific theories, theoretical models that would apply in  
8 particular circumstances or that could apply to particular  
9 industries in particular circumstances. And I think that the  
10 lack of a general finding while it should -- what it means is  
11 that you should be very, very careful about trying to apply  
12 any general rule. I think it does not mean that one cannot  
13 find in any particular circumstance with particular facts  
14 problems that one can feel pretty sure exist and that the  
15 remedies that are available to one will work.

16           And so I think I share Rich's view that if you look  
17 at the facts, you may learn something that the general  
18 economists can't learn or can't find at this point.

19           Now, there have been a number of industry-specific  
20 case studies which suggest a number of relationships between  
21 market structure in that particular case and what occurred in  
22 innovation, or the -- or how the specific assets that are  
23 contained by particular firms affected their choice of  
24 innovation. And the fact that these studies exist suggests  
25 to me that when you look at a particular case, you're

1 thinking the same thing and you may find the same sorts of  
2 relationships and may feel comfortable about them.

3 Now, I want to turn particularly to one particular  
4 tool that may be useful in thinking about innovation markets.  
5 Mostly people have thought about innovation markets and said  
6 well, okay, we should identify perhaps a pile of assets, I  
7 think that's Baxter's term, and I think that's a useful way  
8 if you identify a pile of assets for each firm, you see  
9 whether they are special in some way and then from that you  
10 determine whether or not there are limitations in who can  
11 effectively compete in some -- in R&D in ultimately taking  
12 some to market. And that's very useful in the near term.

13 If one wants to think a little bit more about the  
14 intermediate term, I think Dennis Carlton does not want to  
15 say too much about the intermediate term because of  
16 discounting, but I think it's worth thinking about. I would  
17 suggest considering looking at a firm's -- what we call in  
18 the strategy area core competencies. These core competencies  
19 -- well, core competence is a business strategy concept that  
20 is intended to force managers to understand what unique set  
21 of skills and technologies their company or organization  
22 possesses that will allow them to compete successfully in  
23 current and more importantly in future markets.

24 So, it's stepping back a little bit from the pile  
25 of assets to what generates that pile of assets. Examples of

1 core competency would be I say Motorola's competence in  
2 wireless communication, Sony's competence in miniatures,  
3 Honda's competence in power train. Now, these are admittedly  
4 very vague categories, but the object here is to focus on  
5 what a company can take into its future competition, not what  
6 it's already accomplished. So, an existing patent is not a  
7 core competency, the ability to get patents or to defend them  
8 could be a core competency because it says something about  
9 the future.

10 So, I think that this approach could be useful for  
11 helping one understand sort of the big picture of competition  
12 in the industry. Now, one thing because core competencies  
13 are not linked specifically to product markets, they could  
14 also suggest the kinds of potential -- the other competitors  
15 that might be there. Okay. It's one step back, it sort of  
16 says which firms will be able to do something successfully,  
17 and I think because of that it will help identify who might  
18 be in a market, but it may also give you a sense of who might  
19 be successful in this market.

20 Okay, so what's one going to do with this?  
21 Fortunately, business grows up in training and there are  
22 managers to think about companies in terms of core  
23 competency. What that suggests is you will be able to go to  
24 these managers and ask them about their core competency. In  
25 some cases, you may find that some of these firms have

1 already done an inventory of some of their core  
2 competencies. It's something to start with. I don't know  
3 that it will provide enough to make one feel comfortable with  
4 a particular case, an innovation market problem in that  
5 particular case, but I think it's a useful complement to  
6 looking at specific assets and I recommend for further  
7 consideration on the part of the Commission and the staff.

8           Okay, I had already mentioned as well that I think  
9 it's useful to consider the development of policies that  
10 might permit later review when one is concerned about how the  
11 evolution of R&D to a product market might be. The natural  
12 response, later review sounds very regulatory and that is a  
13 problem and I think that one would have to be very careful  
14 about trying to use that approach. Nonetheless, if  
15 uncertainty is something that is bothersome, there are ways  
16 to put off making a decision or at least making an  
17 irrevocable decision at an early point of time and maybe  
18 making that decision at a later point of time.

19           Okay, in summary, I wanted to mention again and  
20 underline my view that innovation market theory is a useful  
21 supplement to the antitrust analysis. I think dynamic  
22 competition is just too dynamic to ignore. Even if the state  
23 of economic knowledge of dynamic competition doesn't provide  
24 sort of an overall cross industry guidance that one would  
25 like, that doesn't mean that one can't, looking at the facts

1 and examining the various theories that are available, feel  
2 comfortable, I think, with bringing an action based on an  
3 innovation market.

4 Thank you.

5 COMMISSIONER VARNEY: Thank you very much, Dr. Yao.  
6 Chairman Pitofsky, would you like to start us off?

7 COMMISSIONER PITOFSKY: First of all, I want to  
8 thank you all for what is one of the clearest and most  
9 interesting sessions that we have had in this set of  
10 hearings. First a comment and then I would like to leave you  
11 with a question. The comment is I'm not sure there's all that  
12 much distance between the people who are disagreeing.  
13 Professor Gilbert says there ought to be innovation markets,  
14 but recognizing all of the concerns and qualifications that  
15 others have identified, he says let's do it very cautiously.  
16 Others say there could be anti-competitive effects in an R&D  
17 -- in an innovation market, but they're so hard to identify  
18 and so speculative and all that we're better off leaving that  
19 alone and concentrating on anti-competitive effects in the  
20 product market. That's not a vast difference, but there is a  
21 difference.

22 Let me offer this hypothetical and see how you  
23 respond to it. As you well know, there are really only three  
24 companies in the world who make jet engines for wide-bodied  
25 aircraft, Rolls Royce, Pratt & Whitney, GE. Suppose they

1     came, I don't think they would come here, they would go to  
2     the Department of Justice and say we would like to have a  
3     joint development venture because there's redundant  
4     innovation here, it's very expensive, it's vastly expensive.

5             It's also true that most of the -- much of the  
6     competition takes place at the innovation stage, the design  
7     stage. Let us put together a joint venture. It will do the  
8     research, it will develop a prototype, but after that, each  
9     of the three companies will produce the engine on their own  
10    and will market it on their own so that the likelihood that  
11    there are any output effects is reduced. Also, this is not a  
12    field where you could say well, but what about the fifth,  
13    sixth and seventh companies. If you haven't made an engine  
14    for a 747, you are not going to make an engine for a 777,  
15    it's just not plausible.

16            What would have -- what would we lose there? We  
17    could look at the market, but there are no market effects, or  
18    if there are, they are speculative spillover effects that are  
19    unreliable, but you would have lost the rivalry that leads to  
20    the possibility that there would have been one first class  
21    engine, one second class engine, one third class engine. And  
22    maybe if our theory of competition is right, there would have  
23    been a better engine as a result of rivalry than through the  
24    joint venture. Is the recommendation that the government  
25    turn its head away and not examine the anti-competitive

1 effects of the joint venture to build the prototype, or is  
2 there some other way of getting at that? Would we permit  
3 that joint venture or would we qualify it, would we examine  
4 it under the antitrust laws at all. I leave that for any of  
5 you who want to respond to it.

6 COMMISSIONER VARNEY: Let's start with Professor  
7 Gilbert.

8 PROFESSOR GILBERT: I am delighted to. It's a  
9 great hypothetical, Chairman Pitofsky. First of all, I think  
10 it's my understanding that by statute, that the agency would  
11 have to identify the effects and specifically would have to  
12 identify the effects in relevant research and development  
13 markets that was the wording of the Research and Development  
14 Production Joint Venture Act, I have forgotten exactly what  
15 the terminology is, but in its original conception it had  
16 that wording. So, there is a statutory obligation. I  
17 certainly think that even without that statutory obligation,  
18 it is something that deserves analysis.

19 Now, of course, there may be very good reasons for  
20 a research joint venture, there might be very costly  
21 redundancies, there might be complementary capabilities among  
22 the jet engine manufacturers, there might be all kinds of  
23 efficiencies. Then again, there might be anti-competitive  
24 effects and this discussion has emphasized and focused on the  
25 difficulty of sorting out those efficiencies and the

1 anti-competitive effects.

2 And I certainly agree, I also agree with your  
3 summary, at least from my point of view, as to the comments  
4 we have heard, that it is difficult to sort them out. But I  
5 would also merely volunteer that if you had information, for  
6 example suppose you had information saying that as part of  
7 the joint venture we will require that all of the technology  
8 we develop be freely licensed to the whole industry, U.S. and  
9 foreign competitors. I don't know how we would work the  
10 foreign competitors into this, by the way, but suppose that  
11 there were that condition and suppose we also found in all of  
12 the participants' documents a discussion that said this is a  
13 very good provision because you know we kill each other in  
14 R&D in this business, that's what loses -- that's where we  
15 waste all our profits. And if we agree on a mandatory  
16 licensing provision, no one's going to have much incentive to  
17 develop these innovations because we all have to license it  
18 to everybody else.

19 Now, again, you would still have to work this  
20 through, you would have to look at it, it would be very  
21 difficult to sort out. But I for one would have a difficult  
22 time advising the agency as to merely walk away and ignore  
23 the competitive issues.

24 COMMISSIONER VARNEY: Do you have a different view,  
25 Mr. Rapp?

1           MR. RAPP: I'm not sure. As has been the case for  
2 a while, I find myself not disagreeing with much that  
3 Professor Gilbert says except its implications. The -- I  
4 guess I have -- I have to take the cowardly way out and ask  
5 a question in return. Is it not the case -- what does the  
6 innovation market approach as it's outlined full blown bring  
7 to this analysis? I certainly agree that this is an issue  
8 for the government to look at, but the way I believe you have  
9 set up the hypothetical, Chairman Pitofsky, we've a goods  
10 market to look at and to observe the impacts of the joint  
11 venture aspects of competition in that.

12           To the extent that the -- it seems to me, then,  
13 that the agency's task is to see how closely the anticipated  
14 activity of the joint venture affect prices and output in  
15 that goods market, and I sort of restate my nervousness and  
16 my apprehensions about inquiries that go further back to  
17 future goods.

18           COMMISSIONER PITOFSKY: Well, let me press a little  
19 bit on that. Without the joint venture, there would have  
20 been three firms bidding to United Airlines -- bidding to  
21 Boeing or whoever it is to sell them an engine. With the  
22 joint venture, there's still three firms bidding to sell an  
23 engine. The only difference is as a result of the R&D joint  
24 venture, it's one engine. The only thing that's lost is the  
25 competition to produce a better engine. I would even --

1     suppose we postulate, no effect on price or output.  Would we  
2     still say that antitrust has no business looking at the joint  
3     venture?

4             MR. RAPP:  No, I concede that it does and I concede  
5     the loss, and I -- and the question that I leave is whether  
6     or not the innovation market is a -- approach is required to  
7     analyze that.

8             COMMISSIONER PITOFSKY:  Um-hum.

9             COMMISSIONER VARNEY:  How about this side of the  
10    table?

11            MR. ADDANKI:  I think I would just -- I would just  
12    -- I'm trying to place the quote in my mind, I can't  
13    unfortunately, it doesn't come to me, but I think the notion  
14    that when you have horizontal competition, that an important  
15    aspect of that might be product development, and research by  
16    a non -- excuse me, competition by a non-price means is a  
17    pretty established one.

18            I think I'm having more trouble with the notion,  
19    and I think if I could try to speak for more than just  
20    myself, I think people who have trouble with the innovation  
21    market concept perhaps are articulating really a problem with  
22    trying to interdict a situation where there is no horizontal  
23    competition at all among the parties.

24            You see, the incentives are a lot easier to  
25    understand when you have horizontal competition, and if you

1 say I am going to remove this aspect, I am going to excise  
2 this aspect of competition, that's a loss. That's a loss of  
3 competition. It's a loss of competition in the product  
4 market. So, I mean I guess perhaps it just elaborates a  
5 little on what Dick Rapp said, but I think that's where I  
6 would come out on that.

7 COMMISSIONER VARNEY: Professor Gilbert, does  
8 innovation market analysis bring anything to the hypothetical  
9 additional?

10 I'll come back.

11 PROFESSOR CARLTON: Okay.

12 PROFESSOR GILBERT: I think it does, I mean this is  
13 a very important question. And I suspect it really may come  
14 down to how the courts prefer to analyze the effects. As  
15 Chairman Pitofsky said, in the final analysis, you have three  
16 companies competing in price, perhaps with the same engine  
17 but with a different name attached to it, but still competing  
18 in price and output. The courts could take the position that  
19 there's been no effect whatsoever on a product market.  
20 There's actual competition without -- with and without the  
21 joint venture, the joint venture does nothing.

22 But we know that the joint venture could do  
23 something. You know, again, we don't know exactly what it is  
24 without a thorough investigation and even then there's likely  
25 to be some uncertainty in our conclusion. But what it would

1 do would be to change the nature of the product that is  
2 available in the product market, perhaps change the timing at  
3 which the product was available in the product market. Those  
4 are effects that may be very difficult to analyze in a  
5 potential competition framework.

6 COMMISSIONER VARNEY: Okay, Professor Carlton, and  
7 then Commissioner Steiger has been waiting patiently.

8 PROFESSOR CARLTON: You have posed a very hard  
9 question, which doesn't surprise me. I think it's important,  
10 though, to emphasize that the ability to propose  
11 hypotheticals that -- in which you can show that the  
12 innovation market doctrine works shouldn't alone be the basis  
13 for using the doctrine unless you can say that I can reliably  
14 identify such hypotheticals and that there are going to be  
15 some cases that will slip through the cracks, and those are  
16 important cases, especially if the doctrine could be  
17 misapplied.

18 Having said that, I think what your hypothetical  
19 hones in on is that there are no other efficiencies from the  
20 transaction, it's joint venture just in R&D, so we don't have  
21 to worry about short run efficiency gains that we would be  
22 foregoing if we don't allow the practice, which I think is a  
23 very important consideration.

24 But second, I don't think the way you posed the  
25 hypothetical that you really have abstracted from the output

1 market. You really have focused on the quality of the good  
2 as well as the timing of the good. And those are -- I  
3 recognize difficult questions, I would not take the position  
4 that you can't think of hard hypotheticals in which these  
5 concepts and a reduction in innovation can harm consumers,  
6 it's just practically how important are they and are they  
7 important enough to have a general policy that we could  
8 apply.

9 I think it would be very hard to figure out is R&D  
10 going to be done more efficiently, less efficiently, are they  
11 going to have a greater incentive or less incentive, I might  
12 ask the customers what they think about it, that might be a  
13 helpful place to start and I think I would be a lot less  
14 concerned if it was two instead of all three of them.

15 COMMISSIONER VARNEY: Commissioner?

16 COMMISSIONER STEIGER: I would like to turn to the  
17 utility of the potential competition theory, and I must  
18 preface that by saying that during my term here we have --  
19 and Dennis -- used the potential competition theory, albeit  
20 with one exception that I can think of in the very industries  
21 that Dr. Carlton identified as useful to analyze under  
22 potential competition defense and industries regulated, for  
23 example, by the FDA.

24 Having said that, I am somewhat amused. This  
25 potential competition theory has been widely criticized,

1 warned against, cautioned about over recent years. I hear it  
2 somewhat restored to great respectability at this point, and  
3 having put up with the slings and arrows of various law  
4 reviews and other learned economic journals on how dangerous  
5 it was, I'm finding this very interesting. But it does lead  
6 me to two questions, basically for Rich Gilbert and Dr. Rapp.  
7 How do you respond to what appears to be a disagreement here?

8 Rich, I understood you to say that potential  
9 competition analysis doesn't work where a product doesn't  
10 exist. Why is that so? R&D is frequently by definition the  
11 development of an as-yet nonexistent end product. Dr. Rapp  
12 seems to indicate that the analysis falters where there is no  
13 product market for the future product. Why is that so?

14 Presuming logically you can say there is a utility  
15 to whatever this thing is under development, why do you need  
16 to be able to identify a future market in particular, given  
17 Dennis' examples of the by-product markets that seem to spin  
18 out with great regularity, and I am referring to this Teflon  
19 example, for example, although he gives us others about  
20 products that started out as heart devices and wound up in  
21 textiles.

22 So, that's a long way around to trying to get an  
23 answer to two questions about the now hallowed potential  
24 competition theory.

25 COMMISSIONER VARNEY: Professor Gilbert and then

1 Dr. Rapp?

2 COMMISSIONER STEIGER: And is that just a case of  
3 the devil you know better than the one you have raised?

4 PROFESSOR GILBERT: Well, Commissioner Steiger, you  
5 correctly point out that much of this discussion is from the  
6 basis of presumptions about what the potential competition  
7 theory is. In this case it's a devil we assume. And I think  
8 it's the case, obviously the other participants have to  
9 verify this, but I think it's the case that we are all saying  
10 that if there are adverse economic consequences, then the  
11 antitrust laws should attempt to deal with them in whatever  
12 framework we have for that analysis. If the adverse  
13 consequences are clearly there, they should be dealt with.

14 Now, it is possible, for at least in theory I guess  
15 you don't know what the jurisprudence would allow, but in  
16 theory for a court to say that despite the fact that there is  
17 no existing product market here, we have two companies that  
18 are each the most likely potential entrant into this  
19 nonexistent product market.

20 The courts might also take the view, I just don't  
21 know, the courts might take the view that there is no product  
22 market, therefore there can't be a potential competition  
23 problem because the market doesn't exist. The outcome of  
24 that exercise clearly depends upon how the courts frame the  
25 issue.

1           There's also another point that I will provide a  
2 critique of my own comments here, just in case there hasn't  
3 been enough, which is that some of the effects that I am  
4 concerned about may not exactly pass a review of a  
5 competitive effect. If I take as an example a market in  
6 which, let's go back to GM/ZF, ZF leaves the market, we are  
7 left with General Motors, they are the only company in the  
8 United States.

9           I would be concerned -- if it's the case, I would  
10 be concerned if innovations that are slowed down as a result  
11 of decreased competition in Europe, if those innovations  
12 don't make it to the United States, that to me is an economic  
13 effect that I would be concerned about. I could also see the  
14 courts taking the view that well, maybe there's an innovation  
15 market effect here, but there's no competition that is  
16 affected.

17           So, a lot of the outcomes are so heavily dependent  
18 on exactly how the courts view their enforcement -- their  
19 legal interpretation of what competition is and what effects  
20 are and what potential competition is. We're all making  
21 assumptions about that. I just don't know if the assumptions  
22 are valid ones. And so, my out is I'm not going to assume  
23 anything, I am going to do it on economic facts and what the  
24 courts follow.

25           MR. RAPP: I think my answer is going -- to your

1 question, Commissioner Steiger, is going to be an exercise in  
2 psychoanalysis. I think that while the reference to the  
3 utility and adequacy of the potential competition approach  
4 that I made, I think that I had, and perhaps others, have  
5 used it because it brings us back, it is a way of bringing us  
6 back to real goods markets and to the integrity and power of  
7 the horizontal merger guidelines as a market means for market  
8 power analysis. And while that doesn't answer specific  
9 questions about how -- about what the failings of the  
10 potential competition doctrine are, it points up the fact  
11 that ambiguities that might -- that innovation market  
12 approach presents and that looser forms of analysis present  
13 are clarified once you bring things back to product markets.

14 For example, the difference between a product and a  
15 product market is important. And if I may say so, if we were  
16 able to discuss further the second of the examples that  
17 Professor Gilbert provided in his testimony about a new form  
18 of packaging material or bottle, something like that, I think  
19 one of the directions that that conversation might take is do  
20 you really mean that there is no -- that because there is no  
21 product that there is no product market that we could  
22 analyze, you see, and given the ability -- and if that new  
23 product as yet not on the market were likely to enter an  
24 existing product market consisting of glass bottles or cans  
25 or whatever, then I for one find myself comforted by being

1 able to hang my hat on the horizontal merger guidelines.  
2 That's one person's opinion for why the potential competition  
3 approach is so comforting.

4 COMMISSIONER VARNEY: Any comments?

5 PROFESSOR CARLTON: If you want me to say something  
6 I will. I didn't mean to give --

7 COMMISSIONER STEIGER: First of all, thank you very  
8 much, I just want to echo what our presiding officer has  
9 said, this is an extraordinary presentation, probably one of  
10 the finest we've ever seen, but I would tell you, Rich, it is  
11 not coincidental there is no blackboard. We put them away --  
12 we put them away when the economists come in.

13 Dr. Carlton wanted to speak.

14 PROFESSOR CARLTON: I just wanted to say that the  
15 potential competition doctrine, although it's better than the  
16 innovation doctrine because it's more reliable, still has the  
17 problem that it's trading off certain future efficiencies in  
18 the near future that a merger usually can create against  
19 predictions of benefits in the future. And for that reason,  
20 I think it's correct that it's a doctrine that itself has the  
21 potential to do harm. I think the reason people prefer or  
22 some of the people here, or maybe I ought to just speak for  
23 myself, prefer the potential competition doctrine to the  
24 innovation market doctrine in that it is more reliable --  
25 however unreliable we think potential competition doctrines

1 are, it is more reliable than innovation markets.

2 COMMISSIONER STEIGER: That is the case of the  
3 devil, as you know. Thank you very much.

4 COMMISSIONER VARNEY: I think our director of the  
5 Bureau of Competition, Jonathan Baker, has a couple of  
6 questions. Bureau of Economics. Is competition a promotion  
7 from economics, Jonathan?

8 MR. BAKER: I thought I would develop a theory.

9 COMMISSIONER VARNEY: Excuse me, I didn't mean to  
10 insult your position.

11 MR. BAKER: When -- at a program recently Ann  
12 Malester, who is at the other end, and Mark Whitener were --

13 MS. MALESTER: Misidentified.

14 MR. BAKER: -- identified as deputy directors of  
15 the Bureau of Economics, I sent them a congratulatory note,  
16 too.

17 COMMISSIONER VARNEY: I think our resident  
18 economist who is also a lawyer has a couple of questions.

19 MR. BAKER: I have a question for Dennis, Dennis  
20 Carlton, we have multiple Dennises, and it's about the  
21 discussion in your talk about why you believe we should not  
22 pursue concentration increases in innovation markets because  
23 you said there was no theoretical justification for doing so  
24 and only a weak empirical one. And you went through the  
25 logical links that would be required for a theoretical

1 justification, and I had problems with that. And I -- when I  
2 was listening to you, I was worried that the argument that  
3 you were making proved too much because a similar logic might  
4 suggest that we should not -- we should equally not pursue  
5 concentration increases in goods markets, and you seem to be  
6 comfortable with pursuing those.

7           If I had a blackboard available, I could explain in  
8 a little more detail what I mean, but let me try a little bit  
9 verbally. You said how do we know that the reduction in R&D  
10 would be bad. Well, how do we know that a reduction in  
11 quantity is going to be bad. We could have -- it is possible  
12 as a matter of theory that we could have excessive entry in  
13 markets, business stealing effects could lead to that in some  
14 markets. We have some markets like health care where the  
15 agents are deciding both what services to provide for the  
16 patients and how to provide it themselves and they could be  
17 acquiring too many services for those patients. In other  
18 words, we could have excessive output in goods markets as  
19 well.

20           And you said the number -- how do we know that when  
21 the number of firms decline we will get less R&D and less  
22 output of R&D -- innovations as a result. Well, how do we  
23 know when we have less firms we will have less output of  
24 output in goods markets? After all, with goods firms we  
25 could have inefficiencies, less assets, lower costs as a

1 result, and, in fact, just as you said with R&D markets, I  
2 would indicate the empirics of what happens between the  
3 number of firms and cross-sectional studies and what happens  
4 with price, the volume of output here as a weak one, and then  
5 you said not -- there aren't -- there might not be enough  
6 firms or how do we know there aren't enough other firms  
7 besides the ones we are looking at to step up for their lost  
8 R&D and produce R&D in the future.

9           After all it's hard to measure, et cetera, et  
10 cetera. Well, in the same way it's conceivable we could have  
11 a market where potential competition is very important, the  
12 entrants could be anyone in the economy, it might be  
13 difficult to -- and it might be difficult to measure a  
14 concentration as well in those settings or in a setting where  
15 market products are differentiated. What I was wondering is  
16 why do you think these two areas are so different and why do  
17 you think we should be looking at potential competitive  
18 problems and efficiencies and the trade off between them  
19 differently in the R&D area than in the goods market area?

20           PROFESSOR CARLTON: I think that's a very good  
21 question. I think the short answer is I believe we have a  
22 more reliable base of knowledge both theoretical and  
23 empirical when it comes to concentrating existing markets  
24 than R&D. In my paper, I actually deal exactly with that  
25 question. I think you are correct to say that cross

1 sectional studies have been the basis for mostly "weak or  
2 lack of empirical findings in the R&D literature." And it's  
3 well known, as I talk about in my written testimony, that  
4 cross-sectional studies have lots of infirmities.

5           The same could be said, therefore, of cross  
6 sectional studies relating price to concentration and in fact  
7 has been said about that, and I actually have criticized such  
8 studies heavily in my textbook. However, there are also  
9 studies of individual industries which get around the  
10 infirmities of cross sectional studies that I think provide a  
11 more solid basis than we have in the R&D area for saying that  
12 increase in concentration can lead to higher prices.

13           There is a debate as to how important concentration  
14 is, when it starts being a problem. And I think people can  
15 have legitimate debates about that. But I think there have  
16 been enough studies of individual industries where we have a  
17 sense, for example, that a merger to monopoly could lead to  
18 higher prices. In terms of the theory, I think the theory is  
19 much less ambiguous in the case of existing product markets  
20 than new product markets.

21           I for one would not rely heavily on potential entry  
22 stories to allow mergers that create high concentration in a  
23 current product market unless I could get pretty solid  
24 evidence that this potential entry story had some basis in  
25 fact. It's too easy to make those arguments, I think.

1           Now, so, I wouldn't say allow any merger because of  
2 potential entry, I would require hard evidence, and I think  
3 that's where current antitrust policy is now. In terms of  
4 predicting who might be in R&D, that's true, I agree, that  
5 could be heard, but all I'm pointing out is even if you know  
6 who is in R&D, predicting what products they are going to  
7 produce is a very difficult problem. And if you just do some  
8 back-of-the-envelope calculations about how much do I have to  
9 discount future benefits, if there's a probability each year  
10 that, you know, someone else is going to come in and will do  
11 it anyway, you have don't have to go out very many years  
12 before the discount rate is a very high, high rate.

13           Now, you raised one other question which had to do  
14 with whether more entry is good, whether competition is good,  
15 whether concentration wouldn't be all right in some markets,  
16 for example. That really raises a question about  
17 externalities. Let's suppose there's some product that we  
18 think is undesirable, but people are consuming it anyway.  
19 Should I allow a merger to -- should the FTC allow a merger  
20 to monopoly? The answer would be yes, price goes down,  
21 output goes up, you would have less consumption. Actually  
22 you could make such an argument, my hunch, though, my  
23 recommendation would be that policy elsewhere, what's an  
24 externality or not should be handled somewhere else, and the  
25 FTC or DOJ should take as their charge to say given the

1 policies and how the externalities have been created, my goal  
2 is to preserve competition.

3 MR. ADDANKI: I was going to add one small remark  
4 to that. If there really is a negative externality from a  
5 good, it seems to me that the better way to deal with it from  
6 a policy matter is to have it be as competitive as possible  
7 and to tax it deeply so that at least you get to collect the  
8 rents on the product instead of rents going to monopolies.  
9 Pardon me?

10 COMMISSIONER VARNEY: Let me go to Dr. Rapp and  
11 then, Jonathan, unless you want to come back with anything, I  
12 would ask Dr. Rapp to wrap us up before lunch; give us your  
13 thoughts.

14 MR. RAPP: Thank you. I have an overpowering urge  
15 to supplement Professor Carlton's answer having wrapped  
16 myself in the flag of the merger guidelines. It seems to me  
17 the answer to that question has to start with the statute and  
18 include the distinction between the defense of competition  
19 and the defense of welfare maximization because a lot of  
20 effects and defects in the analysis of the relationship  
21 between structure and welfare gains that you mention in your  
22 question get you past the point of competition.

23 The question of whether competition is good or bad.  
24 If you take the analysis one step back and put it only in  
25 these terms, is there more of a basis for supposing that

1 conventional horizontal merger analysis in product markets is  
2 more capable of discerning pro-competitive from  
3 anti-competitive outcomes rather than welfare enhancing  
4 versus welfare reducing outcomes. I think it's a clearer  
5 answer and I think it's clearer on theoretical, not empirical  
6 grounds. The literature as Professor Carlton said and as you  
7 well know is weak on the relationship between concentration,  
8 profitability and so forth and I don't think that it provides  
9 the basis for the enforcement activities that have been --  
10 that merger guidelines have been the basis for. I think the  
11 -- it is the analytical underpinnings, the strength of the  
12 analytical underpinnings of the horizontal merger guidelines  
13 that gives them their power and I think that is what is  
14 missing from the innovation market approach more than the  
15 empirical side of the critique. That's my supplement.

16 COMMISSIONER VARNEY: Professor Yao, any comment on  
17 that?

18 PROFESSOR YAO: I just want to make sort of a  
19 general point, or leave you with a general question, which  
20 is, is it more useful for determining the projectory of  
21 innovation in an industry? If it turns out that history is  
22 useful in some industries, then I think one will have a sense  
23 of where the innovations are going to come from, who is most  
24 likely to innovate and what is most likely to happen. Now,  
25 we can come up with many, many examples in which history

1 doesn't help, and there we've got a problem, but there may be  
2 a number of industries in which history does help and I  
3 think that's just a return to focusing on the facts of the  
4 industry in trying to go forward with one's analysis of  
5 innovation rights.

6 COMMISSIONER VARNEY: Well, I want to thank our  
7 panelists for this morning and invite you to stay with us  
8 this afternoon when we reconvene at 1:30 to continue this  
9 discussion, albeit with some new people and slightly  
10 redefined questioning. Thank you very much for your input  
11 this morning, and we will continue at 1:30. Thank you.

12 (Whereupon, at 11:54 a.m., a lunch recess was  
13 taken.)

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A F T E R N O O N   S E S S I O N

(1:35)

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2  
3           COMMISSIONER VARNEY: We will go ahead and get  
4 started, get the record started. I am pleased this afternoon  
5 that our panelists have been able to stay with us and we have  
6 been joined by two new panelists, Mike Sohn and Judy Whalley  
7 from yesterday. I am going to go ahead and introduce Mike  
8 and Judy now and then go back to Rich who is going to make  
9 some remarks, then I think Mike and then Judy and then we  
10 will just go right into the discussion. And Michael, you  
11 weren't here yesterday, so I can tell you the score is about  
12 three-three on innovation markets, either for them or against  
13 them, so you get to weigh in this afternoon so we can sway  
14 the balance.

15           Mike Sohn is a partner in the law firm of Arnold &  
16 Porter where he heads their Antitrust Practice Group. Mr.  
17 Sohn's practice encompasses a broad range of antitrust and  
18 consumer protection matters with a particular focus on  
19 mergers and acquisitions. He has represented such clients as  
20 Allied Signal, American Home Products, Baker Hughes, General  
21 Electric and Occidental Petroleum. It doesn't say Boston  
22 Scientific here.

23           MR. SOHN: That's an older version.

24           COMMISSIONER VARNEY: From 1980 through 1987 he  
25 served as general counsel of the Federal Trade Commission.

1 He was a member of the Administrative Conference of the  
2 United States from 1977 to 1981 and a member of the Executive  
3 Committee of the Regulatory Council of the United States from  
4 1978 to 1980. Mr. Sohn has written various articles  
5 regarding antitrust and consumer protection issues. Welcome,  
6 Mr. Sohn.

7 Judy Whalley joins us this afternoon, she is a  
8 member of Howrey & Simon. Prior to joining that firm she  
9 spent fifteen years with the Antitrust Division serving as a  
10 trial attorney, Chief of the Chicago Field Office, Deputy  
11 Director of the Office of Operations and ultimately the  
12 Deputy Assistant Attorney General for Litigation. In 1988,  
13 President Bush named Ms. Whalley Distinguished Rank  
14 Executive, the highest award bestowed on senior government  
15 officials. She has written and lectured extensively on  
16 antitrust issues and teaches antitrust at Georgetown  
17 University. Welcome back.

18 Rich, would you like to start this afternoon?

19 MR. GILBERT: Yes, thank you, Commissioner Varney.  
20 This afternoon I understand we are going to address how to  
21 assess the likelihood of unilateral or coordinated conduct in  
22 R&D and also how to evaluate the likelihood of entry into R&D  
23 and the future generation of product markets.

24 As we discussed this morning, many of you may not  
25 have been around to hear this discussion, so at the risk of

1 some redundancy, I will go through some of the issues. In  
2 order for a coordinated conduct, whether it's tacit  
3 coordination or actual explicit coordination, in order for it  
4 to be sustained, a number of conditions have to be satisfied  
5 and this is whether we're talking about research and  
6 development or whether we're talking about output markets.

7 First, there has to be some distribution of  
8 benefits such that each firm is better off when everybody, in  
9 fact, coordinates their behavior than when they act  
10 independently. So, in effect, there must be some gains from  
11 coordination. That's often the case in conventional product  
12 markets. It may not be the case in -- always in research and  
13 development because firms may have quite different preferred  
14 research and development paths, they might have different  
15 core competencies, they might want to develop products that  
16 may take advantage of their complementary assets in other  
17 product markets.

18 So, they may not be able to rate what's really  
19 better for each and for all of them relative to their  
20 independent conduct outcome.

21 Even if there is something that's better, there  
22 might be several R&D programs that are better and they have  
23 to choose which of the best -- which of the better programs  
24 that they will actually coordinate on. There might be two  
25 entirely different research paths to develop say a new jet

1 engine, but the -- in order for a coordinated outcome to  
2 succeed, it has to be the case that everybody agrees that  
3 it's either going to be path A or path B, you can't mix them  
4 up. If you mix them up, you lose the coordination. And that  
5 can be difficult in R&D, a little more difficult than in  
6 product markets.

7           You have to have a mechanism to monitor adherence  
8 to a collusive outcome. Again, whether it's a tacit  
9 collusive outcome or an explicit collusive outcome, you have  
10 to be able to check and see if people are behaving the way  
11 you want them to behave. If not, then it's in the interest  
12 of each member to act to satisfy their independent objectives  
13 because they know that nobody's watching, they can cheat.

14           Again, that can be difficult in R&D because much  
15 R&D is conducted under secrecy. You need a mechanism to  
16 punish anyone who, in fact, cheats on the collusive outcome.  
17 The problem in R&D is that the punishment is going to happen  
18 after a firm deviates, which -- and that may not be detected  
19 until after a firm is successful.

20           And so at that point, here you have a competitor  
21 that has achieved the benefits of independent -- of cheating  
22 on a cartel, watching everybody else slow down their research  
23 and development programs while this one cheater speeds up,  
24 develops a new product or a new process and then it can be  
25 quite hard for others to punish, unless they're in a very

1 repeated relationship where things happen every two years or  
2 they can punish them at an output market. But you can see  
3 how in many circumstances once the cheating occurs, the  
4 damage is done and it's too hard to punish.

5 And finally, you have to prevent entry into this  
6 marketplace. R&D is a common entry path. I don't think this  
7 is as much of a problem as maybe some others on the panel  
8 think. There are circumstances where you know who the  
9 credible R&D competitors are and you just know who's in this  
10 game and who isn't in the game, and it's not easy to really  
11 gain the status of credible innovator. So, I think when you  
12 summarize all of this, it does lead me to conclude that  
13 concerns about research and development should focus on  
14 unilateral behavior rather than coordinated conduct.

15 Now, at the same time there are some possibilities,  
16 one thing I think that's worth being cautious about is  
17 arrangements in which participants either tacitly or  
18 explicitly might facilitate the exercise of unilateral  
19 behavior in ways that are anti-competitive. One of the --  
20 I'll give an example which is not research and development,  
21 but the airline theory in the publishing investigation where  
22 the concern was a particular reporting mechanism which once  
23 adopted led to incentives to engage in certain types of  
24 disciplining behavior and enforce -- possibly enforce --  
25 having not been that close to it, I don't know all the facts

1 -- but possibly enforce coordinated outcomes.

2           One can imagine something like that in an R&D  
3 context, I don't know exactly what it would be, but I  
4 mentioned earlier today the possibility of some elastic  
5 agreement about the licensing of technology from an R&D  
6 arrangement which might have the effect of causing each  
7 member of this group to have a unilateral incentive to reduce  
8 incentive -- to reduce investments in R&D, coming not from  
9 the expectation that others are slowing down their own R&D  
10 program in response because of the mutual interdependence,  
11 but rather because a framework has been developed so that  
12 everybody has less incentive to engage in R&D. That might be  
13 a concern. But tacit collusion, even explicit collusion I  
14 think would be considerably more difficult in most R&D  
15 environments than price coordination.

16           The second topic I would like to address here  
17 briefly is the likelihood of entry into R&D and how to  
18 evaluate that. Well, clearly innovation is an important  
19 route of entry for new competitors into an industry and all  
20 else equal, the more R&D that is going on, the more entry  
21 that you would expect, and as my colleagues -- colleagues,  
22 Jorde and Teece -- have maintained that such entry is  
23 probably not going to be very price elastic, meaning that if  
24 you apply the five or ten percent small but significant  
25 nontransitory increase in price, probably not much will

1 happen, but that doesn't mean that the entry isn't out there.  
2 And I do think that that's a factor that the agency should  
3 consider -- the likelihood that there may well be important  
4 entry that is not particularly price sensitive.

5           Where I take issue, though, with this approach, is  
6 that I wouldn't -- I wouldn't put a lot of emphasis on this  
7 entry unless it is fairly close in time, fairly likely, or  
8 unless it is likely to be -- it is more likely to occur if  
9 there's an exercise of market power. Because in that  
10 circumstance, you might expect that the entry would  
11 discipline, might discipline, the exercise of market power  
12 and you might also have a situation which I think is really a  
13 -- should be a -- focus of this afternoon's discussion, and  
14 that is where the exercise of market power may make the entry  
15 more likely and be a good thing because it introduces a new  
16 product or a new process.

17           Another way -- so, what I'm focusing on now is how  
18 we might want to rethink certain aspects of the entry section  
19 of the merger guidelines to take into account certain  
20 R&D-related phenomenon. And I think there are two areas  
21 where some rethinking is advisable. One is that entry with  
22 R&D can be very drastic. The entry section of the merger  
23 guidelines is written largely I think with the expectation  
24 that entry is somewhat incremental, that is there might be a  
25 price increase and in response to that price increase there

1 might be a flow of capital into the marketplace and that  
2 might neutralize that price increase. And if it happens more  
3 than two years out, there's a tendency in the guidelines to  
4 discount that.

5 Well, what if three years from now there is drastic  
6 entry, the likelihood that entry will occur that is so  
7 dramatic that it will just change the marketplace completely.  
8 We can ask whether that will be more important than  
9 incremental entry that occurs in two years and whether or not  
10 the guidelines should account for that to some extent. I  
11 will also say, though, I feel quite strongly about this, is  
12 that we should not allow mergers to create market power just  
13 because there is R&D entry happening at a future date. Why  
14 tolerate the exercise of market power just because entry is  
15 going to happen at some future time.

16 Now, where that evaluation is quite different, and  
17 I'll give you examples where I think the evaluation has been  
18 done, is where the exercise of market power may be a  
19 necessary consequence of creating a new product or a new  
20 process. An example I like to think of is the creation of --  
21 is the accumulation of spectrum for cellular telephone  
22 operations where it is possible that the accumulation of  
23 spectrum may give rise to certain exercise of market power  
24 say in a particular part of the spectrum. So, maybe what's  
25 going to happen is you are going to take some spectrum and

1 concentrate frequencies so that you can offer cellular  
2 services, efficient cellular services, but there might be a  
3 piece of spectrum where you have some users left over who are  
4 going to suffer from higher prices because they might  
5 actually get more concentrated services. The example is  
6 dispatch services for cellular dispatch.

7 Now, if it's the case that that concentration of  
8 spectrum helps bring along the entry of a new product and  
9 accelerates the entry of the new product, then it seems to me  
10 that that's a calculation that the agencies should address  
11 and should balance the anti-competitive effects in say a  
12 dispatch market against the likelihood of creating a more  
13 efficient cellular market. But the mere fact that entry is  
14 going to occur or that there's going to be a development, the  
15 very fact that the telecommunications industry is progressive  
16 and has drastic entry that occurs on a five-year basis, that  
17 alone I don't think is enough to justify transactions,  
18 acquisitions and mergers, joint ventures that create market  
19 power because that market power is a welfare loss for  
20 consumers and unless it promotes R&D in some sense, why  
21 should that -- why should consumers face that welfare cost  
22 without some benefit in technological progress.

23 So, while I think that there are possibilities for  
24 revising the merger guidelines and evaluating the entry  
25 section of the merger guidelines to accommodate certain

1       drastic innovations and maybe rethink the entry aspect of the  
2       merger guidelines to some extent, I wouldn't go overboard  
3       with it. I don't see the point of accepting aggregations of  
4       market power unless you can -- unless you can establish the  
5       link between the market power and the pace of innovation.

6                 Thank you.

7                 COMMISSIONER VARNEY: Thank you, Professor Gilbert.  
8       You might think about, when we come back to the discussion,  
9       some of your colleagues yesterday suggested that we ought to  
10      think about entry not in what they refer to as arbitrary time  
11      increments like two years but more in terms of product life  
12      cycles, that that ought to be our entry. We'll come back to  
13      that.

14                Mr. Sohn?

15                MR. SOHN: Thank you, Commissioner.

16                As Rich has eloquently written, and I should say  
17      that I guess Rich has now achieved what all economists hope  
18      for, has written an article which is controversial,  
19      colleagues have replied to him and he has written some  
20      replies, and it shows possibility of going on for some time.  
21      I congratulate him.

22                On the other hand, being in private practice, I  
23      have considerably less opportunity and ability as well to  
24      think about these things abstractly. And so, when I read  
25      Richard's article and as I have tried to follow the

1 literature since, I began to ask myself well, have I seen  
2 this in my practice? Have I read about it in the case law?  
3 Is this happening in the real world? The it being  
4 coordinated behavior, unilateral effects to slow the pace of  
5 innovation or drastically change its path. And the answer is  
6 that I have not. And the literature that Rich and the others  
7 have contributed doesn't contain much in the cites to the  
8 case law as well. Everybody cites the same single consent  
9 order involving the Automobile Manufacturers Association in  
10 1969 and an allegation that they acted collusively to  
11 restrain the development of pollution control equipment.

12 As I understand it, a grand jury was convened in  
13 that case, but only a civil consent came out of it, and even  
14 then the civil consent was modified several years later to  
15 take out specific constraints on certain collaborative  
16 behavior because the world had moved on and the conduct  
17 initially restrained was no longer viewed as unambiguously  
18 anti-competitive. So, that's not a rich history of  
19 experience under the Sherman Act.

20 I think it teaches what Rich and others have  
21 written, that one must approach this in a careful and focused  
22 way and not go overboard with it.

23 The markets that I would like to focus on and the  
24 terminology is important, are markets where I think a case  
25 can be made that the merger guidelines don't, at least

1 without some modification or amplification, quite do the job.  
2 And these are I think future generation goods markets in  
3 which the next generation product is felt to completely  
4 displace in a relatively short period of time the existing  
5 goods market. And the second is the purer form of innovation  
6 market which comes in two varieties, I guess. You can have  
7 the kind of situation which you had in the consent order that  
8 the Commission entered in American Home Products and American  
9 Cyanamid, where the merging firms were two of what were  
10 allegedly very few competitors seeking to invent a new  
11 vaccine for rotovirus, there being no vaccine today.

12           You could go back even further I guess and say that  
13 the pooling of certain research skills which are scarce, even  
14 where the product in mind is considerably less fuzzy than it  
15 was in the case of the rotovirus vaccine, might be a problem  
16 as well, but I think as many have pointed out, the further  
17 back you go the more difficulty you have applying the theory  
18 in any meaningful way.

19           Let me turn to -- briefly to efforts to link  
20 concentration with anti-competitive effects in either future  
21 generation markets or innovation markets. Of course, as  
22 everyone knows, the horizontal merger guidelines do this in a  
23 quite pronounced way, and there is a body of empirical  
24 evidence which at least to many suggests that the link is  
25 real and beyond the body of empirical evidence, whatever you

1 think of it, there's a robust oligopoly theory that suggests  
2 that collusion is possible, at least under certain  
3 circumstances where detection is possible and punishment is  
4 possible.

5 I think the same does not hold in innovation  
6 markets. I do not detect any empirical basis for the belief  
7 that there's a link between market concentration and the pace  
8 of innovation. And I think that as many have pointed out in  
9 the absence of a robust theory of oligopoly that would  
10 support such a link -- I defer to others on the panel, but at  
11 least as I understand Arrow's work, which is often cited for  
12 the proposition that a monopolist may have less incentive to  
13 innovate and an assumption in his model is that the  
14 innovation occurs with respect to and in close proximity to a  
15 good that's being monopolized -- I think that it may well be  
16 unwise to generalize to innovation markets from that  
17 theoretical work.

18 The likely reasons for the absence of empirical and  
19 theoretical evidence linking concentration with competitive  
20 effects in these markets has been identified. I'll just tick  
21 them off briefly. It is very hard to measure shares, how  
22 does this agency go about deciding the relative competency of  
23 firms doing R&D.

24 I can tell you again based on my own practice that  
25 when one looks at the documents of the merging firms, one is

1 on unsure ground. There is what I have come to recognize as  
2 the rose projection phenomenon. Every firm these days is  
3 short on R&D funds. And that spawns boundless optimism in  
4 the mind of those seeking those R&D funds. When you compound  
5 that difficulty with a not unprecedented possibility that  
6 other firms in the market may seek to game the Commission  
7 process by downplaying their own place on the path to  
8 innovation, principally because they may be concerned about  
9 the efficiency gains of the merger, any kind of close effort  
10 to approximate shares with where one stands or what one has  
11 spent on innovation, I think is very suspect.

12 I think, and I think Commissioner Varney has  
13 suggested that one over n is probably the safest way to go  
14 here so long as you have one clear set of skills that can be  
15 brought to bear on the innovation market in question.

16 Let me turn to unilateral effects first. The way I  
17 think about this is to look at what the likely post merger  
18 incentives are going to be for the merged firm. Again, in a  
19 goods market, there's fairly common ground that a party with  
20 market power will follow the incentive to set a profit  
21 maximizing price which often is above the competitive price.  
22 But the merger of -- and the incentives of -- a monopolist in  
23 an innovation market is far less clear. Let me for the sake  
24 of time just give one example. Suppose you have three going  
25 to two in a vaccine market. Yeah, suppose that. What do you

1 call it, a stylized version.

2 COMMISSIONER STEIGER: Let's call it a  
3 hypothetical.

4 MR. SOHN: Right. It's not clear to me that one  
5 ought to leap to the conclusion that the merged firm or the  
6 two firms will have differing incentives. If you are in a  
7 situation where the merged firm perceives an ability to  
8 appropriate the returns on its R&D investment either through  
9 patent or some other significant first mover advantage, it's  
10 not at all clear to me that the pace of innovation will be  
11 slowed even by three going to two. Indeed, you could argue  
12 that if you have -- particularly where you have three firms  
13 who are equally likely to reach the market prior to the  
14 merger, they will spend one-third of what they anticipate as  
15 the gains of getting there first and may spend one-half of  
16 what they anticipate to be the same gain after the merger.  
17 So, you may actually have increased R&D. And I think it's a  
18 very murky picture.

19 One word on the concern which has been expressed  
20 about the loss of a different research path. And here the  
21 concern is that the merged firm will choose which of two  
22 research paths it now owns is the more likely winner and put  
23 on the shelf the other one. Well, that may well be the case,  
24 but it's not clear to me that this is a bad thing. It may or  
25 it may not be. It is not clear to me that an enforcement

1 agency is in a position to say that the merged firm that  
2 makes such a choice will likely choose wrong. Nor is it  
3 clear to me that it would be easier for an enforcement agency  
4 to judge whether in the case where the merging firm is going  
5 to achieve some efficiencies as a result of the acquisition  
6 and spend more on what it perceives to be the winning track,  
7 that spending more on the winning track than was spent  
8 premerger, while shelving what it perceives to be the losing  
9 track, isn't the better thing for consumers.

10           Just a word about coordination because there seems  
11 to be a great deal of common ground here. Everyone seems to  
12 believe that it's very hard to do and I am not -- I'm not  
13 going to go through all the reasons. The research didn't  
14 take place in public, assuming you could agree on the terms  
15 of coordination, which is I think a considerably harder task  
16 for the would-be cartel since there's no higher price out  
17 there to agree on. You have to agree on such things as  
18 research paths or how fast or how slow you are going to go  
19 and your activity or your partners is not taking place in an  
20 open marketplace. So, that makes agreement on terms  
21 difficult, it makes detection difficult, and as Richard just  
22 pointed out, punishment is uniquely difficult because it may  
23 well not -- the deviation may not be discovered until far  
24 down the road.

25           Now, there may be exceptions. In the

1 pharmaceutical area, most meaningful research has to go  
2 through clinical trial, these are supervised by FDA, they  
3 take place in the field. In the defense industry, as Jan is  
4 familiar, there's a lot of government funding and briefing  
5 back to various would be participants in the R&D pot as to  
6 why they did get it and didn't get it. And you can in some  
7 industries at least get a glimmer of whether someone is  
8 cheating on a hypothetical cartel. But I submit that  
9 risking, particularly in a context like defense where there  
10 are significant rewards for winning and there may never be  
11 another procurement, or at least not one for a long time,  
12 participating in a cartel even with that vague reflection of  
13 what's going on in the R&D market is a risky business.

14 A word on entry, and I hope I haven't taken too  
15 much time, I think one must define what constitutes entry in  
16 an innovation market. The guidelines note that to be  
17 effective in the context of a goods market at least, entry  
18 must deter or counteract the anti-competitive effect of  
19 concern. So, in a goods market a perception that entry is  
20 going to be timely, likely and sufficient, would at least in  
21 theory deter an anti-competitive price increase post merger.

22 I think it's not a great leap to conclude that you  
23 can have a similar analysis in the R&D or innovation context.  
24 If the anti-competitive effect of concern is a slackening of  
25 the pace of innovation, a new R&D entrant can announce that

1 he has made a considerable sunk investment and intends a  
2 major R&D effort; and if it perceives slackening of the pace  
3 of innovation, the mere possibility that there are folks out  
4 there who could do it would deter slackening of the pace of  
5 innovation.

6 In terms of timeliness, likelihood and sufficient  
7 -- sufficiency, I don't think there's a case to be made for  
8 less than two years in an innovation market. I frankly had  
9 not thought about Richard's point about innovation being  
10 drastic, and perhaps at least under certain conditions longer  
11 periods than two years may be useful because if the entry is  
12 perceived as coming in three years, but to be Earth shaking,  
13 then slackening of the pace of innovation may well be  
14 deterred.

15 In terms of likelihood, this is harder than a goods  
16 market, the 1992 Guidelines talk about determining whether  
17 entry at minimum viable scale could be profitable at  
18 premerger prices without exceeding the premerger sales  
19 opportunity of the new entrant. Well, whatever one thinks of  
20 that task in a goods market, and I have always hired a good  
21 economist to help me think about it, there are at least some  
22 objective measures that you can point to in a goods market,  
23 which I think are largely lacking in an innovation market.  
24 And I think if we're going to have this theory, we need a lot  
25 of creative thought on how to think about innovation in this

1 kind of market.

2           Some very preliminary thoughts, one possibility is  
3 to mimic the guidelines approach and think about the  
4 anticipated size of the new product market. And how many  
5 companies of minimum viable scale can it ascertain -- can it  
6 maintain once it arrives. This can be a particularly  
7 relevant factor it seems to me where you have an equal  
8 probability that each of the firms premerger can achieve  
9 success because the merger may create room for one more at  
10 minimum scale who is not presently doing the R&D.

11           I think there's kind of an uneasy balance between  
12 one's belief in the likelihood that collusion can take place  
13 because of the possibility of deviation being detected and  
14 punishment being meted out, and one's belief that the right  
15 signals about entry will be sent to deter anti-competitive  
16 behavior. If you think collusion is likely because these  
17 things are perceivable enough to permit enforcing of the  
18 cartel, then you should believe with equal fervor that that  
19 entry is likely to deter anti-competitive behavior.

20           I think with Rich that identifying firms who are  
21 likely potential entrants is not all that much of a mystery.  
22 Some likely sources would be companies whose existing  
23 products would be made obsolete by the R&D, companies with  
24 R&D projects currently aimed at different products but which  
25 involve similar skill sets to the innovation market at issue,

1 and companies for whom the R&D effort would broaden an  
2 already existing product line and enable them to take  
3 advantage of economies of scope or scale.

4           Some conclusions: I think it's common ground and  
5 is likely to be after today that enforcement efforts should  
6 proceed cautiously here until we know more. I urge the  
7 Commission in this kind of environment to publish clear  
8 enforcement guidelines respecting future generation and  
9 innovation markets. There is, I perceive, a critical need  
10 for guidance both in the business community where the  
11 entrails here are particularly hard to read, and deals that  
12 may be a waste of time as you see it are actively being  
13 pursued. And I think it would be useful to promote the  
14 colloquy between counsel and the staff to have guidelines out  
15 there that everyone could point to.

16           Related to this, much of the enforcement effort to  
17 date in this area has taken place in the context of consent  
18 orders which issue -- are much larger transactions, American  
19 Cyanamid, a \$10 billion transaction, on overlap of R&D in the  
20 process of vaccine. I think it's inevitable, but I do think  
21 that the parties do have strong incentives to fix the problem  
22 and move on, and those incentives may be so strong that the  
23 safeguard of the litigation alternative or even a very  
24 vigorous defense before the Commission may not exist, so why  
25 rush to get it done. I think in that context it's very

1 important that the Commission clearly set forth and  
2 consistently apply its enforcement principles.

3 One final thought, I would seriously consider a  
4 safe harbor in that area. Mine's not going to be any better  
5 than anybody else's, but I do think it's fair to comment that  
6 if there's common ground or largely common ground, that  
7 anti-competitive effects are less frequently encountered in  
8 innovation markets and rather hard to coordinate and maintain  
9 the coordination, then it strikes me that there should be a  
10 more hospitable safe harbor.

11 In a related context, one commentator suggested  
12 that if three firms remain or entry by three firms would be  
13 adequate, that should be enough to close the books without  
14 further analysis. I think that's a view that's worthy of  
15 serious consideration.

16 Thank you.

17 COMMISSIONER VARNEY: Thank you very much. I think  
18 that we might come back to that. You might want to give a  
19 little thought to what, yesterday and this morning we heard  
20 quite a bit, I will take liberty of paraphrasing it, quite a  
21 bit of encouragement, "hey, look, you don't need to use  
22 innovation markets, if you have a real loss of competition,  
23 you can probably use a future competition market." And I  
24 would ask when we come back to the discussion, how does that  
25 fit with your unilateral anti-competitive effects if you've

1 got two firms with the same research path merging while  
2 perhaps we don't -- we can use the horizontal merger  
3 guidelines and say you've got to put one out to license and  
4 you decide which one you are going to keep, but let the  
5 market decide whether or not the other one is worthwhile.

6 COMMISSIONER STEIGER: May I add to that list some  
7 amplification of the suggestion that a monopolist might have  
8 no interest in retarding R&D. What about the situation  
9 where, in fact, the monopolist has a potentially obsolescent  
10 good, why would he not, in fact, wish to retard R&D  
11 particularly if he could effect that retardation on an  
12 innovative market in order to maximize the profit from his  
13 potentially obsolescent product.

14 COMMISSIONER VARNEY: Ms. Whalley?

15 MS. WHALLEY: Thank you very much. I suspect that  
16 I am going to echo much of what has already been said, and I  
17 will try and keep those remarks brief, but I do think it's  
18 important to touch on the point that the potential for  
19 innovation being retarded by the exercise of market power has  
20 been identified for a long time in the case law, but not much  
21 has been done with it. And particularly at the agencies,  
22 there has not been much of a focus on the potential of  
23 retarding innovation until just recently. I would applaud  
24 the agencies for renewed focus on that issue because  
25 innovation is so critical to the success of the American

1 economy and the ability of American companies to compete in  
2 global markets, that it is well worth the investment of  
3 thinking and investigative resources to try to ensure that  
4 the innovation is protected.

5           Having said that, though, I do also want to echo a  
6 concern that I have heard here today that the relationship  
7 between concentration and innovation is a very complex one.  
8 It is not clear that there is a direct and positive  
9 relationship between concentration and innovation, and that  
10 uncertainty falls sort of in my mind into two categories.

11           One, the overall concern that there is not a direct  
12 relationship between the level of concentration and the case  
13 of innovation. And I would agree with Mike Sohn that there  
14 simply is not empirical evidence that's substantial enough to  
15 support that argument. There are certainly strong proponents  
16 on either side of the question. A second area of weakness in  
17 our analytical understanding at this point is in individual  
18 markets themselves, what factors affect the pace of  
19 innovation. Unlike price competition where there has been a  
20 great deal of work done, both empirical and theoretical, to  
21 aid us to identify key factors that increase the likelihood  
22 of vigorous price competition increasing or being reduced by  
23 market power, that simply is not yet there in the analysis of  
24 these markets.

25           So, I think first we cannot transfer the

1 presumption about concentration leading to a risk of  
2 diminished returns that we have on the price side. That  
3 discussion leads to a potential price competition. I also  
4 think that our ability to understand the factors in  
5 individual markets that would lead to reduced innovation is  
6 not as powerful or as heavy as on the price side.

7           That to me leads to echoing again what I've heard  
8 both Rich Gilbert and Mike Sohn and I suspect others this  
9 morning say that given that lack of understanding and ability  
10 to predict, it is particularly risky to try to do cases on a  
11 coordinated effects basis. And I would recommend that such  
12 cases not be brought except in the most extraordinary of  
13 circumstances. Situations that I might conceive of where it  
14 would be appropriate to do that is where there's already  
15 substantial evidence indicating that coordination is going on  
16 before the merger and that the merger is likely to make it  
17 cleaner to reinforce the ability to coordinate, that's  
18 already been demonstrated.

19           A second situation that I might conceive of where  
20 coordinated effects could make sense would be where there is  
21 a maverick innovator -- install the guidelines analysis of  
22 the price competitor. A price competitor who has been  
23 pursuing the research path, who has been in other ways  
24 disruptive is now being acquired where there have been other  
25 evidentiary indications of stability in conducting research

1 and development among the existing parties but not the  
2 maverick. However such circumstances might exist, if they  
3 ever would, I would venture to predict, otherwise I would say  
4 they would be excessively less.

5 The factors that I have identified and won't  
6 reiterate make coordinated behavior with respect to  
7 innovation so difficult as I think to outweigh the arguments  
8 that would support bringing coordinated effects cases. I  
9 think the risk that we would wind up deterring innovation and  
10 eliminating efficient mergers is simply too great given the  
11 uncertainty that or the unlikelihood that the result of the  
12 entrants would be -- result of the measurements would be  
13 coordinated at best.

14 One other point I would like to make here, you  
15 know, following up on this point about uncertainty and our  
16 lack of a full understanding of the role of market power in  
17 innovation, some have argued that that's a sufficient basis  
18 for walking away from concern about innovation entirely. And  
19 I do not think that was appropriate. As I said earlier,  
20 innovation is simply too critical to our economy to say we  
21 did not understand innovation well enough, therefore we  
22 shouldn't be concerned about innovation at all. I don't  
23 think that's an appropriate way to go. What I think is  
24 important is that the agencies adopt very clear and very  
25 rigorous standards for when innovation markets or potential

1 competition markets, future generation product markets are  
2 used to ensure that the focus has been only on those cases  
3 that have the greatest likelihood of accurately predicting an  
4 adverse effect on competition.

5           So, I would argue not that we abandon the concern  
6 about innovation, but that great care be taken in setting out  
7 standards and rigorously applying those standards to identify  
8 the cases where the problem is very significant, where  
9 there's a higher degree of certainty than we would want to  
10 have in price-based cases.

11           I think with any new theory or approach in  
12 antitrust enforcement, there's also a risk of excessive  
13 adoption. I have seen that in my years of enforcement, a new  
14 theory comes to the front, it's an advance in learning and  
15 understanding, everyone becomes very excited, everyone says  
16 it's applicable to their case, and the result is that it  
17 winds up being used in cases far beyond its real ability to  
18 predict. I would point to what I feel was the excessive use  
19 of the analytical tool of Chicago School thinking in the  
20 early 80s as an example of that. Clearly cases were being  
21 enforced that were important, but it became a marginal theory  
22 in its value. The point being there was a lack of actual  
23 usefulness in prediction, and it was not as rigorously  
24 applied as often as it had been in that fewer cases should  
25 have been brought, an opinion that the innovation theory,

1 which is an exciting new advance, not fall into the same  
2 misuse here resulting in more cases being brought than  
3 should be brought in deterring efficient mergers that should  
4 be allowed to go forward.

5 Let me talk about some specific proposals for these  
6 more rigorous standards. One I have mentioned, I really  
7 don't think at this point it makes sense to proceed with  
8 coordinated effects cases except in extremely rare  
9 circumstances. Second, I think that such a presumption  
10 should be made in favor of worldwide geographic markets. The  
11 ability of information to flow worldwide is separate today  
12 and increasing every day as the computer linkages, the  
13 ability to communicate across borders increases. Ideas are  
14 generally not subject to the kinds of constraints which limit  
15 the flow of products and services -- tariffs, shipping costs,  
16 availability of distribution or services, brand name  
17 recognition. They flow over borders. Ideas outside of the  
18 United States by firms not participating in the United States  
19 can be disseminated here a number of ways, by sale or  
20 transfer of the innovation to companies, fringe companies or  
21 new competitors, perhaps upstream or downstream participants  
22 in the U.S. market, or sponsorship of a new U.S. entrant. I  
23 think, again, only in extraordinary circumstances should the  
24 geographic markets of innovation markets be narrower than the  
25 world because it's simply unlikely that the flow of

1 information is going to be prohibited.

2 One point I would like to add on, this coordinated  
3 effects point, which relates also to unilateral effects and  
4 entry, and that is that one of the difficulties that's been  
5 identified in pursuing the coordinated effects theory is what  
6 kind of market share do you ascribe, how do you determine the  
7 concentration in the market, the relative positions of the  
8 companies in the market.

9 What I think is perhaps the greatest advance in  
10 thinking in the innovation market theory that's been  
11 propounded by Gilbert and Sunshine is this notion of looking  
12 to specialized assets to define the market. I think that  
13 notion should be used for more than defining the market. I  
14 think that the access to specialized assets is also an  
15 appropriate way to define participants in the market, and  
16 that the one over n approach based on having access,  
17 possession of those specialized assets is an appropriate way  
18 to define market share to be much more realistic than looking  
19 to past sales or trying to speculate as to the likely success  
20 of future innovations, which I would say in most situations  
21 is going to be impossible.

22 I also think that use of specialized assets is an  
23 appropriate way to evaluate entry and I would like to come  
24 back to that. And I think if one decides not to use an  
25 innovation market approach, but to use a potential potential

1 competition or future generation markets or even in applying  
2 more traditional product market analysis in industries where  
3 there's rapid innovation that the use of the identification  
4 of specialized assets that are critical to innovation is an  
5 appropriate factor to use for identifying participants there  
6 and predicting their likely future role.

7 I would again say that when looking at unilateral  
8 effects, it is important to apply a higher standard of  
9 certainty of outcome about the unilateral effects than one  
10 might in a pure price product market analysis. Because of  
11 the risk of overdeterrence of innovation and the lack -- the  
12 lessened ability we have to predict outcomes. As an outsider  
13 observing the various cases that have been brought, my  
14 perception is that a fairly rigorous standard has been  
15 applied, perhaps more in some than in others, but I think  
16 that that was important in GM/ZF.

17 My understanding from the public record is that  
18 there was clear evidence indicating the parties'  
19 consideration of reducing innovation as a factor involved in  
20 the transaction. That combined with the fact that as I  
21 understand it again from the public record, the agency was  
22 looking at essentially only two companies in the world that  
23 possessed the specialized assets necessary to conduct  
24 innovation leads to a conclusion that the evidentiary basis  
25 for seeing that innovation might be impeded is very strong in

1 that case. I think that is the kind of record that should be  
2 required before a decision is made to go forward and  
3 challenge an innovation market. There should be a very  
4 clear story that the government can tell about the likely  
5 anti-competitive effect.

6 One additional thought on evaluating unilateral  
7 likely unilateral anti-competitive effects, I think it is  
8 important that the Commission continue to consider the  
9 question of the nature of incentives to do process innovation  
10 as opposed to product innovation. In my review of the  
11 literature, which certainly was not complete, but there is --  
12 there is no clear work that has been done on the issue as  
13 applied to antitrust analysis of whether the incentives for  
14 process innovation may be substantially stronger and less  
15 subject to market power causing a reduction than product  
16 innovation.

17 Unless innovation -- process innovation -- is very  
18 costly or renders installed equipment obsolete, it seems to  
19 me likely to be to a company's advantage to improve its  
20 processes and reduce its unit cost. Even if it has more of a  
21 power in downstream use markets, product market innovation is  
22 more likely to be disruptive to the exercise of market power  
23 and the activities to impede it. It's not clear to me that  
24 the strength of the incentives is the same for process  
25 innovations and it may be appropriate to limit concern of

1 innovation markets to product innovation.

2           Finally let me touch just for a moment on entry. I  
3 think entry is a much more difficult question here. I would  
4 suggest two things to consider in evaluating whether the  
5 existing job pool for entry is appropriate. The first is  
6 that the focus should be upon the ability of new companies,  
7 new participants to acquire the specialized assets necessary  
8 for entry. That gives you an easy rule of thumb, guideline  
9 or focus point in evaluating the entry. And if -- if it has  
10 been determined that there is an innovation market -- I would  
11 agree it ought to be because specialized assets are required  
12 in this industry and they are in the hands of a limited few  
13 companies. That gives you an easier approach to evaluating  
14 entry.

15           The evaluation of entry should also be focused on  
16 the acquisition of those specialized assets. The second  
17 point on the timeliness of entry, it seems to me that an  
18 extended period for evaluating entry may be appropriate here  
19 and my thinking is the following: The anti-competitive  
20 effects is the reduction of the R&D. And under the  
21 guidelines analysis, we measure the two years from the  
22 anti-competitive effect of concern, but the anti-competitive  
23 effect here does not play out in the marketplace in terms of  
24 actual sales itself for perhaps a year, two years, three  
25 years. If entry begins to respond to the anti-competitive

1 effect of restricting innovation, it may not come to the  
2 marketplace for even longer, but I would argue that it would  
3 have the deterrent effect on withholding innovation even  
4 though the innovation may not itself come to the marketplace  
5 for five years.

6 For example, I complete my merger. As a result of  
7 the merger I begin to deter innovation, my innovative product  
8 is going to get to the marketplace in three years. Maybe it  
9 would have gotten there in one or two, but as a result of  
10 having withheld innovation, if that is detected, an important  
11 issue that Mike Sohn raises, then the other company is going  
12 to set to work and begin its innovation. It may take it  
13 three years to get there or four years to get there, longer  
14 than the current guidelines period, but it is having an impact  
15 in the market within the two-year time frame from the point  
16 that the merged parties' products get to market. So, I think  
17 in that circumstance, it may be appropriate to extend the  
18 analytical time period. And I think at that point I will  
19 stop.

20 Thank you.

21 COMMISSIONER VARNEY: Go ahead.

22 COMMISSIONER STEIGER: I hope that you and others  
23 perhaps would address a question since you have raised a  
24 world market for ideas, if you will, in innovation. For  
25 later discussion, would your belief that collective collusive

1 behavior is unlikely in innovative markets be any less  
2 certain if you were analyzing a joint venture or a merger  
3 involving a foreign partner given the alleged, and I stress  
4 alleged, history of cartel behavior within certain overseas  
5 industries?

6 COMMISSIONER VARNEY: And before we get to that  
7 answer, we would like to hear from Dr. Yao and then we will  
8 take a break and start our round table discussion.

9 DR. YAO: Thank you. Being last again, much of the  
10 good material is already taken.

11 COMMISSIONER VARNEY: You've got the home team  
12 advantage here.

13 DR. YAO: Well, that leaves me with all the  
14 controversial things because the only things I can talk about  
15 are things that I disagree with or things that somehow  
16 inadvertently slipped through, which I don't believe would  
17 have happened. So, let me spend a little bit of time going  
18 over some things that you have heard before, but hopefully  
19 with a little bit of a different spin.

20 Competitive effects from a merger obviously can  
21 include a reduction in the amount of R&D or reduction in the  
22 quality and diversity of R&D activity and then you would want  
23 to take that to a welfare effect. We are not done when you  
24 get to that reduction, but I will use that as a starting  
25 point for thinking about it, and these effects that we were

1 talking about can occur through coordinated interaction or  
2 single firm behavior.

3 I agree with what has been said about the extreme  
4 difficulties in coordinating a reduction in R&D amongst firms  
5 in an industry, however I do have a caveat, actually a few  
6 caveats about this which might suggest some possibilities for  
7 coordination to actually occur. And you should take this as  
8 if I have just gone through a laundry list of why it won't,  
9 because that's really the starting point.

10 Okay, and I'm done with that laundry list and now I  
11 want to just poke at a few things which in particular cases  
12 might be worth at least checking out to see and if they lead  
13 you somewhere, well, okay, but I think they will have a hard  
14 time against some of the other points. Okay, the first is  
15 although R&D takes place in secret, it is also the case that  
16 the employees of these firms, the engineers and scientists  
17 and what not, particularly in I suppose places like Silicon  
18 Valley where they all go to Forty-niners games together or  
19 something like this, talk and they talk a lot about what  
20 they're working on. Maybe they shouldn't talk a lot about  
21 what they are working on, but I would be surprised if a fair  
22 amount of leakage didn't occur.

23 Now, of course that's an empirical question, that's  
24 a factual question. But if there's the case that there is a  
25 fair amount of leakage because of these professional

1 networks, then it may be possible for firms to detect what  
2 other firms are doing and what is supposed to be pretty  
3 secret business. Now, it might be pretty hard to detect  
4 reductions in the amount or intensity, although that's  
5 possible, but it may be a little bit easier to detect the  
6 direction or research path or track that that company is  
7 pursuing.

8           So, I just sort of note that in thinking about  
9 whether to dismiss totally a possibility of coordinated  
10 interaction, one should at least think or pause and wonder  
11 whether there is some network that might exist for this  
12 particular industry, that in fact would make some of these  
13 problems less than you would initially think. Okay.

14           The other two -- well, actually the next one I  
15 think is also important and Judy Whalley had mentioned  
16 something along these lines. If there's a history of past  
17 coordination in the product market, however one could figure  
18 that out, let's see, there's a suspicion of this, or perhaps  
19 there was a case that had gone on before, then one might  
20 think that a vocabulary of coordination or perhaps some  
21 underlying understanding might make it easier to coordinate,  
22 and I think that's worth at least considering.

23           Finally, there may be in some perhaps fairly rare  
24 circumstances the adoption of some facilitating device that  
25 might promote coordination. I could imagine, for example,

1 that some companies getting together to set a standard --  
2 standards are very pro competitive in my view, okay, so again  
3 we go through the laundry list, A, B, C, D, E, F, G, but when  
4 you get to the bottom, you might ask yourself well, if you're  
5 making a standard, does that give you an opportunity to talk  
6 about some things which might help coordination.

7           Okay, again I should reinforce that I think most of  
8 the -- most, the vast majority of plausible competitive  
9 effects are likely to be out of the unilateral effects side,  
10 but because we haven't talked about these other things, I  
11 thought putting them out for discussion might be a good idea.  
12 And you know, these things ultimately become questions of  
13 fact and looking at the history and what's gone on. And it  
14 may be that when you look at this, it just isn't there. All  
15 right.

16           Now, looking at the unilateral effects side, in  
17 terms of a reduction in R&D activity, I think this morning  
18 and then again this afternoon we talk a lot about the  
19 weaknesses in -- or the inconclusiveness of the economic  
20 literature with respect to the relationship of concentration  
21 and the reductions of R&D, and then the next step whether  
22 these things are welfare producing. It is, of course,  
23 theoretically possible that some mergers will increase R&D  
24 and that could be good. By the same tone, it could be bad,  
25 according to what we have been talking about before. That

1 might happen in particular if there are appropriability  
2 issues that are solved by the merger or perhaps some blocking  
3 patents or some other property rights issues are somehow  
4 removed as a result of the merger, and so those things need  
5 to be taken into account.

6           However, let's take it on an individual basis, it  
7 can also be, I think, the case that the overall amount of R&D  
8 might decrease and one might be able to figure that out from  
9 the facts. Having not participated in enough of those  
10 factual inquiries, I have not much to add to that.

11           Now, I did want to talk a little bit about what I  
12 would call reduction in the quality or diversity of R&D  
13 activity. Mike Sohn mentioned something about the research  
14 tracks and I wanted to again bring I guess to the table a  
15 couple of points that I think are useful in thinking about  
16 what possible and competitive let's say welfare reducing  
17 effects might occur as a result of a merger in terms of R&D  
18 capabilities.

19           Now, obviously -- well, I don't know, maybe it's  
20 not obvious -- to my way of thinking, if the reason that the  
21 merger is taking place is that they want to somehow match up  
22 some complementarities in R&D and other things and that looks  
23 pretty compelling, then I feel pretty comfortable.

24           However, if this is a merger that is not about that  
25 but is about some other -- for some other reason, then one

1 wonders when you take the two R&D departments and do  
2 something with them, what will happen. They may not even be  
3 part of the overall strategic plan for this merger. And one  
4 of the things that could happen, of course, is that you take  
5 these R&D activities, maybe they were pursuing different  
6 tracks, they now might make a decision to eliminate one of  
7 the tracks. They might redirect them.

8           Now, that could be good, for all we know, that  
9 could be a greater focus, more intensity, more exchange of  
10 knowledge, better outcome. Better outcome for following that  
11 track, at least, but I want to suggest that the way companies  
12 may make these decisions, may actually reduce the diversity  
13 in a way that is not so good and it has to do with a lot of  
14 the internal incentives that are -- that go on within the  
15 firm. I would argue that there are direct and indirect  
16 pressures that might actually push different research tracks  
17 that might be contained within one company in the same  
18 direction.

19           Now, what might some of these things be? Well, one  
20 would be that the overall decision maker is making an overall  
21 decision over the entire set of R&D choices and there's  
22 something to be said for we want variance in R&D. Well, I  
23 guess we want a high need, but we want that upper tail, and  
24 one of the things in having a single decision maker might  
25 cause is some conformity or convergence in the kind of R&D

1 that is pursued.

2 In addition to that, a firm usually alters its R&D  
3 in response to marketing, manufacturing, other issues that  
4 come in from other parts of the company. It's not just these  
5 guys in some room -- well, I hope it's not, thinking about  
6 trying to improve the product. And to the extent that these  
7 outside influences impact or should direct the direction of  
8 the tracks, these are going to be the same outside inputs for  
9 both of the now same tracks, let's say, if they're continuing  
10 two tracks in that firm. And that could lead to some  
11 convergence as well.

12 Another piece that goes along with that is to the  
13 extent that a company has a strategic mission or plan and  
14 sees a certain set of core competencies that it wants to take  
15 advantage of, the research tracks in their direction should  
16 respond to what these competencies are. Now that we have put  
17 two companies together, we now have a different set of  
18 competency, which means they may float towards the same  
19 direction, the research tracks might again float towards the  
20 same direction.

21 Okay, having said all of that, and I think there is  
22 a fairly strong literature and organizational theory and  
23 business strategy that will support a lot of this, for  
24 example there's a paper that I recently read by let's see,  
25 Rosenblum and Christensen, that talked about how hard disk

1 drive manufacturers pursued particular disk drives depending  
2 on who their customers happened to be. And the ones who had  
3 locked in the current generation customers tended to not try  
4 to make smaller disk drives that later became useful in like  
5 moving from minicomputers to PC's to laptops, and they were  
6 very much influenced by who they were serving at the time.  
7 So, that would be one of the kind of influences that I was  
8 talking about.

9           Having said all this, the natural question is okay,  
10 if managers -- now that I have said all this -- managers  
11 probably know all this, so shouldn't they somehow design or  
12 organize their company in a way to avoid some of these  
13 problems and I think to some degree, companies have tried to  
14 do that. A lot of companies have tried to take units and  
15 basically isolate them from the influence of the rest of the  
16 company in order to avoid some of the things that I just said  
17 are negative. Of course a lot of companies haven't, a lot of  
18 companies are incapable of doing that.

19           So, I guess that comes down to again a question of  
20 how good are the managers and then there's that question of  
21 should the enforcers second guess that. But I think it's  
22 important to note that things are not that easy in the  
23 corporate world in terms of setting up incentives. And that  
24 when you are under one roof, you have a burden sometimes that  
25 makes it very hard to be equivalent in terms of diversity

1 with two separate needs.

2           There are also some comments I wanted -- I guess I  
3 should just say that having said all of those sort of  
4 negative things, that obviously putting together R&D can lead  
5 to taking advantage of lots of complementarities that can  
6 well overwhelm the kind of things that I just talked about.  
7 Obviously reduction in duplication is very important and  
8 valuable.

9           Okay, the last thing, I just wanted to make a  
10 couple of comments about entry and then we can get to our  
11 discussion. I think with respect to entry, one of the  
12 problems with thinking about R&D and innovation markets with  
13 respect to entry again is the observability question. It  
14 isn't that easy, perhaps, to observe what happens after a  
15 merger takes place. So, as a result, perhaps the firms that  
16 are considering entering, they have nothing more than this  
17 knowledge of these firms merge and maybe that's not enough to  
18 go ahead with. A second problem related to the first is  
19 let's assume a company did enter -- there's some questions  
20 sometimes as to whether the merging companies even knew that  
21 they decided to enter. A lot of this depends upon how much  
22 information is flowing back and forth, but I think it  
23 compounds that issue of trying to -- to analyze entry before  
24 R&D markets.

25           I just stand by again reinforcing I think the basic

1 point, which is unobservability seems to be the key  
2 characteristic and this unobservability means despite a lot  
3 of things that I said earlier, coordination among firms in an  
4 industry is very difficult, and so I would think that most of  
5 the vast majority of the problems would occur having to do  
6 with unilateral effects.

7 COMMISSIONER VARNEY: Okay, thank you, Dr. Yao. I  
8 think we will take a short ten-minute break, and when we come  
9 back, perhaps Professors Rapp and Carlton would like to make  
10 some comments on what they heard this morning or this  
11 afternoon and we will go from there.

12 (Pause in the proceedings.)

13 COMMISSIONER VARNEY: Dr. Rapp?

14 DR. RAPP: These effects are visible, the  
15 uncertainty associated with interference with the research  
16 process when you are already down the road in stage three  
17 clinical trials or something like that, it seemed to me as  
18 though a much lower risk. My advice further is don't use R&D  
19 cutbacks as a synonym for anti-competitive effects. Don't  
20 count too much on specialized assets, unless you can make  
21 that term less elastic, not in an economist's sense of the  
22 word, but it strikes me that there is a -- it was a useful,  
23 an important element in the Gilbert and Sunshine  
24 formalization of the -- of the innovation market approach,  
25 but because it is not rigorously defined, there is a danger

1 that a specialized asset can be found everywhere. Nobody  
2 knows at this moment whether in the next drug manufacturer  
3 down the line a two -- a lab with a two-year lead time or a  
4 six-month lead time could not be defined as a specialized  
5 asset which if the implication is that everybody else  
6 doesn't have one and that's an entry barrier, could lead in  
7 my view to just the wrong outcome.

8           So, I think we have to be careful in our reliance  
9 on that. If you add those considerations that were discussed  
10 in this afternoon's sessions, with my continuing fear of the  
11 danger of false positives that arise in the innovation market  
12 approach, then my advice remains that the innovation market  
13 approach as we now understand it -- a parallel inquiry very  
14 similar to the inquiry that we observed in product markets  
15 where a small but significant reduction in R&D -- a small but  
16 significant increase in price to define product markets is  
17 substituted for a small but significant reduction in R&D to  
18 define innovation market. I must persist in my point of view  
19 that that's an approach that should be abandoned. But I  
20 think the search for -- for competitive effects in correctly  
21 defined goods markets where innovation or R&D is involved  
22 should continue because fundamentally I do agree with  
23 Professor Gilbert and others that dynamic efficiency is an  
24 important, possibly even more important than allocative  
25 efficiency and that it is -- it's appropriate that these

1 should be watched in the context of competition policy.

2 Thank you.

3 COMMISSIONER VARNEY: Thank you, Dr. Rapp.  
4 Professor Carlton?

5 PROFESSOR CARLTON: I will try to keep my remarks  
6 brief because most of what I had to say I said this morning  
7 and the additional material I wanted to say Dr. Rapp  
8 eloquently stated. My basic point this morning was don't be  
9 too quick to trade off certain benefits from an efficiency  
10 enhancing merger in order to get speculative future gains  
11 based on R&D and innovation markets that hopefully will lead  
12 to new products. That doesn't mean I think that R&D is not  
13 important, or that if you can identify such cases, you  
14 shouldn't try to go after them, but that the potential  
15 competition doctrine struck me as a more reliable way to do  
16 it.

17 Hypotheticals are very easy to construct, in which  
18 noncompeting firms merge, yet consumers in the United States  
19 are harmed. The examples that are used like that  
20 hypothetical to justify innovation markets in which U.S.  
21 consumers get harmed are just that, a hypothetical. They  
22 have nothing whatsoever from a logical point of view to do  
23 with innovation markets. I could dream up 100 such  
24 hypotheticals having nothing to do with innovation and simply  
25 mergers are occurring between noncompeting firms and for a

1 variety of reasons, perhaps the firms get re-organized  
2 internally or the like, consumers are harmed in a particular  
3 market, even though there's no competition between the  
4 merging firms. I don't think I would formulate antitrust  
5 policy on the basis of hypothetical examples.

6           What I keep stressing is you must show that these  
7 are realistic examples that arise regularly enough that they  
8 can be reliably predicted. Otherwise, we will be back to a  
9 situation in which everybody will have to examine every case  
10 "carefully," and if I find the exceptional case in which,  
11 even though it doesn't look like these firms are competing, I  
12 can think of some way because Harry is no longer in charge of  
13 the production line that costs are going up, I am going to  
14 enjoin this merger, that strikes fear in my heart because I  
15 don't know a principled way to do that examination reliably  
16 and that is a fear I have.

17           The notion that there are some cases as I mentioned  
18 this morning in which you can identify perhaps -- and I said  
19 rare cases -- who are going to be the firms who are going to  
20 be competing in the future, because, for example, the drug  
21 industry, I think I gave an example because there are special  
22 -- maybe you could call that specialized assets.

23           I want to underscore something that both Dr. Rapp  
24 said and Judy Whalley. It would be hard to define what you  
25 mean by a specialized asset, although Judy mentioned that in

1 the ZF case, it looked to her by what was publicly available  
2 that those were specialized assets. I can assure you from  
3 the point of view of ZF and GM, they did not concur in that  
4 opinion, and as I said this morning, I think the best test of  
5 the value of the doctrine in that case is that right now, two  
6 years have passed, we have developed no new products, I hope  
7 we can continue watching this industry to see if new products  
8 come out. If they don't, we have given up a lot of years of  
9 benefit for not much pay-off.

10 That leads me to another point again, I think it  
11 was maybe Judy or maybe Mike mentioned that one of the  
12 dangers of a new antitrust doctrine is its overuse, and that  
13 is a concern that I am worried about because I would think  
14 that businesses that are merging that have R&D are going to  
15 be worried what in the world is going to be thrown at them,  
16 how can they tell if they have a problem.

17 So, I thoroughly endorse some notion of safe  
18 harbors and again, because collusion is less of a problem  
19 than in an ordinary product market, you might want to make  
20 the safe harbors very safe. The point that this raises is  
21 exactly what evidence you look at when you look at these  
22 cases. If you cannot -- don't have a long enough history for  
23 an industry that you can really get a sense as to what's  
24 going on, what you often are left with is going through the  
25 documents.

1           Now, I don't want to demean going through the  
2 documents, but I am worried about an analysis that only  
3 relies on some memos that might have been written by what  
4 some person thinks they might do in the future. As I think  
5 Mike said, people always get overzealous, perhaps on both  
6 sides, and I would be worried if that was all the evidence we  
7 had to rely on. And I'm sure that if that became the  
8 evidence we relied on, pretty quickly an antitrust counsel  
9 for these firms would make sure that the right memos either  
10 weren't written or were written.

11           COMMISSIONER VARNEY: Would that they could.

12           PROFESSOR CARLTON: And that worries me an awful  
13 lot. So, I guess I would just summarize by saying I think we  
14 should be concerned about R&D, but we should be especially  
15 concerned about our inability to reliably predict when  
16 something will harm competition and let's not give up a bird  
17 in the hand for two in the bush.

18           COMMISSIONER VARNEY: Okay, I have just I think a  
19 couple of very brief questions; and it might even be one-word  
20 answers. Mike, on the unilateral effects, could we do a  
21 potential competition analysis relying on the horizontal  
22 merger guidelines when you've got to?

23           MR. SOHN: The answer has got to be semantics. I'm  
24 convinced that there probably is a set of cases where at  
25 least as they're written the guidelines don't fit

1 comfortably. I can imagine a situation where several years  
2 from a product, but the goal line is clear enough to be  
3 defined and I wonder whether -- I mean that doesn't mean that  
4 I would be concerned about it, actually special  
5 circumstances, but I think it's a sufficient position to take  
6 that the guidelines don't fit comfortably there as well.

7           COMMISSIONER VARNEY: Richard, you looked at this  
8 argument and you are familiar with the thought that the way  
9 we ought to be looking at barriers to entry is not an  
10 arbitrary two-year, whatever period, but more the product  
11 life. What are your thoughts on the product generation?

12           MR. GILBERT: I am vaguely familiar with it. I  
13 know that in the work that Teece and others, Hartman have  
14 done, that they like to think about various product life  
15 cycles, for example, medical diagnostics, medical equipment,  
16 and out comes something new and peaks, and then another  
17 generation passes by it. I don't see anything fundamentally  
18 inconsistent with viewing the world that way and then also  
19 viewing it, I don't see how that is inconsistent with the  
20 merger guidelines view of the world.

21           I will take the opportunity, though, just to make  
22 one main clarification. I don't -- I know a number of people  
23 react to innovation markets analysis as being a -- an extreme  
24 view of we have to be concerned about the hazards of  
25 concentration and the activities of research and development,

1 and I don't view it this way. I view it as a framework for  
2 evaluating competitive effects in innovation, not a framework  
3 for reaching conclusions that certain concentrations are  
4 necessarily anti-competitive.

5           And moreover, I think when you think about research  
6 and development and you think about it in a dynamic  
7 competition in a more dynamic way, I think you must  
8 simultaneously look at the entry side of the picture and  
9 whether you think about that in terms of product life cycles  
10 or just the likelihood of spontaneous entry or drastic entry,  
11 the entry of a major competitor that really upsets the  
12 industry, it leads me to say that maybe our product market  
13 boundaries are fuzzier than we thought they were. Maybe the  
14 linkage between present pricing and non-price aspects of  
15 competition in the product market today is better governed by  
16 the likelihood of entry in two or three years. I think there  
17 are firms out there, I don't have much doubt that there are  
18 firms out there that despite being in a concentrated market  
19 are very concerned that if they don't maintain the pace of  
20 research and development, that a new discovery will come  
21 along, a break-through technology will come along and will  
22 eliminate them. Even if it goes beyond the two-year  
23 guidelines test, and that affects their present behavior, so  
24 I view this as both sides that you have -- if you can look at  
25 innovation and the product concentration side, you also need

1 to look at innovation as a deconcentrating effect that can  
2 neutralize market competition -- concentration as well.

3 COMMISSIONER VARNEY: Okay. Debra, you had a  
4 follow up?

5 MS. VALENTINE: I actually wanted to follow up on  
6 that with you, Rich and Judy, because obviously some of the  
7 reasons -- well, not obviously -- I think each of you were  
8 telling us that there were reasons for thinking about  
9 extending the entry time frame with innovation markets. You  
10 because of this drastic change and Judy because of the theory  
11 of products not coming to market for a while and the  
12 timeliness and sufficiency would nonetheless take place  
13 somehow before we actually had some impact on competition in  
14 the market. What we were hearing yesterday was a proposal  
15 for a four-year time frame in current generation markets  
16 where there -- where the markets are ones characterized by a  
17 fair degree of change, high technology, innovation and  
18 churning. And I guess the real question is would you make  
19 the same arguments for current generation markets like that  
20 or do your arguments that we've heard today for innovation  
21 markets not apply to those current generation product  
22 markets?

23 MS. WHALLEY: I think it's important to go back to  
24 the underlying reason that we're concerned about entry, and  
25 that is because the likelihood of entry is going to deter the

1 competitive effects occurring or erode any anti-competitive  
2 effects that do occur. And picking two years is really  
3 someone's idea of this is a number that purports to represent  
4 the point at which entry will deter the anti-competitive  
5 effect. I think even in the guidelines as written, they say  
6 that in specific markets conditions may cause you to vary  
7 that amount to more accurately represent at what point entry  
8 coming in would have the appropriate deterrent effect.

9           So, I think it's appropriate to look at this issue  
10 and say in a particular market, innovation markets I do think  
11 it may be appropriate to use a longer time period. What I  
12 heard being said yesterday I thought was something very  
13 different, which I don't agree with, which is that you ought  
14 to look to the -- maybe I'm not going to accurately  
15 paraphrase this, but what I was hearing was you ought to look  
16 to the life cycle time because it is the life cycle that  
17 indicates when competition will take place. And if in a  
18 particular industry it takes four years or eight years, but  
19 that's when competition takes place, that's what your period  
20 for entry ought to be because now you're accurately  
21 reflecting competition. I don't see a connection of that  
22 with our reason for being concerned about entry. And that's  
23 why I'm not comfortable with that approach at all. But I do  
24 think adjustments that reflect the ability of entry to deter  
25 anti-competitive effects is appropriate.

1 MS. VALENTINE: I would very much agree that your  
2 theory would still perhaps deter. Okay.

3 MR. GILBERT: I have a real problem, but I'm going  
4 to agree with what Judy says here, but I have a real problem  
5 with the idea that we should not be concerned about anything  
6 that happens if there's going to be entry after four years.  
7 And at the same time, we shouldn't be concerned about any  
8 anti-competitive effects that might happen after five years  
9 because it's too speculative leaving us with a one-year  
10 window from four to five in which to evaluate all possible  
11 anti-competitive antitrust policies or all antitrust  
12 policies.

13 Now, I agree -- I think you stated very well, Judy,  
14 that the merger guidelines can be applied in a flexible  
15 manner here. There are some industries for which the  
16 possibility of drastic entry three or four years from now is  
17 a serious disciplining effect on their current behavior.  
18 There are other industries who could probably care less about  
19 the prospect of that entry. It's not going to change their  
20 behavior one whit.

21 And if there isn't any linkage between those two,  
22 then that disciplining entry, that entry isn't disciplining  
23 anything in the short run and there's just now a present  
24 value calculation of do you care what happens over the next  
25 four intervening years, and I think one should care what

1 happens over the next four years. Even if that's not just  
2 because that's a convenient increment for political life  
3 cycles, or five years or eight years.

4 So, it really is a question of whether or not  
5 there's a linkage between the likelihood of entry, the  
6 magnitude of that entry and its effect on present pricing and  
7 non-price innovation decisions.

8 MS. WHALLEY: Can I ask a follow-up question?  
9 Rich, what do you see as the connection between using  
10 specialized assets to identify participants in your market  
11 and the ability of firms to predict drastic entry such that  
12 it would have a chilling effect on their decisions to  
13 innovate or how much to innovate?

14 MR. GILBERT: They're clearly related, I mean this  
15 is -- there's no magic cure here, so it's not a magic  
16 formula that just because you can recite specialized  
17 instances that you now know exactly what the contours of  
18 entry of competition are going to be in the industry, and I  
19 think I agree with Dick's concerns about that.

20 To the extent that's really what specialized assets  
21 are, the bottom line of specialized assets just says that  
22 there are some firms that are competitively advantaged due to  
23 those assets, and they can't change very much that situation,  
24 they can't change very much -- that situation cannot change  
25 very much over a reasonable time frame, that is the

1 acquisition of those assets is difficult over say a one or  
2 two or three-year time frame. There can always be surprises,  
3 particularly in more basic research.

4 One comment that we kept skirting around this  
5 morning, and I don't know if we focused on it or  
6 communicated, which is that much of innovation competitive  
7 analysis is likely to be relevant in industries where the  
8 innovation is incremental. The break-through technologies  
9 are probably very hard to predict. You don't know if the  
10 next semiconductor measurement technology will come from  
11 x-rays or from optic or from some sort of chemical process.  
12 You don't know which one is going to be the next  
13 break-through. But it might be easier to predict that  
14 someone who is now using optics technology might be able  
15 improve that optics technology for the next generation.

16 So, I think the specialized assets are more useful  
17 to identify those short-run incremental improvements than  
18 they would be for the real break-throughs, who knows where  
19 they are going to come, but break-throughs don't happen all  
20 that often either.

21 PROFESSOR CARLTON: I just want to add that the  
22 issue about the time period and the effect of entry depends  
23 on the term linkages on the demand side and perhaps the  
24 supply side, but on the demand side anyway, is interval  
25 linkages for durable goods versus nondurable goods. And one

1 of the things you want to look at is the size of the market  
2 changes. If every four years there's a big competition and  
3 that's when it was and then in the intervening years nothing  
4 happens, then obviously it's every four years you want to  
5 look at.

6 And for durable goods, since you can delay your  
7 consumption of the item, that may allow a durable good market  
8 to -- in a durable good market entry to have an effect more  
9 immediately than in the nondurable good market, which was  
10 really Richard's point. If you have monopoly power for four  
11 years, then somebody comes in, who cares if you are not four  
12 years getting the monopoly power.

13 COMMISSIONER VARNEY: Okay, notwithstanding your  
14 emanations about hypotheticals, one of the things that we are  
15 going to do is our policy planning staff here is responsible  
16 at least in the first instance for pulling together these  
17 hearings in a way that makes sense for the commissioners to  
18 think about what we ought to be doing down the road, either  
19 in regards to policy or other recommendations. And it's very  
20 helpful for us for staff particularly to be able to pose a  
21 series of hypotheticals and have specific questions. Not to,  
22 you know, come up with the ultimate hypothetical that  
23 disproves you, but to really get a sense of where everybody  
24 is on these issues and to try to figure out where there's  
25 consensus and where there's not.

1           So, what I would like to do now is turn to our  
2 Director of Policy and Planning, Susan DeSanti, and ask her  
3 to run us through some basics on some of the issues that  
4 they've got to get some concrete recommendations for. For  
5 those of you who went to Catholic school, on Friday the nuns  
6 always brought the priest in to answer the really tough  
7 questions and you try to think up the question that the  
8 priest couldn't answer. My personal favorite being "can God  
9 make a rock so big that he can't lift it?" So, that was up  
10 there with the wonderful, my other all time favorite, the  
11 international date line question. You have to receive  
12 communion once a week. You haven't received communion,  
13 you're on a boat, it's one time, you cross the international  
14 date line, boom.

15           MS. DeSANTI: Commissioner Varney, that is a  
16 perfect introduction, because in a sense it is exactly in  
17 those specific factual situations that the hard questions  
18 come to pass and the rubber hits the road.

19           COMMISSIONER VARNEY: There's no priest.

20           MS. DeSANTI: Yes, there is no priest.

21           PROFESSOR CARLTON: Certainly not here.

22           MR. BAKER: That's why God created antitrust  
23 commissions.

24           MS. DeSANTI: That's Jon's version at least.

25           MR. GILBERT: He gathers those rocks.

1 MS. DeSANTI: We can make a rock large enough.

2 MR. BAKER: We will have a minimum on that on  
3 Thursday.

4 MS. DeSANTI: And we will have ours on Tuesday  
5 before.

6 And what I wanted to do was ask some people on my  
7 staff and also Ann Malester, who has been involved in several  
8 of these types of cases, to put some factual hypotheticals  
9 out. I think it's -- one thing I would like to say, I think  
10 it can be very frustrating for people inside the agency and  
11 for people outside of the agency to have these discussions  
12 because there are other facts that make -- that staff and  
13 Commission members may be privy to -- that would make a  
14 difference to how you all think about these issues that we  
15 can't share with you. And similarly, you have experiences  
16 that you can't share with us.

17 And that's why I want to assure you, Dennis, that  
18 many of our hypotheticals are not hypothetical in some sense  
19 or other. They may be facts that we are transferring to  
20 different types of situations, but I was struck yesterday by  
21 the number of people who were saying that well,  
22 pharmaceuticals is really a unique, different, unusual, rare  
23 type of situation. That may be true when you are thinking  
24 about the entire world of possibilities that you may be  
25 presented with, but this Commission has been presented with a

1 number of cases that raised issues in those markets.

2 So, we really have had a lot of time to wrestle  
3 with some intricate and difficult facts. But with that --

4 MR. SOHN: Can I just comment on what Susan said  
5 because it certainly resonated to me from the standpoint of  
6 practicing before you, particularly in innovation markets,  
7 you know, the staff says well, we have called the others in  
8 the industry and your client and the merging firm are one and  
9 two in the race to innovate.

10 Now, how do I verify that? Should I go back to my  
11 client and say I don't think the firm I'm buying is fifth.  
12 And I don't think research is worth very much and that's an  
13 objective view. And they'll give you chapter and verse on  
14 why it is not and why from what they can tell when they go to  
15 see what you and other people are doing in the clinics and so  
16 forth, they think that it's five and not three. This is a  
17 problem that doesn't occur in a goods market, at least not in  
18 that form.

19 So, it does create, it does create, I think,  
20 grounds on which people get unduly cynical, which comes back  
21 to my thought that if you had some clear, as clear as can be,  
22 enforcement policy statement out there, people would have  
23 greater confidence in the process even though we still may  
24 not be able to talk freely about the facts.

25 MS. DeSANTI: I think that's a very good point, and

1 I -- what I would like to do is run through a few  
2 hypotheticals with different people and then go through some  
3 issues specifically that -- and just determine among all of  
4 you where there is consensus and where there's disagreement,  
5 and if there's disagreement, why, in terms of possible  
6 consideration of what kinds of factors could be listed as  
7 relevant to these kinds of issues. And I also wanted to say  
8 that, you know, maybe we can get some customer point of views  
9 -- points of view in the discussion. And maybe we can start  
10 with Ann Malester since she's done some of these cases.

11 COMMISSIONER VARNEY: Can I ask Mike one question,  
12 before you jump in there. It's something you brought up --  
13 that specific example -- that's something that I have had a  
14 lot of trouble with, too. But I think you can go a couple of  
15 different ways here based on the volume of argument that we  
16 have heard in the last two days.

17 One is to say that you really can't measure this  
18 stuff, so be careful when you tread in there. The other is  
19 to say well, what's the best way to measure it? And it seems  
20 to me, and I may be completely wrong here, that there are a  
21 diversity of sources of information when you are looking at  
22 who's number one, who's number two, three, in the industry,  
23 in an industry in R&D. One is the companies themselves and  
24 their internal documents, and often times, you know, we will  
25 find a lot of documents that say this guy is number two, we

1 need to go get them. Other times we will find other  
2 company's documents where they are pretransaction talking  
3 about what's going on in the industry in their estimation,  
4 just their opinion.

5           It also seems to me in the industry like biotech,  
6 we have financial analysts, I mean more than you can count,  
7 both on the west coast and the east coast, you have got  
8 people who do nothing but watch this industry for a living  
9 and have some pretty good -- or not good, but pretty solid --  
10 views on who the industry leaders are.

11           So, it's not in R&D and in specific paths. You've  
12 also got clinical trials and we have access sometimes to FDA  
13 or other documentation on where they think, so I guess my  
14 question is yeah, it's really hard to get a handle on this  
15 and we shouldn't over-rely, I think that we sometimes do, on  
16 competitors staying on any track. I think that sometimes  
17 it's easier to rely on that than it is to keep going on out,  
18 but is the implication of what you're saying, it really can't  
19 be done with any -- it usually can't be done with any degree  
20 of certainty or the way you are doing it -- the way it  
21 appears that we are doing it right now is just is too dicey?

22           MR. SOHN: That's an excellent question. No, I  
23 don't reach the conclusion that it can't be done. To me it  
24 teaches humility and a need to really go only for the very  
25 clearest cases, which is the point that Judy and others have

1 made. In terms of reliance on the various sources that you  
2 can rely on, financial analysts, I personally have always  
3 been cynical about that because what they know they hear from  
4 the various firms. You have one eye on the stock market and  
5 the likelihood that the financial analysts will hear what the  
6 firm wants the market to hear is considerable. So, I would  
7 be careful about that source, although it might be slightly  
8 better than a competitor. I think in a defense industry  
9 context, particularly where DOD is running an R&D program and  
10 critiquing people, pretransaction, as to -- as to where they  
11 stand, if the Defense Department who after all is the  
12 customer takes you through why it ranked merging firms one  
13 and two or one and five, that strikes me as something I would  
14 put some credence on.

15 COMMISSIONER VARNEY: That's a perfect segue to end  
16 on.

17 MS. MALESTER: This morning and sometimes this  
18 afternoon, also, people were talking a lot about different  
19 potential anti-competitive effects and I wanted to try to  
20 talk about one and get some reaction about one that I really  
21 didn't hear any discussion of, which is the effect on prices  
22 when the goods reach the market. And just to take the  
23 hypothetical that Mike Sohn brought up, let's just assume we  
24 have three companies researching for a new vaccine, and two  
25 of them plan to merge and Dennis and Mike were talking about

1 the pluses and minuses of taking one research track and  
2 eliminating it.

3           And clearly there is some debate about that might  
4 be good, that might be bad, but I'm wondering why there  
5 didn't seem to be a concern about the fact that when these  
6 vaccines reach the market, having three firms selling them  
7 rather than two is likely to make the prices of those  
8 vaccines lower. And if people on the panel feel that is a  
9 competitive effect we should be concerned about, is that an  
10 actual competition case, a potential competition case or an  
11 innovation market competition case?

12           PROFESSOR CARLTON: My view is first I think that's  
13 a very good question, in general I am not opposed to  
14 hypothetical questions, I think they are a good way of  
15 testing your theories, but what I think I was reacting to was  
16 maybe the use of the hypotheticals ZF/GM case where we  
17 assumed that ZF was not in the United States when it was, in  
18 fact, and I think those type of hypotheticals aren't -- they  
19 truly are hypotheticals and they give an aura that is an  
20 empirical reality to a hypothetical when there's not.

21           Maybe I was being overly defensive because I was  
22 involved with that case, but I think hypotheticals are a good  
23 way to proceed and I think the question you asked is the  
24 right one. I think that the effect on prices is precisely  
25 the competitive effect you are concerned about, holding

1 constant the quality of the good and the time the good comes  
2 on the market, I am very concerned with the number of firms  
3 that are competing and whether that has an effect on the  
4 price.

5           And if I feel that the price would be lower, that  
6 would be something that I would take into account. I think  
7 the way I would handle that, as I described this morning, is  
8 rather than be focusing on the reduction in R&D, I would  
9 instead be focusing on the reduced output and higher price  
10 that occurs in the future market. That logically seems to me  
11 much closer to a potential competition doctrine in which I am  
12 worried about future firms competing in the future. The fact  
13 that it's in the future in a future product that doesn't  
14 exist today, I understand may be a distinction with how we  
15 usually think about the potential competition doctrine, but  
16 to me as a logical matter it shouldn't be a principal to  
17 distinction, the logic is exactly the same. Competition in  
18 the future among a larger number of firms will result in  
19 lower prices. As long as I can reliably predict that this  
20 product will occur in the future, it seems to me the  
21 potential competition doctrine or the minor extension I have  
22 given to it would be the right approach.

23           MR. SOHN: I agree with all of that. I would just  
24 add that the less clarity there is as to whether there's ever  
25 going to be a goods market, the less we would worry about a

1 price effect in that goods market. And in this hypothetical  
2 vaccine case, people have been looking for many vaccines for  
3 many, many years, and lots of promising R&D programs have not  
4 proved out in clinical. So, I think you need to factor in  
5 that difference.

6 COMMISSIONER VARNEY: Judy?

7 MS. WHALLEY: I guess I would be concerned about  
8 both aspects in that hypothetical. I would definitely be  
9 concerned about the price effects down the line of having  
10 three companies in the market rather than two. I think that  
11 there ought to be room in the law for what I sort of  
12 cavalierly call the potential potential competition case. I  
13 think it's very important in that type of case that some of  
14 the rigor of the potential competition doctrine not be lost  
15 in terms of identifying, you know, that these are the  
16 companies that are the most likely potential entrants and the  
17 reasons why others would not quickly and easily enter. And I  
18 find this specialized asset approach one way to do that. But  
19 I think I would also be concerned about the potential for  
20 loss of innovation -- innovation paths in there and that  
21 there could be an effect, not just a price effect, but also  
22 again depending on the relative position of the third company  
23 and its ability to sort of absorb and take the place of the  
24 company that's being lost, I could imagine innovation effects  
25 in that market, too.

1           PROFESSOR CARLTON: Excuse me, Judy, would that be  
2 different than a potential competition effect in a market? In  
3 other words, you are talking about the quality of the good  
4 and, you know, it's a nonprice competition among the three.

5           MS. WHALLEY: I think that --

6           PROFESSOR CARLTON: I don't know if I am allowed to  
7 ask questions. I'm sorry.

8           COMMISSIONER VARNEY: Yes.

9           PROFESSOR CARLTON: In Chicago everybody asks  
10 questions all the time.

11          COMMISSIONER VARNEY: Only if they are not  
12 hypothetical questions.

13          MS. WHALLEY: I do think that part of this is a  
14 semantic issue. I mean, I said yesterday, and I feel this  
15 really strongly, the important thing is to devise the  
16 analytical tool for figuring out if there is a problem.

17          PROFESSOR CARLTON: Right.

18          MS. WHALLEY: And what the criteria for applying  
19 that are and to make sure that they are rigorous enough to  
20 exclude false positives. And what you call it, whether it's  
21 potential competition case or innovation market case, it  
22 seems to me it doesn't make a lot of difference except as to  
23 the theory of the courts which seems to want to move in  
24 increments and not drastic leaps of innovation.

25          COMMISSIONER VARNEY: Rich?

1           MR. GILBERT: One way to think about this  
2 hypothetical is that we have markets for existing goods, we  
3 have markets for future goods, and then we have the process  
4 of getting from here to there.

5           When Dennis responded, I think the panelists so far  
6 have made very good, very important points, but Dennis said I  
7 am concerned about competition in this future goods market  
8 holding the timing of that product market and the quality of  
9 those products constant. Well, what about the effects of  
10 competition in changing the time at which that product might  
11 be available or the quality of the products that might be  
12 available? It's difficult to predict, but I think Dennis  
13 would agree that it's a factor that goes into this analysis  
14 that's not just a competition of the future product markets.  
15 And suppose I change, I don't know if we are allowed to do  
16 this, but suppose I change the hypothetical a little bit.

17           COMMISSIONER VARNEY: You must be from Berkeley to  
18 do that.

19           MR. GILBERT: Let's suppose that there's going to  
20 be a patent for the vaccine and it's established that there's  
21 only going to be one winner, in which case we know what the  
22 future product market concentration is, it's a monopoly in  
23 this -- well, it's a single firm in this product class. That  
24 might not be a relevant product monopoly, of course, but a  
25 single firm.

1           Now, there might still be an issue, though, of is  
2 it going to be developed this year or next year or the year  
3 after or the year after that. So, it's certainly an  
4 important issue, and I would agree with the analysis that  
5 says you want to look and be concerned about product market  
6 competition in the future product market, but I would also be  
7 concerned about when you get the future product as well.

8           MS. DeSANTI: I would like to change the  
9 hypothetical so that one version is Richard's change, it's a  
10 winner-take- all based on you know there is going to be a  
11 monopolist at the end of it, and then a second possibility  
12 that you have a number of customers coming in to complain  
13 about the likely effects of the merger of the R&D efforts on  
14 product diversity. And there are customers coming in and  
15 saying well, you know, these are different R&D tracks and  
16 typically what comes out of this process are treatments that  
17 may have different degrees of efficaciousness for different  
18 patients. And we're concerned with product diversity. So, I  
19 would be interested in responses on both of those issues.

20           Dennis, you can start.

21           COMMISSIONER VARNEY: Let's go to Dr. Rapp next.

22           DR. RAPP: I think my instant reaction is that the  
23 assumption of customers who can foresee the outcome in a  
24 conventional therapeutic goods market means at least in my  
25 perhaps crabbed interpretation of things that this is a pure

1 merger guidelines issue and that while it might require a  
2 little innovation and interpretation to -- in the writing of  
3 the complaint or something like that, but that there's no  
4 default to the overall mechanics of the innovation market  
5 approach. Unless I'm missing something, I mean, I just see  
6 that the insertion of the customers and the relatively easy  
7 prediction of the outcome once the approvals have been  
8 granted and so forth makes this -- puts this in the  
9 conventional analysis camp as far as I can tell.

10 COMMISSIONER VARNEY: How about for the original  
11 competition that Ann posed, no customers, no monopolist. Are  
12 we in an innovation market or are we in a potential  
13 competition?

14 DR. RAPP: Well, if we are in an innovation market,  
15 I'm nervous about it in other words.

16 COMMISSIONER VARNEY: We knew that.

17 DR. RAPP: Nothing new there, I admit. What I'm  
18 saying is we come back to the issue of timing. The further  
19 we are to have the modified version, the further we are from  
20 an actual goods market in months ought to be a measure of the  
21 humility that is required to even look into the -- to make  
22 the inquiry because what it means is that the odds of doing a  
23 bad thing come closer to 50 percent, the further you are from  
24 that condition.

25 MS. DeSANTI: I would like to pursue that a little

1 bit farther with you. Part of the reason I'm asking about  
2 the customers is we talked some this morning about the degree  
3 to which economic theory gives us a basis for being concerned  
4 about competitive effects. We talked some about the degree  
5 to which there's empirical evidence, I'm interested in  
6 whether as a conceptual matter you would have any -- you  
7 know, regardless of whether it's pursued under potential  
8 competition or innovation market theory -- is there any  
9 reason that you would think that that's not something that  
10 the antitrust agencies should take a look at?

11 DR. RAPP: As a matter of theory, no. In other  
12 words, if I understand the question correctly, I don't think  
13 that there is any reason to absolutely rule that out.

14 MR. SOHN: I'm sorry, Dennis is going.

15 DR. YAO: Let me respond to the initial  
16 hypothetical, I guess I agree with Rich and Judy that one  
17 should look at both the future product market, the price  
18 effect in that market as well as the innovation market, but  
19 let me add a little twist here. Suppose you look at this and  
20 it looks like the price is going to go up in the future  
21 product market. I suppose the parties are going to come in  
22 and argue about efficiencies, they're going to say look,  
23 we're going to get together, there's going to be some  
24 complementary -- complementarities and maybe we're going to  
25 get this thing sooner, maybe it's going to be better.

1           Now, I ask you, how can you avoid dealing with the  
2 innovation market if this is the argument that they're using  
3 to sort of come back? And it may be the case that you can't  
4 completely dismiss the innovation market part from the  
5 product market part because the parties may, in fact, make  
6 the argument that pulls you into making an assessment about  
7 the effectiveness of R&D. Of course, they could be a little  
8 more clever and come in and talk about distribution and  
9 manufacturing differences in order to offset this price  
10 effect, but I wouldn't be surprised if you would hear a big  
11 story about complementarities. And so I think you might be  
12 pushed into this anyway.

13           PROFESSOR CARLTON: I think, though, that that  
14 depends on what you define to be the innovation effect. If  
15 you define that in innovation market, if you define that to  
16 be examining the efficiencies of R&D, again I don't want to  
17 get -- whether we call that, you know, innovation market or  
18 an efficiency in input I think is a detail. When you  
19 distinguish between the innovation market approach and the  
20 more traditional say potential competition approach, I  
21 distinguish between whether you know what products are likely  
22 to be coming out of the R&D process from cases in which you  
23 do not and you have to be making some sort of applications.

24           I think there's a theoretical matter to get to  
25 something you asked, Susan, all the economists and lawyers

1 here would probably agree that hypothetically you can deal  
2 with likely every case if you give me discount rates and  
3 probabilities of assessment. I think the hard question is  
4 when you don't have products that can be reliably predicted  
5 from the R&D, what should you do. That's a hard question.  
6 And I think some of us have come out on the case that it's  
7 too speculative to pursue while others have said well, maybe  
8 there are some exceptions that we can go forward at. But I  
9 don't think say the original hypothetical you posed, I don't  
10 think -- I think you made it simple enough so that you were  
11 keeping constant the time and quality and just were asking  
12 about the price effect.

13 MS. MALESTER: And in this case there was a  
14 specific product that we were looking at. But let's assume  
15 for a second to shift to make it a little more complicated,  
16 and I would ask you to look at that first. Let's take, for  
17 example, the defense industry that we have talked about a  
18 little bit and assume that hypothetically there are three  
19 companies that have put in a lot of their own funds and have  
20 received a lot of Defense Department funds to develop stealth  
21 technology, and at the moment there is nothing yet in the  
22 defense budget for purposes of building a stealth fighter  
23 aircraft or a stealth bomber, but we're assuming that all of  
24 this funding has been done not for the fun of it but because  
25 the Defense Department hears at some point it is going to

1 need a fighter bomber that has stealth capabilities, and  
2 these three firms, two of them decide to merge, today.

3 How would you analyze that? Do you say because we  
4 don't have a product we can identify today, that that should  
5 be the end of the inquiry?

6 PROFESSOR CARLTON: No, I wouldn't say that. I  
7 think I might say that, you know, it's like a  
8 produce-to-order industry. Just because there's not a  
9 product that's specified because the government hasn't asked  
10 for it yet doesn't mean that once they ask for it that, you  
11 know, people wouldn't bid for it. In other words, I think  
12 there's a case for bidding where people have the capability,  
13 you can define a product.

14 It's kind of like let's suppose there are three  
15 builders of homes. Well, I haven't yet specified my home,  
16 but I still would say that they are in competition for the  
17 building of the home that I am going to specify next year.  
18 So, that doesn't -- that's not -- the case I'm worried about  
19 where I knew who has the capability to bid on the project and  
20 I am going to specify, what I am worried about is when people  
21 are doing R&D and it's very hard for me to predict what  
22 products are going to be coming out of that process, at that  
23 stage of uncertainty, I am worried about using innovation  
24 markets to stop a merger because I would be quite unreliable  
25 in my predictions. That's my concern.

1 MS. MALESTER: In the hypothetical I posed and the  
2 stealth technology one, are you still comfortable calling  
3 that a potential competition case or an --

4 PROFESSOR CARLTON: It strikes me as potential  
5 competition in the future for a product the government will  
6 specify, and that when the government specifies the product,  
7 these three firms would bid. And if there are only two of  
8 those firms who are bidding, then that would be a reduction  
9 in the number of people bidding for that product. Whether  
10 that's significant or not would be a separate question, but  
11 that's the question you face all the time where three going  
12 to two is a problem.

13 MS. MALESTER: And is there any problem with  
14 calling that a reduction in actual competition in the  
15 development of stealth technology?

16 PROFESSOR CARLTON: Well, as I understand the way  
17 you set it up, it would be a reduction in competition for the  
18 number of participants who would bid to develop, you know,  
19 the next product the government specifies. I don't know, you  
20 know, I don't know if it matters semantically what we call  
21 it. I think in my view the distinction between what I think  
22 is a minor extension in my mind of the potential competition  
23 doctrine to cover future products that did not exist today.  
24 That I understand. That seems much different than the  
25 innovation approach which is looking at R&D at this time when

1 the products have -- are unspecifiable. That's the  
2 distinction I make between the two.

3 MR. SOHN: Excuse me --

4 MR. BAKER: Excuse me, may I just respond to that?  
5 Do you see a difference in the difficulty in defining the  
6 product market in your two ways of getting at this? That is  
7 what exactly is the product market bounds for five products  
8 that have not yet been specified by the Defense Department?  
9 Don't we have an easier time thinking about what the product  
10 would be if we formed it in the innovation market context?

11 PROFESSOR CARLTON: I thought the question was the  
12 government budget hasn't been specified. We know in one year  
13 they are going to need a new product, we just don't know how  
14 to describe what's in this new airplane and that whatever  
15 they put in it, three firms are the ones who are going to bid  
16 on it. That doesn't seem like a problem I would have  
17 difficulty dealing with under a potential competition  
18 doctrine or the notions that I would associate with that. I  
19 don't think I have to go to an innovation approach for that.

20 MS. VALENTINE: Can I in that context ask the two  
21 litigators who we finally have now -- since all morning the  
22 economists, well several of the economists, were making the  
23 argument that you have just heard Dennis make, that when  
24 there is a nearly or likely predictable future product it may  
25 be best to resort to an extension of the potential

1 competition doctrine? If you went into court on Ann's case,  
2 let's say you have to do Ann's side of the hypothetical now  
3 as opposed to your potential client's side, would you rather  
4 argue a potential competition theory or an innovation market  
5 theory in her stealth hypothetical?

6 MR. SOHN: Knowing what I know about potential  
7 competition precedents, I think I would try something new. I  
8 mean that quite seriously. I think you are going to set up a  
9 lot of hurdles that in the context of the last several shifts  
10 in Ann's hypothetical would be difficult to establish,  
11 although the case where the product is defined would be the  
12 easiest under potential competition doctrine. I think at the  
13 end of the day if the motivation for trying to turn us into  
14 potential competition is so you can come within the rubric  
15 of, is that a line I would rather set out or is that a line  
16 of exercise, I would rather set out what I was concerned  
17 about, define it as an innovation market. I think -- I would  
18 rather think that you come out better on that rather than  
19 trying to cram this into the potential competition  
20 precedents. And I leave to you to decide whether the  
21 precedents are meritorious or not.

22 If I could make one comment on what I think is the  
23 last of Ann's hypotheticals, whereas I understood it the  
24 program hasn't been defined or announced but there's been  
25 some preliminary R&D funding and it appears to be three going

1 to two, it strikes me in that hypothetical, I would be a  
2 little chary about concluding that there aren't other defense  
3 firms with the requisite skill sets who will come out of the  
4 woodwork, given the scarcity of defense projects generally,  
5 once that program is announced. So, I will be on the  
6 competitive effects side and particularly on the entry side  
7 very alert to whether you really have a situation in which  
8 three are going to two.

9 COMMISSIONER VARNEY: Judy?

10 MS. WHALLEY: On the point of would you rather go  
11 in on potential competition or this innovation market, I  
12 think I agree with Mike. I haven't thought a whole lot about  
13 it, but I think you are better off arguing the direct  
14 competition today to innovate and trying to address the line  
15 of customers question by talking about the ultimate effect in  
16 end-use product markets that should bring you within the  
17 rubric of section seven. I don't know whether you can  
18 succeed with that or not.

19 I mean, I think it would be something to see if you  
20 wind up litigating one of these cases, what the court's  
21 acceptance of it is. But I would agree that you are better  
22 off trying it by just laying out the problem and arguing that  
23 that's a current competitive problem rather than this  
24 potential competition in the future market.

25 Can I make a point back on your point about

1 customers and should the Commission be concerned if they hear  
2 from customers who are concerned about the loss of research  
3 approaches. Clearly that's something that should be of  
4 concern, but I'm probably preaching to the choir here, but I  
5 think it's also important to be very careful about that  
6 because it's easier for customers to have, for lack of a  
7 better word, a simplistic reaction to looking at the fact  
8 that company A was doing this approach, and company B was  
9 doing that approach, and gee, wouldn't it be great if we had  
10 both approaches get to market, because the efficacy of the  
11 product might be slightly different for different customer  
12 masses.

13 To the extent that's true, it seems to me in most  
14 circumstances, not all, but most circumstances, the  
15 incentives of the companies are going to be to continue both  
16 approaches. And a concern about the loss of that on the part  
17 of the customers is just the indicator for further  
18 investigation as to what the incentives of the companies  
19 would be. I mean, it may be that the cost of conducting both  
20 outweigh the potential sales to different customer groups  
21 that have different benefits from the drugs, but that's  
22 certainly not a priority of the case. It may well be that it  
23 would be worth it for the companies that they would have  
24 strong incentives to continue both research approaches.

25 MR. SOHN: Could I add a point on that just

1 briefly. I agree with what Judy said about being careful  
2 about which customers you listen to and some having a more  
3 simplistic approach than others. I would give more credence  
4 to sophisticated customers judged by objective standards, to  
5 return to the defense industry for a moment, to me it's  
6 useful to know in a given case how the Defense Department has  
7 allocated its R&D firms -- funds rather. It's not a limited  
8 part for any particular R&D development program. Do you  
9 observe that more often than not they would rather fund the  
10 two firms with what they judge from a distance to the product  
11 to be the most promising programs rather than split that  
12 money five or six ways in the interest of diversity? I think  
13 my sense of it is that it's more likely to be more in the  
14 nature of the former than the latter, but you would have  
15 closer observation.

16 MS. DeSANTI: What I would like to do now is shift  
17 the discussion away some from potential competition versus  
18 innovation markets. I think we have heard a lot on that  
19 issue, but I would like to explore in the limited amount of  
20 time that we have left some of the key issues that I think  
21 have been raised. Mike, I think your safe harbor point is  
22 one of them. Several people have spoken to the issue of  
23 whether economics indicates there's any likely  
24 anti-competitive effect in particular situations. I would  
25 like to clarify some of those issues as well.

1           And finally, I would like to deal with the extent  
2 to which people are saying coordinated interaction is  
3 unlikely various saying coordinated interaction is impossible  
4 and I would like some clarification on those issues. Maybe  
5 we'll take them in reverse order. The coordinated  
6 interaction issue is very interesting, especially in light of  
7 for someone who has sat here for a couple of days and to my  
8 surprise had industry people come in and say well, some  
9 industries, you know, R&D is really observable, everybody  
10 knows what's going on in the R&D.

11           Suppose, assume for a moment, we'll take the Dennis  
12 Carlton approach, assume for a moment that that is actually  
13 the case, that R&D is observable. Then it seems to me  
14 there's less of an issue about whether cheating can be  
15 observed, and maybe this is a simplistic analysis, and you  
16 can jump in and correct me when it's your turn, but you might  
17 still have an issue of how you would go about punishing the  
18 cheating if you observed it. Have any of you considered the  
19 possibility that the coordinated interaction would involve  
20 not just the R&D market, but possibly some other current  
21 markets, current production markets in which these companies  
22 are also competing. So, in other words, if cheating were  
23 observed in an R&D market, could it then be punished in  
24 another current product market? Has anyone considered that  
25 possibility, thought about it at all?

1           MR. SOHN: Wouldn't it depend on the relative gains  
2 from cheating in the innovation market? I mean, if, for  
3 example, you're a relatively small factor in the goods  
4 market, you know, punish the hell out of me, I'm going to  
5 leap frog you to the next generation.

6           MS. DeSANTI: Yes, of course, there could be any  
7 kind of -- any number of factual variations to this, the  
8 question is if the R&D is observable and much of the  
9 discussion about the little likelihood of coordinated  
10 interaction has focused on the fact that our R&D tends not to  
11 be observable and is conducted in secret. If you change that  
12 one fact, to what extent does it change the analysis and move  
13 you closer to a paradigm that you might consider to be  
14 reasonable?

15           MR. GILBERT: Well, it's certainly a key fact and  
16 you would see in terms of these punishments assuming about in  
17 other markets. I mean you see that, for example, airlines  
18 where airline A enters airline B's market, B might respond by  
19 cutting its prices in another market that A -- airline A  
20 depends on and where B is not a big player. So, we get this  
21 mutual interdependence and these cross punishments going on.  
22 So, it's a very important factor.

23           What I find -- I have always found very frustrating  
24 about antitrust policy, particularly on the enforcement side,  
25 is that antitrust policy tends to deal with exceptional

1 cases, the cases that you see often have some bizarre element  
2 to them. And then coming out as a result, coming out with  
3 guidelines that say we're going to give a safe harbor to  
4 three firms or more or we're never going to deal with a  
5 coordinated behavior issue in R&D. Since we're dealing with  
6 these exceptional cases and there probably aren't that many  
7 to begin with, the fraction of those exceptional cases that  
8 might have some further exceptional property you are now  
9 ruling out becomes troublesome.

10 DR. RAPP: I disagree with that, the point in fact  
11 that when you get the cases really bizarre enough then they  
12 go to the Supreme Court. That's the way things seem to work  
13 in antitrust. But I have to say on the other side of the  
14 coin in making reference to a point that Michael Sohn made a  
15 while ago, that there is an element of at least potential  
16 fancifulness about this if we know looking back either in the  
17 case law or in economic history, in the history of technology  
18 of the 20th century, if there are no revealed examples of  
19 this, if we don't see coordinated interaction at the R&D  
20 level, then we have to -- I mean, that's not saying it could  
21 never happen. And the bizarre case might emerge, but it  
22 again, to set up procedures to interdict it becomes  
23 problematic. I can't claim to have made that exhaustive  
24 investigation, but I did take a pass through at least my old  
25 -- the bookshelf in my office that contains the history of

1 technology and while there are good examples around of  
2 technology markets being tied up in one way or another either  
3 through coordination or, you know, patent pooling or  
4 whatever, it's hard to observe examples of the sort of thing  
5 that you are -- of other collusive behavior or highly  
6 coordinated behavior in R&D. So, I'm skeptical.

7 MS. DeSANTI: Let me move to the issue of when  
8 there might be an economic effect, a unilateral effect,  
9 leaving aside the issue of coordinated interaction for a  
10 moment and I'm trying to get at the extent to which people  
11 see evidence beyond the economic theory here as a basis for  
12 agency action. Assume you don't have any cannibalization  
13 issue in a particular market, in other words there are two  
14 firms who are competing for a totally new product, this  
15 totally new product will not cannibalize any of their  
16 existing sales. Is there anyone here who -- but it is a  
17 merger from two to one, okay, and we'll leave aside for a  
18 moment the question of whether entry is possible, I'm just  
19 doing the competitive effects. Is there a unilateral  
20 competitive effect here? Is there anyone here who maintains  
21 that there is no possibility of any anti-competitive effect  
22 from such a transaction?

23 MR. SOHN: You're presuming that no one in the  
24 whole wide world has the same skill sets?

25 MS. DeSANTI: I am leaving that aside.

1 PROFESSOR CARLTON: Could you repeat that, Susan.

2 MS. DeSANTI: I am really trying to focus in on the  
3 unilateral competitive effect. What extent is there support  
4 for a belief that there could be a potential unilateral  
5 effect, leaving aside the substantial likelihood that this is  
6 a rare case that I am talking about and in most cases you  
7 would find indeed that there was entry and lots of  
8 substitution.

9 PROFESSOR CARLTON: Let me transcend the  
10 hypothetical. Two firms merging, two R&D.

11 MS. DeSANTI: Two R&D.

12 PROFESSOR CARLTON: They are not currently  
13 competing, is there the possibility of there being an  
14 anti-competitive effect?

15 MS. DeSANTI: Um-hum.

16 PROFESSOR CARLTON: The answer to that question as  
17 to your cartel question there is always the possibility that  
18 that could occur. Maybe I should stop there.

19 MR. GILBERT: I think to clarify what I think Susan  
20 said, I think she said there's no cannibalization so that  
21 there's no existing product to be cannibalized, but they are  
22 competing in the development of some new product, either one  
23 will get it or the other will get it. Is that right? So,  
24 that's R&D competition to bring this product to market.

25 PROFESSOR CARLTON: I think you could have a

1 hypothetical in which either outcome occurs. There's either  
2 more R&D or less R&D. So, the answer to your question is I  
3 could cook up a theory that would support that possibility. I  
4 just think you -- you know, in answer to your previous  
5 question, too, it's theoretically possible. I think, though,  
6 that I would take some issue with what was said in answer to  
7 the previous line of questions that the exceptional cases are  
8 the ones you see and therefore you should be guarded in  
9 putting forth safe harbors.

10           Because I can think of theoretical examples, as I  
11 said, when noncompeting firms merge in which consumers are  
12 harmed, yet everybody believes, I think around this table  
13 anyway, I would hope, that there are current merger  
14 guidelines where they gave safe harbors. So, if two wheat  
15 farmers want to merge, there's not an exception to this  
16 instance of something is going to happen, it makes sense. So,  
17 that's all I will add.

18           MS. DeSANTI: We'll get to the safe harbor issue  
19 next, because I agree with you that that raises a lot of  
20 judgment call issues as to how would you weigh, you know,  
21 your false positives problems versus a lot of other, but let  
22 me go back to my question. Is there anyone here who in that  
23 circumstance would say that there's no basis for any theory  
24 that this would be a potential anti-competitive effect from  
25 any combination? I want to make sure we're clear here.

1           PROFESSOR CARLTON: That's different from saying  
2 there's no theory from an anti-competitive effect. I would  
3 say there are theories that would justify the opposite effect  
4 and then you ask me does that mean there's support or not,  
5 that's how I would characterize it.

6           MS. VALENTINE: I have a question about the theory  
7 of the economists and I hope you haven't written about that,  
8 Jon, and I think you may have. You all talk about the great  
9 ambiguity theoretically and empirically between concentration  
10 and R&D, but if you let the moderately or unconcentrated end  
11 of the spectrum fall off and you focus on the very high end  
12 of concentration, is there anything more consistent out there  
13 on what tends to happen in the empirical literature when  
14 you've got an increase in concentration and let's say you're  
15 going from two innovators to one, does there tend to be a  
16 reduction in innovation or a sort of slowing of the process  
17 of innovation?

18           PROFESSOR CARLTON: Well, you can go first,  
19 Richard, if you like.

20           MR. GILBERT: I can tell you what the empirical  
21 literature says that I have seen which is the early -- some  
22 of the early empirical literature suggested that while there  
23 was no obvious effect going from relatively unconcentrated  
24 markets to moderately concentrated markets that there was a  
25 reduction in R&D expenditures for a firm going from

1 moderately concentrated to highly concentrated markets.  
2 However, when people go back to these data and adjust for  
3 things like industry-specific effects and then you look at  
4 this cross sectional econometric statistical data then you  
5 tend to lose those relationships and they tend to get swamped  
6 by the industry-specific effects.

7 PROFESSOR CARLTON: All I was going to say is the  
8 quote I made this morning was from a survey of going through  
9 all these studies and they specifically looked at these old  
10 effects that Rich mentioned and basically no one can find  
11 systemic effects anywhere.

12 MS. DeSANTI: And what about when you add into the  
13 analysis should we be looking at things like, say, Michael  
14 Porter's theory of the importance of competition in  
15 innovation or Porter's theory about the importance of  
16 localized competition? I, you know, maybe it's not fair to  
17 call it just theory, it's mixed theory and facts, I guess  
18 some judge would say, but should we also be taking that into  
19 account in making these judgment calls?

20 DR. RAPP: I think the distinction that you just  
21 threw at the end of that question is an important one.  
22 Porter's observations about the sources of competitive  
23 advantage of nations are instructive, but it is -- I think  
24 it's more than casual empiricism on this point, but that's a  
25 very large study where one of the points that he makes more

1 or less by inference after a lot of fact gathering about, you  
2 know, why Italian firms manage to compete on international  
3 markets and other firms do not, is he observes that if you  
4 have aggressive local competitors and if you have  
5 competition, active competition in the home markets, that by  
6 a process that we can all understand intuitively it makes  
7 firms in your home country that must compete in foreign  
8 markets robust. And that contributes to their  
9 competitiveness in some meaningful way, so it's part of that  
10 larger story. That's the way I think we've been  
11 distinguishing theory from fact or from empirical inquiry  
12 here.

13 I would put that in the latter camp and I think to  
14 just try and complete the answer to your question, although  
15 I'll defer to either of the gentlemen on my right, I think so  
16 far as pure theory is concerned, I think you can even when  
17 you -- when the numbers are -- Debra's question, even when  
18 the numbers are small, you can make it happen either way. You  
19 can have in highly concentrated markets you can make the --  
20 with the change in the assumptions you can change the  
21 outcomes.

22 DR. YAO: With respect to going from Porter to  
23 something more general, I think that the case studies are  
24 very important, they often times are the source of  
25 identifying interactions that later one can find to be more

1 general when one takes them to other industries. The fact  
2 that you may at this point be left with a number of case  
3 studies that tell you something doesn't mean that you haven't  
4 learned something. It's just that you haven't gotten to the  
5 point where you can apply it more generally. You don't  
6 understand it fully, but it's often the case that this is the  
7 source for it was a later good idea that gets shown to be  
8 correct through a more extensive cross-industry analysis or  
9 these segmental industry analysis.

10 MR. BAKER: Since Michael Porter's analysis has  
11 come up, I would like to pursue it for a second even though  
12 it's a little bit of a tangent here. Dennis, you talked a  
13 while back about the way professionals are going to  
14 Forty-niner's games and talking to each other.

15 MR. SOHN: He said it's possible.

16 MR. BAKER: Those aren't your clients, Michael.

17 MR. SOHN: You never know, Jonathan.

18 MR. GILBERT: Those come apart now.

19 COMMISSIONER VARNEY: Jonathan, they may be  
20 potential clients.

21 MR. SOHN: Incremental gains.

22 MR. BAKER: It was heard a lot today -- I'm going  
23 immediately after this to close down the merger between the  
24 wheat farmers, Dennis, it's over. So, the professionals are  
25 going to bars in San Jose.

1           PROFESSOR CARLTON: I have to see if they've paid  
2 me yet. You've insulted them.

3           MR. BAKER: The terrific wonderful things that they  
4 are learning, et cetera, et cetera, and the point is, and  
5 Michael this is the lesson, Michael Porter -- one of the  
6 lessons Michael Porter seems to draw from some of his  
7 anecdotes about localized competition is that when  
8 efficiencies are near each other, innovation spills over  
9 quickly and it spurs aggressive competition among neighboring  
10 firms. And the striking anecdote that is repeated again and  
11 again in different ways in parts of the book is that the  
12 world class firms of this industry that are all located  
13 within two blocks of each other in some small town in rural  
14 Italy -- and it's a bit of a tangent, but it is and it isn't  
15 a tangent from what we are doing. What do you all make of  
16 this? Is this something we should be paying attention to?  
17 Should we be protecting localized competition? Should we  
18 think it's efficiency when they acquire a localized  
19 competitor because they suddenly have access to these  
20 spillovers and should we be concerned when localized  
21 competitors merge? What do you all make of that?

22           DR. RAPP: Let me start the ball rolling with a  
23 quick comment that if I had to guess without really knowing,  
24 a lot of it has to do with hiring people without making them  
25 move long distances. So, you really don't have to talk in

1 bars or in football stadiums, you just have to hire one  
2 another's scientists or professionals or something like that.  
3 And if that's what it's all about or part of it is what it's  
4 about, then there is some price at which they move further  
5 and further and further. So, I don't think it -- I mean,  
6 that's the way I -- I would analyze the problem that you are  
7 raising.

8 MR. GILBERT: It's also the case that only in  
9 Silicon Valley does the local heavy metal rock station run  
10 adds for gallium arsenide field effect engineers, so there  
11 are certain labor market firms.

12 PROFESSOR CARLTON: I think your question could be,  
13 I am asking a different question, and that is that when you  
14 have what are called -- these are called agglomeration  
15 economies that you economists used to study, maybe now it  
16 comes back in fashion, now the economists are on to  
17 agglomeration of economies, but I think your question is  
18 this:

19 If there is an agglomeration and there is going to  
20 be a merger involving a large firm that takes resources from  
21 the center and presumes moving them to Europe, should you be  
22 concerned because of the reduction of agglomeration economies  
23 in the United States? And that strikes me as a difficult  
24 antitrust -- a difficult policy question for antitrust  
25 authorities to get into, because it's presuming that there

1 are externalities in other markets and now you are looking at  
2 the related effects having to nothing to do with the  
3 restriction of output in the particular merging market, but  
4 you are looking at the ancillary effect. So, there's a  
5 theory of these are technical firms second best which  
6 basically means that if all of the markets aren't perfect and  
7 you do something about one market and it affects another  
8 market, welfare effects get hard to question, to figure out.  
9 So, let me give an example.

10 If there were a merger of tennis manufacturers and  
11 they jacked up the price of tennis rackets, that would effect  
12 the demand for tennis balls. We usually in merger analysis  
13 don't look at what's happening in the supply and demand of  
14 tennis balls and that I think is what your question goes to.  
15 I would be kind of nervous going down that route.

16 DR. YAO: I think one of the questions is whether  
17 or not we have evidence of case studies that are basic --  
18 that would look like Porter but turn out with very different  
19 outcomes. And unfortunately I don't know the literature, so  
20 I can't tell you, but if one did I think one could really  
21 learn from that because one could try to figure out what's  
22 common and what's not. And a handful of examples is good,  
23 but --

24 MS. DeSANTI: I have two last questions, one more  
25 competitive effects question, which is suppose you have a

1 merger going from three to two or four to three, leaving  
2 aside the possibility -- and this is an R&D merger, okay,  
3 leaving aside the possibility of coordinated interaction, is  
4 there a theory of unilateral -- anti-competitive competitive  
5 effects there, and if so, what is it?

6 PROFESSOR CARLTON: I think this is the same  
7 question we asked earlier when you were going from two to one  
8 and that is can you think of a theory, is there a theory that  
9 would provide the result that when you go from three to two  
10 things get worse in the social welfare. And I think the  
11 answer to that is yes, there's a theory that conversely, if I  
12 tweak a few of the assumptions that are hard to verify, you  
13 can get the opposite results, so I think it would be the same  
14 answer.

15 MS. DeSANTI: I take it the basic answer is  
16 economists are creative.

17 PROFESSOR CARLTON: Can be.

18 COMMISSIONER VARNEY: Good question.

19 PROFESSOR CARLTON: It's a broad innovation market.

20 COMMISSIONER VARNEY: I see Professor Gilbert is  
21 going to have to leave.

22 MR. GILBERT: The questions are getting difficult.  
23 I have a plane to catch.

24 COMMISSIONER VARNEY: We will take your answer as  
25 innovation market analysis would work in that situation,

1 whatever the question, right?

2 MR. GILBERT: Absolutely.

3 COMMISSIONER VARNEY: Thank you so much, we enjoyed  
4 having you.

5 Susan, you have the last question?

6 MS. DeSANTI: The last question is simply the same  
7 safe harbor issue that Mike raised. I would like to hear  
8 from each of you as to how you would approve that idea. You  
9 have a number in mind, let us know what number you would  
10 think about, and if you don't have a particular number in  
11 mind but you want to say what you would rate most well, that  
12 would be useful.

13 MR. SOHN: Can we all write on a piece of paper?

14 MS. DeSANTI: Then I get to draw it out and we all  
15 guess which answer belongs to who?

16 COMMISSIONER VARNEY: Mike, do you want to  
17 elaborate since it was your proposal?

18 MR. SOHN: No, there's not much more there. The  
19 basic thought was that three was a number to start thinking  
20 about, not simply because Bill Baxter used it, although he's  
21 very thoughtful on these issues, but because of any  
22 noneconomic distinction that these effects of concern are  
23 considered to happen in innovation markets, and there ought  
24 to be therefore a more liberal safe harbor than we have in  
25 the current merger guidelines.

1 COMMISSIONER VARNEY: Judy, what do you think?

2 MS. WHALLEY: Well, I note in my article that the  
3 standard by Baxter had was three which I also found  
4 appealing. I think that that's appealing if you are to try  
5 to do some sort of coordinated effect analysis, but I also  
6 think it's appealing in the unilateral effects, but that  
7 there's obviously some further questions to be asked and the  
8 critical question to me is what are you proposing that you  
9 are losing by the merger? Are you losing alternative paths?  
10 Are you losing incentives to innovate quickly? That could  
11 make a difference, what your concern is in that particular  
12 market could make a difference in terms of how many other  
13 people you would want to have.

14 The second one sort of goes back to the  
15 differentiated products unilateral effects analysis in the  
16 merger guidelines about repositioning. And it seems to me  
17 that an important question is of the remaining person or  
18 persons in the market how able are they to reposition? Is it  
19 necessary that they reposition in order to replace the  
20 competition that's lost from the merger, and that would  
21 affect whether there's enough. Or four, I mean, I think  
22 that's a very market-specific question.

23 COMMISSIONER VARNEY: Do you want to comment,  
24 Professor Carlton?

25 PROFESSOR CARLTON: I really don't have much to add

1 to what's been said, other than presuming that you go forward  
2 with an innovation market concept, I think a safe harbor is  
3 very desirable.

4 COMMISSIONER VARNEY: Okay.

5 DR. YAO: I have sort of a nonanswer. Absent  
6 having a lot of facts of, you know, what you have seen, it's  
7 very hard to know, for me, personally, whether there's a good  
8 number or four is a good number or what.

9 The second thing is three or four in what market?  
10 We haven't actually solved what's the market, and that makes  
11 a huge difference as to whether three is sensible or four is  
12 sensible or what not. And finally, as a matter of policy,  
13 putting out something and then finding out that you are  
14 wrong, you're kind of in an awkward position. Starting with  
15 nothing right now, granted you've got a problem in terms of  
16 guidance, but you have to just consider you could find out  
17 that you're wrong. Of course you might not because you've  
18 decided it's a safe harbor, so you never investigate it.

19 MR. SOHN: But Dennis just challenged that last  
20 statement, I mean the fact is that the agencies are bringing  
21 these cases. And we may agree as a panel that there's an  
22 insufficient empirical basis for them, but if they are going  
23 to bring them, at a minimum it seems to me that they have  
24 some obligation to say what they are doing, and if they feel  
25 that even as an overtly tentative matter, until we know more,

1 they are going to establish a safe harbor, and I think that  
2 would aid certainty.

3 DR. YAO: I think certainty would be a good thing,  
4 particularly with respect to the analysis. And secondly, if  
5 it's understood that it's somewhat conditional, I think that  
6 would be all right with me, too.

7 COMMISSIONER VARNEY: I think that's hardly ever  
8 understood. Dr. Rapp?

9 DR. RAPP: I wish to end up being a hard case, as I  
10 have been throughout. The safe harbor necessarily implies a  
11 well-defined market, and in this case in using the innovation  
12 market approach, it seems to me that that is sufficiently  
13 problematic, so that I can't see myself advocating any sort  
14 of a kind of compromise safe harbor for the sake of creating  
15 certainty when the market definition process is an uncertain  
16 and imperfect world in my view.

17 COMMISSIONER VARNEY: Anything else? Well, I thank  
18 you all for these thoughts. If you have any further thoughts  
19 on the subject we have raised this afternoon, please feel  
20 free to send us a note and we will take it into account. I  
21 again thank you all for coming, I know some of you traveled  
22 great distances and we really appreciate it. It's been very  
23 enlightening, and tomorrow we will be talking about  
24 efficiencies in these markets.

25 I think Commissioner Starek is going to lead us

1 through those discussions, and we will pick up tomorrow  
2 morning. Thank you all very much.

3 (Whereupon, at 4:30 p.m., the hearing was  
4 adjourned.)

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## C E R T I F I C A T E

DOCKET/CASE NUMBER: P951201

CASE TITLE: HEARINGS ON GLOBAL AND INNOVATION-BASED  
COMPETITION

HEARING DATE: October 25, 1995

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the notes taken by me at the hearing on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: October 25, 1995

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SIGNATURE OF REPORTER

Sally Jo Bowling  
(NAME OF REPORTER - TYPED)