UNITED STATES FEDERAL TRADE COMMISSION

and

UNITED STATES DEPARTMENT OF JUSTICE

SHERMAN ACT SECTION 2 JOINT HEARING

ACADEMIC TESTIMONY

WEDNESDAY, JANUARY 31, 2007

HELD AT:

UNIVERSITY OF CALIFORNIA AT BERKELEY

2220 PIEDMONT AVENUE

WELLS FARGO ROOM

BERKELEY, CALIFORNIA

9:30 A.M. TO 4:30 P.M.

Reported and transcribed by:

Kathleen Carr Meheen, CSR 8748

MODERATORS

Morning Session:

WILLIAM E. COHEN

Deputy General Counsel for Policy Studies

Federal Trade Commission

and

JOSEPH J. MATELIS

Attorney, Legal Policy Section

Antitrust Division, U.S. Department of Justice

PANELISTS

Morning Session:

Aaron Edlin

Joseph Farrell

Howard Shelanski

MODERATORS

Afternoon Session:

KAREN GRIMM

Assistant General Counsel for Policy Studies

Federal Trade Commission

and

JUNE K. LEE

Economist

Antitrust Division, U.S. Department of Justice

PANELISTS

Afternoon Session:

Timothy Bresnahan

Richard Gilbert

Daniel Rubinfeld

Carl Shapiro

C O N T E N T S

MORNING SESSION (ACADEMIC):
Introduction 5
Presentations:
Joseph Farrell 9
Aaron Edlin 27
Howard Shelanski 38
Moderated Discussion 52
Lunch Recess 83

AFTERNOON SESSION (ACADEMIC):
Introduction 84
Presentations:
Timothy Bresnahan 87
Richard Gilbert 106
Daniel Rubinfeld 124
Carl Shapiro..... 144
Moderated Discussion 158

P R O C E E D I N G S

* * * * *

MR. COHEN: Good morning. I'm Joe Cohen, Deputy General Counsel for Policy Studies at the Federal Trade Commission and I'm going to be one of the moderators at this morning's session. My co-moderator is Joe Matelis, an attorney in the Antitrust Division at the U.S. Department of Justice.

Before I start I'd like to cover a couple of housekeeping rules. First, as a courtesy to our speakers, please turn off your cell phones, Blackberries, anything that might ring or clang or make noise.

Second, because these are set up as in a hearing structure, we request that the audience not make any comments or ask any questions during the session. We have to limit it to the moderators and the panelists.

Before introducing our speakers and starting our panel discussion, I would again like to thank the University of California at Berkeley for hosting the FTC/DOJ Section 2 hearing sessions yesterday and today. In particular I'd like to thank Howard Shelanski, once again, Richard Gilbert and Carl Shapiro for offering us the facilities and making the necessary arrangements.

I'd also like to thank the Berkeley Center for Law & Technology and the Haas Business School for

providing the facilities, videotaping, web casting, etc. And those who have provided us with logistical support, Bob Pardue and others, I thanked you all once already, but thank you again.

We're honored to have assembled this morning a distinguished group of the finest lawyers from the University of California Berkeley to offer their testimony in connection with these hearings. They will provide their perspectives on various themes and issues related to the complex area of Section 2 jurisprudence, including some research and economic analysis.

We've gathered seven panelists for today's sessions. Four will talk this afternoon and three will be our morning panelists.

This morning's panelists are Aaron Edlin, the Richard Jennings Professor of Law, University of California Berkeley; Joseph Farrell, Professor of Economics at -- right here at the University of Berkeley, and Howard Shelanski, here, Associate Dean and Professor of Law and Director of the Berkeley Center for Law and Technology.

Our format this morning will be pretty simple. Each speaker will make an opening presentation from twenty to thirty minutes. After the presentations are finished, we're going to take a break, probably for about fifteen

minutes, and then we'll come back, reconvene, and have a moderated discussion with our panelists.

We're scheduled to conclude this morning's session at approximately noon. So, we look forward to hearing from our panelists.

And before we begin, the last group that I want to thank are the panelists themselves. We appreciate the time and effort and your willingness to share your insights with us to make this a successful hearing.

I'd now like to turn to my DOJ colleague, Joe Matelis, our co-moderator, for any remarks he'd like to add.

MR. MATELIS: Thank you, Bill.

The Department of Justice's Antitrust Division is very pleased to participate in today's single-firm conduct hearings. We are delighted that such esteemed panelists have agreed to share their views with us today.

And the Antitrust Division takes particular pride in noting that five of today's panelists have served in the Antitrust Division as Deputy Assistant Attorneys General for Economics.

We expect that today's panelists will discuss a wide range of topics that arise in evaluating single-firm conduct and antitrust laws and we look forward to the presentations and the panel discussions that follow.

On behalf of the Antitrust Division, I would like to take this opportunity to thank the Berkeley Center for Law and Technology and the Competition Policy Center at the University of California Berkeley for hosting us today.

Also on behalf of the Antitrust Division, I'd like to thank Joe, Aaron and Howard for agreeing to volunteer your time and share your insights with us. It's a great public service that you're doing and we're very appreciative.

Finally I'd like to thank Bill and his colleagues at the FTC for all their hard work in organizing today's panel and assembling the great speakers that we have lined up today. Thank you.

MR. COHEN: Our first speaker is going to be Aaron Edlin, who has taught at Berkeley since 1993. He now holds the Richard Jennings Chair and professorships in both the economic department and the law school. He's served on the economic side as Senior Economist at the Council of Economic Advisers during the years of the Clinton Whitehouse. He is co-author with Professors Areeda and Kaplow of one of the leading casebooks on antitrust and he has published many articles dealing with competition policy and antitrust law.

Aaron?

MR. EDLIN: Thank you. Let's see how we get to the slides.

MR. COHEN: And yesterday we had the representative from Microsoft [laughter].

MR. EDLIN: Maybe we could switch speakers?

MR. COHEN: I am going to introduce Joe Farrell, then.

Joe is Professor of Economics here at Berkeley. He's a Fellow of the Econometric Society, former Editor of The Journal of Industrial Economics, and former President of the Industrial Organization Society

Professor Farrell was Chief Economist at the Federal Communications Commission in 1996 to 1997 and was Deputy Assistant Attorney General for Economics at the Antitrust Division of the Department of Justice from 2000 to 2001. From 2001 to 2004, he served on the Computer Science and Telecommunications Board of the National Academies of Science.

Joe

MR. FARRELL: Thank you. So, who am I and why am I here? We've just heard who I am. Why am I here? Because I've drifted into antitrust from economics. I think that's true of a lot of the people here. And one of the things that's most striking is that the whole unilateral conduct field seems to have drifted a long way

from first principles. And it's unsatisfying to me and I worry that it leads to bad policy.

So, what I'd like to do is to try to bring us back to some first principles. Because the field has drifted so far from first principles, it's not even clearly I think understood exactly what those first principles are. And I'm going to put forward a suggestion about what they might be.

The suggestion I'm going to put forward is one that distinguishes quite importantly between the final goal of antitrust, which I think most of us agree is and should be economic efficiency, and the protections and the process involved in antitrust enforcement. And it does not logically follow that, just because the final goal is economic efficiency, each case should be analyzed or each transaction should be analyzed along the lines of economic efficiency.

Just to give you a simple example, if I go into a store and take an iPod off the shelf and put it in my pocket and walk out, that's typically illegal if I didn't do more than that. And it's illegal even if I can show by thoroughly convincing evidence that my economic value for the iPod exceeds the store's replacement cost. In other words, it was an efficient transaction for me to steal the iPod. Well, that doesn't cut any ice in law enforcement

as I understand it and probably shouldn't. And the economic market system that we have operates by enforcing the property rights of the iPod. And that enforcement does not look directly at whether the enforcement is in the instant efficient or not. And I'm going to claim that antitrust often does something rather similar, okay?

So, before I get to the first substantive slide with the provocative title "Analyze This," let me say that, as I understand it, the fundamental of antitrust is that you are not supposed to restrain trade. That doesn't mean you are not supposed to restrain your own trade. People often comment that it's all right to restrain your own trade. What you're not meant to do is to restrain other people's trade.

And you might ask, well, how can you possibly restrain other people's trade unless you actually tie them up or something. Well, it turns out that there are techniques by which a firm might be able to restrain others' trade. And those techniques it seems to me are the core problems.

So, that's all setup. Let's come to my purely hypothetical example, "Analyze This." So, let's think about the airline market. An airline that I've called Northeast Airlines offers a five hundred dollar fare. And it's the only airline that's in that market, so consumers

buy it. No better deal is available.

An entrant that I've called Sprite would happily sell at three hundred dollars a similar product. Consumers would prefer that deal. So, why doesn't it happen? Well, it doesn't happen in this instance because everybody recognizes that if Sprite enters and offers the three hundred dollar deal, Northeast will cut its price to two hundred dollars. And Sprite is unable to make a profit competing against the two hundred dollar fare.

So, Sprite anticipates that, doesn't enter, and consumers continue to pay five hundred dollars.

So, before we get into, well, what law might it violate and what policies are there and so on, I'd like to observe that something is clearly wrong there. And let's delve a little bit in a first principle kind of way into what it is that's wrong there.

What's wrong I would argue -- and this is based on discussions that Aaron Edlin and I have been having over a pretty protracted period of time. What's wrong is that Sprite's willingness to sell at three hundred dollars, which consumers would prefer to the status quo, ought to block Northeast's ability to charge those consumers five hundred dollars. In other words, Northeast ought not to be able to extract five hundred dollars from consumers, given Sprite is willing to sell them the product for three

hundred dollars. Okay.

And you might think that normally in a competitive process, whatever that means, not only ought it to block it but it would. And here it doesn't. And what are the mechanics of how it doesn't.

Well, the mechanics we just went through. Northeast, intentionally or not, thwarts Sprite's and consumers' joint wish, given Northeast's five hundred dollar price, to trade at three hundred dollars. And the way that that works is that if Sprite came in it would not have to compete against five hundred but against two hundred, and it can't compete against two hundred.

I am saying nothing yet about what's illegal. I'm just saying this is an instance of something going wrong in the competitive process.

So, stepping back, and here are some first principles, okay. Economists study by and large two approaches to economic efficiency. And there's a little bit of a disconnect, I think, between the formal material that you spend a lot of time banging into the undergraduates' heads in the microeconomics classes and the way that professional economists typically think about real world problems.

What we spend the most time with undergraduates on is that you can get to an economically efficient

outcome via price-taking perfectly competitive equilibrium. Okay. However, it's sort of obvious that the price-taking equilibrium, whether it would be efficient or not, is unrealistic and unobtainable in many sectors of the economy that are of antitrust concern. If nothing else, large economies of scale make that a nonstarter.

And it's also interesting to note that antitrust doesn't just move cautiously, but I would say proudly eschews many opportunities to move toward price-taking equilibrium. So, in particular, if you have a legitimate monopoly, quote, unquote, there is no attempt to try to force you to do anything that's closer to price-taking behavior. And not only is that potentially difficult and problematic to do, but antitrust seems to take the attitude, it's difficult, but we wouldn't try even if we thought we could do it. Now maybe that's a little controversial, but that's my impression.

The second approach to economic efficiency, which is less juicy material for teaching undergraduates because it has less of the mid-level mathematics that seems to appeal to those who teach undergraduate micro classes, but is actually probably more important, is based a little bit on the Coase theorem, that's kind of the extreme expression of it, or in formal economic terms is often called the core

of the economy. And that's the idea that if there is some inefficiency, then there's some group of people, possibly unmanageably large but possibly not, that would have an incentive to contract around it. Okay. And therefore we think about just how difficult would that be, and if it wouldn't be all that difficult, then we predict that the inefficiency will either go away or won't be all that big.

So, for example, it's not exactly an inefficiency but it's a problem for the consumers that Northeast is charging such a high fare, and there are inefficiencies that go along with that.

So, Sprite and consumers jointly would like to contract around that high fare. And the question is: Why doesn't that happen?

So, just to give you a little bit of jargon so as to make you feel that there's real substance to this talk, what economists call the core of an economy is a set of possible outcomes such that no group of consumers and firms could find an alternative that's better for all of them. Okay. And the core contains only outcomes that are economically efficient, of course, because if you have an outcome that's inefficient, then the grand coalition, as we call it, that is, the set of all consumers and firms, could all do better by doing something else.

Of course that's not a very realistic process to

imagine everybody getting together. But, conditional on knowing that something inefficient is not in the core, we have a reasonable shot at finding a smaller and more manageable blocking coalition.

What's a blocking coalition? A blocking coalition is a group of consumers and firms that can all do better than the status quo given their endowments and abilities to trade and so on.

So, in parallel, if you like, with the competitive equilibrium analysis, we have core analysis. And it suggests a rather different process. Instead of suggesting a process where we kind of hammer on the economy until most firms are somewhere close to price-taking, okay, and which, as I mentioned, is not actually feasible in many important sectors of the economy, it suggests a process where we protect the ability of these blocking coalitions to work around any inefficiencies.

So, a perspective on antitrust is this: That antitrust protects the process of forming blocking coalitions that block bad outcomes. And how does it protect that? Antitrust is -- it says certain things are illegal. What sorts of things are illegal? Well, at some level, things that thwart the formation of blocking coalitions that would otherwise prevent bad outcomes.

VThat's three negatives, which is a very large number of negatives, okay, but that's the way it is, okay.

So, the last bullet, just to remind you, not all contracts of course are protected by antitrust. Some of them are illegal, so there's a little bit of a thorny issue there, but I'll just note that in passing.

So, back to the Northeast and Sprite example, Northeast is getting five hundred. Sprite and consumers would all be better off trading at three hundred. So, that's a blocking coalition that tells us that the five hundred dollar fare is not something that would survive in the core. And, in particular, there's this particular blocking coalition. And Northeast, and, again, I am not saying whether they do it on purpose or it's a natural outcome of the way the market works, but thwarts the blocking coalition by making clear that if the blocking coalition tries to form, Northeast will block that in turn with the two hundred dollar fare.

So, how do we assess Northeast's price cut from five hundred to two hundred dollars? It seems to me there's a very difficult and fundamental tension here. In the instant, that is, if Sprite has actually entered and is charging three hundred, Northeast then does cut its price to two hundred, and the two hundred kind of is then the outcome that we're looking at, well, that seems like

part of the competitive process as I've described it. We had this three hundred dollar outcome. Northeast is forming a blocking coalition with consumers to block it with a two hundred fare.

However, in its ex ante impact, the prospect of this two hundred dollars thwarts the formation of Sprite's blocking coalition against Northeast's five hundred dollars. So, depending on which way you look at this, it genuinely is at some level somewhat part of the competitive process and somewhat a fundamental undermining thwarting blocking of the competitive process. Okay.

Well, that's a pretty fundamental tension. How are we going to deal with it? I don't know exactly. I don't even know approximately. But one thing that's pretty clear I think out of this discussion, knowing what Northeast's costs are doesn't tell you anything very relevant. Knowing whether Northeast made in any sense a sacrifice with this price cut in some actual or but-for sense isn't really relevant or doesn't seem to be relevant. Okay.

So, there's a difficult question here. And the specific rules and policies that have come to dominate the law on this kind of behavior don't look as if they're going to be of any help because, of course, until we actually work our way through and figure out what the

right answer is, you don't quite know what will be of help.

So, what does this suggest about predatory pricing. It suggests most fundamentally that predatory is an adjective that doesn't apply to the level of price. It applies to a pattern of pricing. And, in particular, it applies to a pattern of pricing such that the price that the entrant expects to have to compete against is very different from the price that consumers actually end up paying.

So, is Northeast's price cut primarily a blocking coalition to Sprite's three hundred that's the essence of the competitive process, or an out-of-equilibrium threat to thwart consumers and Sprite from blocking the five hundred. That I think might be the essence of an antitrust offense. Okay.

So, one way to answer this that is sensible seeming but a little bit ad hoc, departing a bit perhaps from first principles, but perhaps not, is to say, well, you sort of want to look at how stable that two hundred dollars is. If that's really what you've arrived at and now you are there and you're going to sort of stay there, then that's sort of how the process is meant to work. We had originally five hundred, then three hundred, now we've got two hundred, and we've got there and that's good.

Certainly good for consumers.

If, on the other hand, what happens is mostly that consumers really end up paying five hundred and they only pay three hundred or two hundred in the rare and short-lived cases where Sprite makes a mistake and enters, then that seems like a failure of the process. And, again, it doesn't seem to me that there's much prospect that sacrifice tests or cost tests are going to be very helpful here. So, we don't know until we sort of figure it out.

So, this suggests to Aaron and me a principle we call freedom to trade. It's a nice phrase, but we mean it. The incumbent is restraining trade when given its pricing, etc., etc., etc., and there's a blocking coalition, a potential blocking coalition, that would make all its, that is, the blocking coalition's, participants better off, but the incumbent strategically thwarts the formation of that blocking coalition.

So, we saw one possible way in which the incumbent might thwart the formation of a blocking coalition, threatening that if that coalition starts to form, then the price it charges will change.

Another way you might do that is through some kind of divide-and-conquer strategy that says, offer particularly favorable deals to some pivotal members of

this blocking coalition while expropriating others. I don't want to get into the game theory of how it can work and how it can fail. The fact is it can sometimes work, but the point I really want to stress here is, when it can work, it seems like that is really disrupting the competitive process.

Now, notice that none of this, according to my suggestion of what the competitive process is, none of this asks, well, just how unpleasant is it for Northeast if Sprite comes in and takes away its customers. And that would be an important aspect of a direct inquiry into economic efficiency. Right? Because if Northeast actually has very low costs, and if demand is fairly inelastic, then having Northeast charging five hundred dollars might be more efficient than having Sprite come in and serving customers.

And I claim that Northeast thwarting this entry would be a thwarting of the competitive process without asking about that. Okay? So, as I said in the beginning, it seems to me that if we're looking at the formation of blocking coalitions as the process whereby we move towards the core and that's what's economic efficiency, when we talk about the formation of blocking coalitions, we don't insist in the interim that they actually have to increase efficiency. Instead, we know that if you allow the

formation of blocking coalitions without that inquiry, that process, when it settles down, will get you to something that's in the core and therefore really is economically efficient

So, it seems to me that that captures a lot of the spirit of the competitive process, that we're protecting the process of forming blocking coalitions. We believe that in the long run that will lead to economic efficiency and it is not necessary and may actually be counterproductive to ask about economic efficiency at each step.

That does not mean that I'm advocating a consumer surplus criterion. Instead, I'm assuming that the final criterion is actually economic efficiency. At each step, we do actually look at what consumers want because it's presumed, I guess, that if an entrant is willing to offer consumers a better deal, then the entrant likes the formation of this blocking coalition. So, the question becomes: Do consumers also like it. But the fact that there's a sense in which we're looking at consumer preferences at each step, does not at all imply that the final goal is consumer surplus.

So, that freedom to trade principle is, we think, an intriguing and promising way to understand antitrust starting -- or a lot of antitrust, anyway,

starting from first principles. How far does it get you? It gets you to understand, or at least understand the difficulties in some cases, like the hypothetical I was talking about and some others. But there's a huge range of unilateral conduct that gets challenged in antitrust that it really doesn't directly help you to understand. And let me sketch this out

And in order to help this, what we're going to do is to introduce a different phrase, also a good phrase, "level playing field." So, the observations is that freedom to trade is potentially at risk where the entrant has to compete against the low price, but consumers actually pay a high price. That is the case in my Northeast/Sprite hypothetical. And I am going to say that the playing field is level if those prices are equal. That helps us understand, perhaps, predation, divide and conquer, exclusive dealing and so on.

But, in the case of many challenged practices, if the incumbent were simply to go away, consumers would not be better off. So, a frequent allegation involves the incumbent being asked to stick around but just do something different.

So, you can put a lot of unilateral conduct complaints into the following framework. The incumbent is offering two trades to consumers, not as alternatives

typically. I'm going say a price of one hundred dollars for Product A and a price of five dollars for Product B. And the discrepancy there is meant to reduce confusion about which is which. Okay?

And as a potential blocking coalition, sort of, when entrant and consumers enter B at a price of three dollars. In other words, there's somebody out there who would love to supply B for three dollars, but the entrant simply can't do A, so the incumbent is a monopolist in A. And the incumbent says, using one technique or another, if you want to buy my A, you have to buy my B, or more generally links A to B. Okay.

So, the incumbent might refuse to trade in A if the customer deals with the entrant in B, or it might raise the price of A from a hundred to, let's say, a hundred and ten, which would swamp, of course, any gains from buying B at three instead of five. And given that we're assuming that there's a monopoly in A, by the way, that may well not involve a big profit penalty for the incumbent.

Now, if you look in B, it should look like freedom to trade is violated and certainly the playing field is not level. But in A and B together, there isn't a potential blocking coalition. Nobody but the incumbent, I assume, can do A, and consumers don't want to just get

the cheaper B and not get A. So, if you take the freedom to trade criterion strictly, there is no potential blocking coalition, so there can't be a risk that the incumbent is thwarting a potential blocking coalition.

And really what this comes down to is: What's the right unit of analysis. Should we be looking at A and B together? Should we look at B separately? What should we do?

By the way, I tried to avoid using the term "market" in talking about A and B because there's no particular reason to think that A and B will be defined in the usual way of antitrust markets.

So, just to illustrate this, in case it's getting a little too abstract, a few of the traditional boxes, so if A is the tying good, B is the tied good, and the incumbent is somehow linking trade of the tied good to trade of the tying good.

Exclusive dealing, A is a bunch of widgets that the consumer wants to buy, and B is other widgets, maybe it's a different date or maybe just more of them today or maybe a different place or something.

If you look at aftermarkets, A might be the original equipment and B might be service to the equipment.

So, in all of these cases, it's not uncommon for

there to be someone who wants to make a better offer in B and is stymied by some sort of linkage with A.

So, what have I learned from all this? The setup and the going back to first principles has, at least for me, clarified the goal and the technique of antitrust. I've come to think that, although price-taking equilibrium does conduce to economic efficiency and is typically a good thing, and is certainly not inconsistent with analysis of the kind that gets us towards the core, nevertheless the latter is more fundamental to the ideas of antitrust than is price-taking equilibrium.

I also think that it's important to understand, and I have made some steps in my own mind at least to understanding, that protecting competition as a process is potentially, and I think actually very different from imposing on each step of the process a requirement that has to increase, let's say, economic efficiency, if you think that that's the final goal.

Trying to go much beyond that, based closely on first principles as I've been trying to do, turns out to be quite thorny. Okay. And I think there's a lesson in there, which is it reinforces what you might already have known or believed, which is a lot of the rules of thumb, rules of law and policies that govern unilateral conduct in antitrust has emerged from the kind of slightly vague

process that hasn't really linked them very tightly to first principles.

So, to me, it reinforces that these are thorny issues. The positive message is, at least for me, it brings the thorns into sharper focus. And the particular thorn that I think is pervasive here and is brought into sharper focus is when, how, in what circumstances, in what ways can one in some sense require the incumbent to hold fixed its offer in A, and then we analyze level playing field or freedom to trade in B.

Is that always illegitimate? That would be a strict interpretation of freedom to trade as the only criterion. Is it always legitimate? That would be the opposite, I guess. Or is there something in between?

Ideally, based firmly on these same first principles. So, it's not a question of saying, well, let's consider a hypothetical and figure out what we intuitively think. But I'd like to work towards getting there in a way that's closely linked to these first principles.

Thank you.

(Applause.)

MR. COHEN: Where are we, Aaron?

MR. EDLIN: I will after the break, or any time I think, be able to project the slides.

MR. COHEN: Okay, should we then go on to Howard?

MR. EDLIN: No. I am ready to present,

MR. COHEN: Fine. We're now going to turn to Aaron Edlin.

MR. EDLIN: Look at that, okay. Great progress. Let's do the show.

So, the title is, "Sacrifice, Extreme Sacrifice, and No Economic Sense," three criteria that have been bandied about a lot recently and increasingly over the past two decades.

After the colon, the title is: "The case against these necessary and sufficient tests for monopolization."

So, of course the big question, the $64,000 question in Section 2 is: When is exclusion anticompetitive and when is it not? The easy case that we all understand, presumably, as to how to answer is, if a monopoly excludes competitors by consistently charging low prices, well that is anticompetitive. It's the essence of the competitive process. It's good for consumers.

What that example goes to prove, however, is that we need something other than exclusion to be anticompetitive. So, the question is: What plus exclusion is anticompetitive. The "what" is clearly not

consistently low prices. The question, though, is what the "what" is.

And three possible whats have been, as I said, bandied about a lot of late. They all are basic sacrifice tests. The basic sacrifice suggested in "Aspen" and "Trinko" is foregoing profits now or in one line of business to make more later or in another line of business as a result of lessened competition.

There is of course another variant, which is extreme sacrifice, which comes more directly out of predatory pricing, and you see it applied in "Barry Wright" and "American Airlines," which is that the test is really about actually losing money, not just not making as much as you could, pricing below cost and losing money to make more later or in another line of business as a result of lessened competition.

More recently, Greg Werden and Doug Melamed put forward, and a DOJ "Trinko" brief puts forward a no economic sense test, which is that the action makes no economic sense but for a lessening of competition.

These sacrifice tests are on the move, or have been on the move. In one sense from pricing cases to non-pricing cases. My reading is that they began and were first advocated in the predatory pricing context. Thanks to "Areeda and Turner" and "Willig." And they later

spread to non-pricing contexts. Thanks, for example, to "Aspen," "Trinko" and "Covad."

They've also been on the move from sufficiency once other elements are shown, which is to say, from something that's helpful in making a case to something that's necessary for the plaintiff to make a case. So, in "Barry Wright," we see that there's been no violation, where above cost, where the pricing is above cost, which says that extreme sacrifice is necessary in pricing cases.

The DOJ "Trinko" brief advocates the no economic sense test as necessary. "Covad" assumes that sacrifice is necessary. Doug Ginsberg writes, "'Covad' will have to prove Bell Atlantic's refusal to deal caused Bell Atlantic's short-term economic losses."

Scalia's "Trinko" interpretation of "Aspen," which I think is a bit revisionist, is that Ski Company sacrifice is necessary to violation. And Werden and Melamed have quite explicitly argued that no economic sense is the unifying principle of Section 2 violations.

My fundamental contention which I've been arguing for years is that sacrifice is not needed for anticompetitive effect and frequently not needed.

My "Yale Law Journal" article argues that this is true for what I call above cost predatory pricing. And if you think that below cost is part of the definition of

predatory pricing, then what I mean is above cost pricing that is exclusionary and anticompetitive. There I explain how consumers can be hurt by threats to lower prices, much as Joe Farrell explained, even though prices will remain above cost, and perhaps even though prices may be profit maximizing.

I ask rhetorically: If sacrifice is wrong headed in the predatory pricing context, why are we extending it to non-pricing cases? Consider "Aspen." Now, suppose, as I think is likely, that Ski Company's refusal to sell at retail prices to Highlands increased Ski's retail sales to skiers. What I'm thinking there is that it certainly is conceivable, perhaps even likely, that when Ski Company refused to sell at retail to Highlands, what that meant was that, sure, they sold a couple less tickets as part of Highlands' adventure packs. However, on the other hand, what likely happened was that the consumer decided, or many of them did, that they would buy a whole week of skiing at Ski Company. So, there may have been no sacrifice there of profits, even though they refused to sell at retail.

But would that mean that the refusal was any less exclusionary or anticompetitive? I think not. The "Aspen" court didn't just rest on what I think is a shaky notion of Ski Company's sacrifice, but they also

emphasized what they took to be consumer harm, the revisionist claims of Trinko about "Aspen" notwithstanding.

Another case or set of cases where I think it's fairly clear that sacrifice is not necessary for anticompetitive effect are submarine patents. If you seek a patented process into an industry standard, that may not involve sacrifice of any kind that I can see. But that fact doesn't make it a good thing to do.

Many people have been talking about an extreme case where Firm A blows up a competitor's plant. Now, Werden and Melamed, and fellow travelers with them, emphasize that this isn't a problem for them because the cost of the dynamite triggers liability. There is a sacrifice; you had to pay for the dynamite. And that is what triggers liability and means that there's no economic sense to blowing up your competitor's plant but for the lessening of competition, which justifies the cost of paying for dynamite.

Like Joe Farrell, I don't -- this reasoning doesn't grab me and I feel a great suspicion that the cost of the dynamite could really be important here. But one way of saying that is to change the hypo. What if Firm A is avoiding a dump fee by deposing of surplus dynamite in this way. If they didn't blow up the competitor's plant,

they would have had to pay a dump fee to dispose of the dynamite.

Well, now I gather that the dynamite has a negative cost. So, according to the no economic sense test or the sacrifice test, there should be no liability. Well, this just can't be. It can't be that it should hinge on that. This suggests to me that the sacrifice test is not looking at the right thing.

If the sacrifice test is not looking at the right thing, neither is extreme sacrifice. Extreme sacrifice, that is losses, are certainly not needed for anticompetitive effect. Consider the American Airlines case brought by the DOJ unsuccessfully. The judge thought there that the extra plane was profitable if you ignore effects on other planes. I suggest that everyone reread footnote 13 of that case over and over and over again if you think that the extreme sacrifice test might make sense, as the judge did.

Marginal revenue, as every economist and econ 1 student knows, is less than price. For firms with lots of market power, which you might think are one of the focuses of Section 2, marginal revenue is much lower than price. What that means is that monopolies with lots of market power can sacrifice enormously without triggering the extreme sacrifice test. I think, as I pointed out

previously, it is very ironic to give such firms a license, such a license, such a grand license to exclude.

Let's go back and consider the case of blowing up your competitor's factory. Could it be a violation only if the dynamite is so expensive that its cost exceeds Firm A's operating profits? It seems outlandish to me on its face, but the extreme sacrifice test says yes.

And I'll point out that in that case, firms with large profits have a substantial and much larger license to blow up their competitors than other firms. Rhetorically I'll ask why.

Consider the no economic sense test. Does that make sense? Well, apply it to limit pricing. Consider a firm that could charge a high price and make lots of money, for a while anyway, but this firm chooses a low price, less profitable for now. Why? In order to delay or prevent entry.

Suppose there is no economic sense in charging this low price before there is entry, except that it prevents others from entering. Well, the no economic sense test condemns that limit pricing. But note that that's the essence of competition. It's what I had as the easy case on slide two.

Werden doesn't apply the test here. Instead he grants a safe harbor for charging the low price.

Now, if your test would condemn this case and so you have to make an exception and grant a safe harbor because it's so obvious that this is procompetitive, I'd suggest that the test is not getting at the fundamentals. This smells bad to me.

Back to blowing up the competitor's factory, a la "Conwood" discussion, Werden, page 425. Proponents of the no economic sense test emphasize again that the cost of the dynamite makes it illegal. As I pointed out, costs might be negative in the dump fee hypothetical.

My claim would be that blowing up your competitor's factory is anticompetitive regardless of the cost of the dynamite, regardless of whether it has a negative cost, a small positive cost, or costs more than the operating profits, regardless of whether you pass the no economic sense test.

The fundamental problem in my view with all these sacrifice tests is that these tests don't flow from any kind of first principles that are attractive. They don't flow from consumer welfare or from efficiency. They also don't flow from a notion of how the competitive process would work, for example, a process by which rivals can offer consumers - by which rivals who can offer consumers higher utility actually get to provide that higher utility.

The tests don't flow from any other principles I've been able to discern from reading about them.

Now, when someone like me points out that there are many cases where the tests are not satisfied but the action is anticompetitive, what you quickly bump into, both in the commentary and in the cases, is a refrain about false positives. It's a chorus. Fears and claims about these false positives abound. However, I'd suggest a modern example that I can put forward are pretty scarce.

A common argument is that you need a hurdle to avoid these false positives. So, sacrifice is not needed for anticompetitive effect, but the plaintiffs should be required to show it anyway, in order to prevent an avalanche of cases from chilling legitimate competition.

To me, when I hear that, I wonder, why not just tax plaintiffs, if that's the goal. Or, if you really want to eliminate these false positives, you could eliminate Section 2 entirely, or you could eliminate Section 2 for any plaintiffs whose name begins with A through M, then you get rid of half the false positives.

Erecting arbitrary hurdles because the right test is difficult to administer properly is, I would argue, wrong-headed. What commentators should do, and ultimately courts, is seek, as best they can, the right test.

Now, once you've sought the right test, if administrative difficulties truly make false positives a bigger problem than false negatives, and there is not all that much discussion by the refrainers about false negatives, there is an answer which doesn't involve arbitrary hurdles or abandoning the right test. You could raise the standard of proof in that case. You could improve jury instructions. You could create procedural hurdles like "Dauber" to require rigorous evidence. We have a number of those. And, again, I think you'll find that modern examples of clear false positives are pretty rare.

What are my conclusions? That patience is needed. We should be searching for the right standard, or at least better ones, and that administrative difficulties don't justify arbitrary tests. And too often they have been used to do so.

Thank you.

(Applause.)

MR. COHEN: Okay. Our last presenter this morning is Howard Shelanski, Professor of Law at Berkeley here, where he is also Associate Dean and the co-director of the Berkeley Center for Law and Technology. His research focuses on antitrust policy and regulation.

On the economic side, from 1999 to 2000,

Professor Shelanski served as Chief Economist of the Federal Communications Commission, and in 1998 to 1999, he was a Senior Economist to the President's Council of Economic Advisers at the White House.

On the law side, Professor Shelanski served as a clerk to U.S. Supreme Court Justice Antonin Scalia.

We welcome your presentation.

MR. SHELANSKI: Thanks very much, Bill. I'm really happy to be here. And I want to make a presentation that at least in some aspects will connect to what my colleague Aaron Edlin was just talking about, in the sense that it may give some insights into how to choose among different kinds of tests for enforcement under Section 2.

And I want to speak specifically about enforcement in the area of unilateral refusals to deal, an area that has, I think, become particularly challenging in the wake of the "Trinko" case.

And the broad point that I want to make is this: That at the same time that the Department of Justice and the Federal Trade Commission are reviewing enforcement policy for Section 2 of the Sherman Act, there are parallel efforts ongoing, indeed some undertaken in recent years by the Federal Trade Commission, to rethink and reform intellectual property rights, and particularly to

reform it in a way that makes it harder for firms to use intellectual property to foreclose competition with weak or questionable IP rights.

And I think that the potential outcomes of IP reform could matter for aspects of antitrust reforms, and notably for policy toward unilateral refusals to deal.

So, my main point is that, in thinking about Section 2 enforcement, and in particular thinking about unilateral refusals to deal, antitrust reform efforts should not ignore intellectual property reform processes

So, I have a general suggestion, which is that antitrust authorities should keep an eye on IP reform and take into account how it might affect enforcement policies under Section 2. Not a terribly original idea in broad. Louis Kaplow in 1984 wrote a very nice paper talking about how antitrust and IP should be thought of as part of an interactive system. But I also want to talk about specific conjecture and, as we get further along, you'll see why I refer to it as merely conjecture, which is, if IP reform is likely to reduce the strength or availability of intellectual property protections, antitrust authorities might consider enforcing less strictly against refusals to deal.

Now, let me try to explain why. Under "Trinko," there is a presumption against requiring a firm to deal

with competitors. Now, there are many things one can read into "Trinko". "Trinko" adopts a very strong line against duties to deal for firms in the unilateral context. But "Trinko" did preserve "Aspen". Very interestingly, "Aspen", which is a hard case to teach to students and in many ways a hard case to explain. "Aspen" is a case that imposed a duty to deal.

I agree with Aaron Edlin that Justice Scalia engaged in some revisionism by finding profit sacrifice in that case, but inherently what "Aspen" says is, if there is nothing that you gain by refusing to deal, then we are going to assume that what you gained is a reduction in competition that inures to your benefit. That's one way of looking at it. But "Aspen" still exists after "Trinko". We have a strong presumption articulated in the "Trinko" decision against imposing duties to deal.

The question that's left for the antitrust agencies is the following: Okay, where do we impose the duty to deal or not. So, I want to talk a little bit about some policy issues that might arise, some background issues, and then talk about how IP reform might affect the answer to that question of what standard to use in imposing a duty to deal.

Well, the first thing that we need to keep in mind of course is that only some refusals to deal cause

anticompetitive harm. There are many cases where refusals to deal will cause competitive supply to enter the market, would cause a firm to invent around the refusal to deal or to innovate or produce something itself.

Mandatory dealing in cases where there isn't anticompetitive harm could impede investment and innovation by the firms being forced to deal. So, that's an argument one often hears. If you go back to some of the previous rounds of these hearings, Former Assistant Attorney General for Antitrust Eupate has some testimony saying exactly this, if you force firms to deal, they're not going to innovate. There's some interesting counter argument by Professor Steven Fallon that suggests the evidence for such innovation deterrence is thin. But we have to at least keep in mind the possibility that mandatory dealing could impede investment.

I think that one of the bigger concerns is that enforcement of a duty to deal might reduce competitive innovation and production not by the firms being forced to deal, but by other firms in the marketplace or by the would-be buyer, by creating a quasi-regulated purchase alternative.

So, "Trinko" takes into account all of these possibilities, that there isn't a lot of -- that there are many refusals to deal that are not anticompetitive and

imposing a duty to deal in fact may have consequences to justify its presumption against the duty to deal. But "Trinko" does not necessarily mean refusals to deal are evil per se.

So, refusals to deal can have anticompetitive harms. And we would not necessarily want to exempt those refusals to deal from enforcement.

Now, I want to suggest that one necessary condition for such harm is that competitors and third parties face economic barriers to providing the goods at issue or that competitors and third parties face legal barriers to providing the goods at issue.

And I would suggest we should not impose duties to deal in goods for which economic or legal barriers to competitive supply do not exist. There you get very little pay off and you may creat some deterrent effects to innovation either on the supply or the demand side.

But what about refusals that could be anticompetitive, for which there are economic barriers or legal barriers. There are several standards that we could use to identify those situations and to decide whether or not to enforce a duty to deal.

So, one thing we could do is to say, listen, we should have per se legality for refusals to deal. This is in the spirit of "Trinko", it's a strong reading of

"Trinko", but it's a very clean line and we avoid any risk of deterring innovation on either the supply or the demand side.

Alternatively, we have a range of rule of reason approaches. And I'm just going to very simplistically phrase them as potential consumer welfare tests, the kind of tests that Professor Salop proposed in an earlier round of these hearings; a business justification test, which Kolasky suggested in that same round; and a profit sacrifice test of various stringency, ranging right up to a no business sense kind of test of the kind that Doug Melamed has articulated.

Then we have the old line essential facilities approach, which as Justice Scalia tells us, the Supreme Court has never adopted. One could quibble about what "Onertel" means, but there is some precedent certainly in the Appellate Court for the essential facilities approach, notably in the Seventh Circuit.

So, how should the Justice Department and the Federal Trade Commission choose among these various approaches? Well, I don't much like the per se legality approach because per se legality fails to block cases where the only effect is anticompetitive. And while often justified on the grounds of preserving the refusing firm's innovation and investment incentives, there isn't clear

evidence that that is [unintelligible]. And I think you're likely to have poor welfare effects here.

I don't much like the essential facilities approach either because it does ignore some legitimate business justifications. And I think that it may too easily allow access and deter innovation and investment by the buyer or the third parties. And more -- of great concern is it requires a quasi-regulatory solution.

While I fully agree with my colleague Aaron that we should not let administrative difficulties justify a bad test, we shouldn't ignore administrative difficulties in the test that we actually choose to administer. And there's some hard pricing questions that emerge any time that we follow the full essential facilities test as it's been articulated in the appellate courts.

Well, this leads to the rule of reason alternatives. And I'm not going to exactly say which rule of reason alternative I think is best. I think we've heard a lot of very interesting and provocative arguments for the specific nature of the test.

I want to oversimplify by assuming that if you took all of the rules of reason tests that are proposed that you can differentiate them along a spectrum from relatively strong enforcement to relatively weak enforcement. In other words, they can be differentiated

according to the likelihood that we'll find conduct to be anticompetitive by how strictly they would enforce against refusals to deal and how likely they would be to impose a duty to deal.

So, the policy for the courts and the antitrust agencies I think may be how stringent or generous the rule of reason test to choose for judging refusals to deal. I think that IP rights, intellectual property rights, might affect the answer. And here's why.

Intellectual property rights are a primary source of legal barriers to competitive provision of goods that an incumbent refuses to sell to rivals. We heard in the testimony yesterday from some of the company witnesses, notably QUALCOMM and a couple of others, that they're very concerned about any rule that might require them to deal in particular ways with their intellectual property. Intellectual property rights grant them a legal ability to give them the ability to impose a legal barrier to invent around to innovations that would replicate their invention, and therefore gives power, creates an effect out of their refusal to deal or refusal to deal on particular terms.

But, logically, any reduction in the strength and availability of IP protections could reduce the pool of goods for which there are legal barriers to competitive

supply. There is an empirical question buried in here that I will return to at the end. But I think that IP reform could therefore affect the frequency with which refusals to deal weaken the conditions for being anticompetitive, in turn affecting the likelihood that enforcement of the duty to deal was warranted.

So, what's the benefit of a more discerning intellectual property policy if IP reform reduces a firm's ability to use IP protections to block competitive supply and innovation, then IP reform can limit the need for rule of reason exceptions to Trinko's presumption against mandatory dealing with rivals.

Now, one might say, okay, fine, why not have intellectual property reform and a fairly liberal duty to deal. Won't that unblock lots anticompetitive refusals to deal.

Well, both intellectual property reform and duties to deal aim to reduce barriers to competitive supply and innovation, but I think that their individual welfare effects may not be additive if they're undertaken together.

Suppose that we do not have IP reform and that there is some good that is being used anticompetitively to block competitive supply. The duty to deal can increase welfare with no risk of deterring investment or innovation

by the would-be buyer or third parties. The would-be buyer or third parties could be blocked by an intellectual property barrier to competitive supply or innovation, and so requiring that the refusing to sell or deal doesn't block any innovation on the demand side by the would-be buyer or by third parties. It might deter innovation and investment by the incumbent. That is something that we need to think about.

With reduction of legal barriers through IP reform, however, the duty to deal now can undermine new competition and innovation, reducing welfare. So, the firm that is refusing to deal and the good that is protected by intellectual property, if they now have a weaker intellectual property right, we might want to say, well, let's not make them deal because now there's an invent around or a replication that didn't exist before.

So, IP reform raises the likelihood, whether to any significant level is another question, but it raises the likelihood of false positives in antitrust enforcement through imposition of a duty to deal where the conditions for anticompetitive harm as a legal barrier do not hold.

So, let's take a little bit of a closer look at the implications of IP reform for Section 2 reform. There are several kinds of proposals for intellectual property reform that could bear on the effects of refusals to deal.

There's just some broad examples

There are proposals to raise the bar for patentability: better pre and post grant opposition procedures; more transparent review, both in initial grant and post grant of patent grants or annuities.

There are also proposals to reduce consequences of patentability: a narrowed patentable subject matter, for example, cutting software out of patentable subject matters; expanded research exceptions and reduced presumptions of harm in injunction proceedings which might push parties to the bargaining table; and limit refusals to deal. And these are proposals that can be found in the National Academy of Sciences' proposal, in the Federal Trade Commission's report of a couple of years ago; in draft statute that floated around in 2004; and in a variety of ongoing documents one can find these proposals.

So, the effects of these proposals would likely be to make fewer goods subject to IP protections and to make those protections less expansive. Some of the most prominently discussed IP reforms, and I think this is the important point, would reduce the ability of incumbents to foreclose competitive provision of goods through the exercise of intellectual property rights.

Depending on circumstances, these refined IP protections could have varying effects on incentives to

deal. The reduced ability to foreclose competitive innovation through the enforcement of an intellectual property right might make an incumbent more eager to sell to rivals because it would expect greater competitive entry in the relevant property market than existed pre-reform, and the incumbent may therefore want to take the sales for itself for as long as it can.

Alternatively, an incumbent may be less eager to deal if the sale to others would raise the speed or likelihood of competitive entry compared to what would occur if it keeps the good to itself.

And which of these incentive effects occurs would depend very much on the nature of the good, the degree to which the selling firm is vertically integrated. There are a number of questions that are factored in.

But I think on the whole refined intellectual property could reduce the incidence and the impact of refusals to deal. It is true that refined IP protections could reduce the willingness to deal with rivals by reducing an incumbent's ability to block replication of or innovative alternatives to its technology. But I think this effect is most likely where the goods involved are easy to reverse engineer and replicate. And these in turn, I think, are the goods where refusals to deal would be less harmful because the would be-buyer or others will

eventually be able to market.

So, on the whole, I think we'll find intellectual property protections should either reduce incentives to refusals to deal, or reduce the long-term effects of refusing to deal by opening the door to competitive supply and innovation.

So, what are the implications for Section 2 reform? The latter effect, competitive reinvention or replication of the goods at issue in a refusal case should be preserved. Antitrust reform should not impede a competitive reinvention because they should not provide an alternative or option to competitive entry or invention or innovation where it is feasible to occur.

So, I think that if intellectual property reform reduced legal barriers to competitive production of the relevant good, Section 2 should be less willing to require the incumbent to deal. Broad exemptions to the "Trinko" presumption against mandated dealing could create a quasi-regulatory alternative to buyers that is unnecessary and unhelpful to economic welfare.

So, that's some questions to investigate before we know whether intellectual property reform is actually going to matter.

Several key questions. First of all, how likely is IP reform and to what extent will it refine the

consequences of IP protections for competition. I think to question these efforts are under way. They're very political and very contentious. What will emerge from them is unclear. I think something will, but I think it's hard to know exactly what.

The next question is really an empirical one and I think lies at the core of what I'm suggesting today: How much of a problem with refusal to deal stems from IP protected goods for which the barrier to competitive supply is a legal one rather than an economic one that stems from scale or something else. If not much, then the considerations I'm suggesting can be put aside as Section 2 reform proceeds. But if a lot, even if only in particular industries or markets, then refusal to deal policy should recognize the welfare and complexities that intellectual property reform might introduce.

And the final question is: What effects will applied intellectual property protections have on the incentive of incumbent firms to deal with rivals. I think that's an interesting question to investigate.

So, I have some tentative conclusions.

The rule of reason approach for refusals to deal has potential advantages over either per se legality or the essential facilities test.

The policy problem is to decide how strict a

test the courts and agencies should apply in assessing the reasonability of refusals to deal with rivals. And the potential results of intellectual property reform may be a relevant consideration in that choice, with more refined intellectual property rights weighing in favor of less strict enforcement against refusals to deal.

Thank you.

MR. COHEN: Thank you very much Howard we're now going to take a break for roughly fifteen minutes.

(A brief recess was taken.)

MR. COHEN: Fine. Before we begin our questions and round-table discussions, I think a way to start this second session would be to give each of our speakers a few minutes to respond to or comment upon some of the issues that were raised by the other panelists.

You can go in whichever order you prefer. We do ask as a reminder to speak into the microphone so we can get this transcript.

MR. SHELANSKI: I'll start because I expect collusion over here on the right.

So, I really enjoyed Aaron's and Joe's related presentations and I think that they are both in the core respects correct. I do have just a couple of observations or comments.

So, one suggestion I would make is if you take

Aaron's presentation and Joe's presentation and put them together, you could take them as saying that, if a firm cuts price in response to entry, one test is that it is not acting anticompetitively, it's in a safe harbor if it keeps its price low.

And I just wonder -- the question I would have or the thing I would ask them to consider is whether their proposals, as compared with other tests that are typically used in this area, would increase the ability of competitive firms already in the market to raise rivals' costs by entering, for example, on the airline route that was at five hundred, bringing it down to two hundred, and then basically telling the five hundred dollar firm, you either need to cut your price and keep it there or face some kind of antitrust scrutiny that you will find unpleasant.

Is the raising of rivals' cost prospect greater under proposal than under others? I don't know. It's just something that I think ought to be thought about

The other comment that I have is that I am not fully persuaded that costs don't matter at all in the consideration of whether or not the five hundred dollar price is a problem or not. Obviously, as Aaron points out, the monopolist has the greater ability to sacrifice profits because it has obviously much higher net profits.

But I wonder, again, and this may relate to the competitive strategy angle here, if the five hundred dollar price is not three hundred dollars above the competitive equilibrium, but a hundred dollars over the competitive equilibrium, we might worry a little bit less about the five hundred dollar price being the one that we're running into in the market because someone decides not to enter at four hundred dollars. Don't we have to look at costs to know how great a welfare loss there is to the current test? And would that matter to your recommendation of what do in in a particular case?

MR. FARRELL: Well, let me start with that last one.

I think if we knew everything, then you're probably right. I would take pretty strongly the perspective that the competitive process is about having policies that don't require us to know what the competitive equilibrium price is likely to be, and that therefore enforcement of competition policy and antitrust should not depend upon on our being able to say we think the competitive price would be X.

And that's part of why I think the competitive process, as I understand it, operates through the formation of a blocking coalition that make the participants better off, without an inquiry into how much

the incumbent loses from this entry.

So, if you look at the entry in the oligopoly literature, the usual citation is the Mankiw and Whinston article, 1986 or thereabouts. And if you think about the way that regulation has traditionally treated cream-skimming and loss of income and profits due to entry and, think in terms of access pricing to control and deal with that, all of that it seems to me is extremely foreign to competition policy. And the reason it's foreign to competition policy is I think that the competitive process works precisely by ignoring the effects on the incumbent. And obviously if you want to increase welfare in the small, ignoring something like that that could be quite important is a stupid thing to do. But I think as part of an overall process, it's brilliant and seems to work rather well.

And I think there are times, perhaps many times, when many, perhaps all of us, get confused about that. Because there's no doubt, I think there's a consensus that the eventual goal of all of this is economic efficiency. So, it's always very tempting to look at economic efficiency in each instance, and perhaps often is right to do so, but I think it's often wrong to do so.

MR. SHELANSKI: And just a comment here on legal precedence.

I actually think that you're on pretty good ground with some recent legal precedent. I mean, if I understood your comments about "Barry Wright" correctly, that that case made the mistake of thinking that downward pricing was more important than the competitive process. Maybe that's a way of summarizing your critique. I don't know if that's unfair or not.

And certainly in Arizona against the Maricopa Medical Association case, even though that was a Section 1 case, the Supreme Court said fairly strongly that we don't care about direction price level. What we care about is the competitive process and making sure it works well.

So, there might be some legal standing for you to argue that your proposal is more in keeping with modern processor oriented thinking instead of the price oriented thinking that polluted the predatory pricing process.

MR. FARRELL: I have something else to say, but if you want to respond to that.

MR. EDLIN: Well, I wasn't going to respond to that. I was going to respond to what he said previously, which I suppose is not the rule as to how a conversation goes.

But I think Joe is right that, to the extent we can, we're certainly better off having an antitrust jurisprudence that doesn't focus on things that we are not

very apt to know, like costs.

And as to Howard's point, which is certainly correct, that if price is close already to the competitive equilibrium, then you shouldn't worry very much about what happens no matter what. I agree with that. And one thing that -- this gets to the last slide I had, which is, you may want to only worry about firms thwarting rivals from providing very substantial value increases to consumers, and not worry about situations where they are only providing minimal value increases. And if the prices are already pretty close to the competitive level, then you won't find rivals offering to provide very substantial value increases to consumers, and so we won't find that antitrust interferes very much in those circumstances.

But now you wanted to respond to what he just said.

MR. FARRELL: Well, I wanted to say something else about the role of costs in all of this.

There's no doubt that sacrifice tests and cost tests can be illuminating concerning intent. And it's a bit of a paradox, I think, or piquant at least, that many of the same people who are very keen on sacrifice tests are also the first ones to lay into any attempt to use intent evidence in an antitrust case.

It seems to me that intent is what you can

sometimes infer from sacrifice tests, and one needs to be careful using intent evidence. Obviously there is the pervasive problem of testosterone poisoned sales managers. But thoughtful, high level intent may often be the best available evidence as to contemporaneous estimates of likely effects.

And so I don't think we should be either too credulous or too rude about intent evidence. It's a kind of evidence, and it seems to me it's the kind of evidence that's most directly brought out by looking at sacrifice.

Let me say one other thing, though, about how cost information might be useful.

If it's right, as I suggested at one point, that you'd want to look at, in my hypothetical Northeast two hundred dollar price, and in some sense try to gauge whether that is where we've now got to, or whether it's just a quick and short-lived fighting price that will disappear as soon as the entrant has gone away and will be back to five hundred, if that's an important question, which it may well be, then it's perhaps somewhat informative to look at Northeast's costs, because if two hundred is below Northeast's cost, you might say, well, that more or less rules out the possibility that it's now the permanent price.

Of course, there's a lot of other evidence about

what the permanent price must be, such as what actually happened post exit versus what was happening pre-entry. And so I certainly don't see that costs would play a determinative role there, but it might be relevant to thinking about that question.

MR. COHEN: Okay. I think we'll start things off by building on some of Aaron's testimony.

I'll try the first question. Given the critique that you supplied of some of the existing tests as to whether conduct is exclusionary, what's your thinking as to whether it's sensible to be looking for any single test that captures all the elements of what we would want in all the various situations to determine whether something is exclusionary or not? Is this something that we could hope for? Is this something beyond our ability?

MR. EDLIN: Well, I'd say it's always reasonable to hope, and physicists will hope for the grand unified theory and they may find it, and we should similarly hope here.

Now, however, I think that what you should not hope for is that you'll find the right unified test and it will be easy to apply to the facts in any given circumstance. Whatever test you think is right is going to necessarily lead to huge factual disputes as to how the test comes out under the circumstance. I think a lot of

people are driven by a desire to get away from that problem. And I think ultimately there are only two ways to get away from that problem, and one is per se legality and the other one is per se illegality, and both of them are very convenient, but I think that both of them are the wrong answer.

MR. COHEN: Anyone else?

Another way of trying to get at sort of the same set of issues, I guess, do you have any principles in mind that might help us determine areas in which any given test is more likely to work in a given setting than another setting? For example, are we more likely to have success with one of these tests in any price or non-price context? Are we more likely to have success with one of these tests in a setting where the issue is tying up inputs rather than settings which involve some of type of tortious conduct? Are there generalities that might guide us?

MR. EDLIN: I think the main generality I would have is that one is more likely to have success with the test when it's seen from a sufficiency point of view than from a necessity point of view. And it -- or viewed differently, that these things are very -- can be very helpful evidence, either, as Joe said of intent, or of likely effect, which is to say, if you would not do it but for substantial diminution in competition, well, that

suggests substantial diminution in competition is likely.

So, the test can be very relevant from that point of view. It's when you start to push the implication sign the other way, which is what's been happening, that I think there's real danger. And the danger is across all of the categories that you listed.

MR. COHEN: I noticed when you went through some of the variance of these tests, in a couple of the instances, you included a temporal dimension. You included short-term sacrifice for long-term profits.

Does anybody regard the short-term/long-term distinction as something that's really needed here? Is it just a sacrifice in general? And if short-term/long-term matters, what are we talking about for time? Anybody want to comment on those temporal formulations?

MR. FARRELL: Well, I'll make a perhaps slightly rude comment. Usually when you don't know quite what version of the test you mean, it's because you're not really clear on the logic of why the test makes sense in the first place.

So, I think, for example, if you're trying to infer intent, then you'd want to ask yourself, all right, what is it exactly that the argument here is saying and what time scale you're looking over.

If you're wanting to say there's no possibility

that this is a price you would charge in the long run, that might tell you about something about what time scale you're looking over.

So, I would go back to the underlying logic. And if you don't know how to go back to the underlying logic, that's a sign that there are deeper problems than just not knowing for what time scale to evaluate things.

MR. MATELIS: This is a question about false positives and false negatives, which you mentioned, Aaron, and I'd be interested in all the panels' views.

I suppose a slightly more spirited defense of the concept of false positives, which the Supreme Court has mentioned in just about every Section 2 case in the last twenty-five years, is that the competitive process is likely to fix false positives, whereas false negatives become ingrained in precedent and we're stuck with them for many, many years, as we were for decades in predatory pricing jurisprudence, where plaintiffs were winning cases where today I think everyone would agree they might not.

Is this really a concern? Is the Supreme Court wrong stressing the idea of false positives, or is the concern overstated in general? How should this play a role in devising antitrust policy?

MR. EDLIN: Well, I think you flipped the false positives and false negatives there, so I'll try to answer

the question as I think you intended.

MR. FARRELL: It's what statisticians know as Type 3 error [laughter].

MR. EDLIN: So, as I see it, if you find what you consider to be the right test, whether that is a final results oriented test like efficiency or consumer welfare, or whether it's a process type test such as the freedom to trade that Joe and I are suggesting, I think the problem of false positives is not so much one of legal precedents but one of application, which is to say, if you've got the right test, then the real fundamental problem is, in its application you may get it wrong.

And the question is: Will people so fear that when the test is applied to them that it will be gotten wrong that they don't do many procompetitive things, whether that's process or results interpreted.

And I think we are so far from such a situation today that it just doesn't concern me very much. But if we were in that situation, I again don't think the right thing to do would be to say, well, let's find -- let's apply something that substantively doesn't make much sense. Rather, I think you should look at the source of where the false positives are coming from. If they're coming from bad jury instructions, make better jury instructions. If they are coming from courts having an

insignificant standard of proof where it seems sufficient to allege that something bad happened rather than to really prove it, then we should crank up the standard of proof. And if -- and/or you say that you have to show that something really very bad happened, rather than just a little bad.

So, I see the problem of false positives as being less in the precedents than in the applications of the facts.

MR. SHELANSKI: I agree with Aaron. I would just add that I think a lot of rules look bad from a false positive standpoint. They look worse from the false positive standpoint at the beginning when the rule is articulated, then after there has been experience gained in its application.

I think that, as an agency gains familiarity with the application of a rule, understanding of what certain fact patterns really mean, as courts get more experiences with reviewing cases and get a body of precedence and a body of jury instructions, some of the more frightening aspects of the rule may be damped down and you may get beneficial application.

I do think there's a difference with respect to false positives between public enforcement and private enforcement under Section 2. I have a lot of faith in the

agencies' abilities to gain a body of knowledge and understanding that they then bring to bear in their enforcement discretion under any given rules.

I think with the courts, where there's a perhaps much less coherent body of learning, you have to rely on any particular district judge's reading perhaps outside of its own circuit and perhaps outside of its own circuit, and rely on a cohesive body of understanding. And this is not -- I am not trying to bash the capability of judges. I'm trying to just suggest you may get a less coherent development of a body of precedence and knowledge in the judiciaries than you get in the agencies.

So, I think false positive may be worse for private enforcement than for public enforcement. But, on the whole, I would agree with Aaron, I think the application is the key issue. The deterrence effect is probably overemphasized in a lot of what one reads, and I think it can be offset in light of experience.

MR. MATELIS: Anything to add, Joe?

MR. FARRELL: No. I'll reserve my time.

MR. MATELIS: Okay. Again this is a general question based off of something Aaron has mentioned twice now.

What are better jury instructions that we should be giving juries in Section 2 cases? This might be

another way of saying, if we don't want to instruct them on the no economic sense test, on what should we be instructing them?

MR. EDLIN: Well, I think that the two best -- the two best candidates that I think we should be instructing them clearly on, whatever we think the right test is, and the two best candidates that I have are a results oriented test, which is consumer welfare, or a process oriented test, which is that someone is being blocked from providing higher value to consumers, which is a process oriented test.

And the instruction should of course distinguish all of the standard worries that people have, such as that it's not sufficient that rivals are losing money, and that's not the issue.

What I'm really getting at there is, if you really -- I think the first thing before suggesting approving jury instructions is to come to a clear understanding of what antitrust is trying to accomplish.

The second thing is to see if there really are a lot of false positives, and I don't see them. Right now I would say the improvement to jury instructions would be to not focus on tests that I think are nonsensical, which is the primary problem with them now.

MR. MATELIS: Howard, Joe?

MR. FARRELL: Well, in the unlikely event that I ever end up on an antitrust trust jury, I guess what I would want to hear is: The following specific questions have been given some prominence, but you the jury should please interpret them to the extent possible in light of the kind of fundamental things that Aaron was mentioning.

MR. COHEN: Okay, let's turn a few questions to Joe's presentation.

I really started with three questions, but as I think about it more, they come together into one. I'll throw it out in various forms.

You talked some time early on about whether the results of not being able to successfully form a blocking coalition results from actions of the five hundred dollar airline, whether it happened intentionally or not, I think you said at one point, or another time you phrased it, whether it's a natural outcome of the way the market worked.

But then your rule you were trying to focus on where there's really a problem, you talked about whether the incumbent, the five hundred dollar incumbent, strategically thwarts the coalition.

I'm going to ask you to try to give us some content about what you mean about "strategically thwarts." And maybe you can think about it in terms of a question of

whether this approach would make it unlawful for a low cost producer merely to develop the reputation as an aggressive price competitor.

Sort of a third way of asking the same question: What's happened to the bad conduct element of Section 2 in this core analysis?

MR. FARRELL: Well, so first off, as I understand it, where we're surrounded by lawyers here, I don't think there is a bad conduct. There's an anticompetitive component, anticompetitive conduct.

And if you accept the ideas that are being put forward about what anticompetitiveness means, then there can be conduct that is anticompetitive that is harmful for competition that isn't necessarily bad in any sense other than being harmful to competition.

Now, there certainly has been a body of thought and especially shorthand that says you want it to be bad as well in some other way. That I think -- I try to interpret that in the following way. Let's suppose that in the course of trial, imagine it takes place in this order although it wouldn't have to, it's been shown that the defendant did some things that harmed consumers by excluding competition and were not, let's say, highly efficient. And I'm pulling together ideas of various sources here, I think.

And now we ask, well, was it bad conduct? Well, from an economist's point of view, it seems as if in the instance it has just been shown to be bad conduct. So, the question is what further requirement is being asked for here.

I think the further requirement that's being asked for here is the following: That this conduct -- if this conduct is condemned, it will have some sort of deterrent effect on conduct that sounds like this when described. And that deterrent effect will extend of course to other places where the competitive implications of the conduct might be a little bit different.

And so what you want in addition to finding this conduct was inefficiently anticompetitive and anti-consumer here, you want some degree of confidence that similar-sounding conduct is going to tend to be not such a good thing or a bad thing, in other circumstances where maybe it won't be inefficiently anti-consumer, anticompetitive.

Well, that puts a lot of weight on the psychological or even philosophical concept of conduct that sounds like this. There's a philosopher named I believe Grice, who really tested foundations of that kind of thing by inventing a word, grue, g-r-u-e, which means green up until this morning or blue after this morning.

And so all of your past observations that trees are green are also observations that trees are grue. What do you predict the tree color will be this afternoon.

Obviously that's playing with words in the way that philosophers love to do, but it does suffice to make the point that, if what you are looking for in a, quote, "bad conduct" problem is something along the lines of similar conduct that is going to be bad in other circumstances, you need a concept of what's similar. And that's not really an economic concept, as far as I can tell. It's some sort of intuitive or possibly legal concept.

MR. COHEN: Anyone else?

I'll shift ahead because your comments invite this.

What kind of difficulties would you expect courts have in operationalizing something like this? I would hate to go in and try to tell them that trees are green in the morning but blue later.

MR. FARRELL: Well, just to be clear, at least in my own mind, I would be delighted if judges were to listen, and when we get around to writing, read this kind of stuff. But I am not convinced that it's ready for courts yet.

What I think I would like courts to do is put up

a lot of resistance to the incorrect tests that are being bandied about on the pretext of administrability, bright line, sort of vaguely right, perhaps, maybe, although we can't exactly tell you why.

And I would like to see courts, led by the Supreme Court, say, look, we really have not sorted out yet what administrable concrete tests we need to apply for Section 2 liability. For the time being let's do so-and-so, but that's not meant to be the final answer.

Because I think it's pretty clear that nobody is in a position to say yet what the final answer should be. And I think there's a huge danger, given the way courts and lawyers tend to think and talk, that things are going to congeal prematurely.

MR. COHEN: I'm wondering if you're at a point yet where you could predict if there are particular types of conduct where the analysis you're thinking of is really likely to lead to different results than you've been getting through viewing perfect competition as the goal? You may go through a different process. Do you have any idea where the results are likely to come up?

MR. FARRELL: No. I think the salient differences are going to be based on the question of how closely you try to examine direct efficiency consequences versus trusting the competitive process to do that and not

requiring it in the narrow instance.

You know, technically if there is a perfectly competitive equilibrium in an economy, it is then in the core. And so I don't think there is a substantive tension between the two. I think it's more a question of what process each one suggests to you.

It seems to me the core -- and let me stress, I'm not suggesting ever examining an outcome to see whether it is in the core. I'm suggesting the process that is suggested by that, which is, make it relatively easy, or don't allow it to be made artificially difficult to form blocking coalitions.

Whether there is a similar process that is suggested by thinking about perfect competition, I am not quite so sure. You know, economists have talked for a long time about the fact that perfect competition is describable as an outcome, and we don't have a very good story about how you get there. There's the infamous Walrasian auctioneer. That's obviously not a process that takes place in reality, let alone is protectable by antitrust.

It seems to me that thinking about the coalition formation model gives you a stronger suggestion about what process to protect than thinking about perfect competition.

MR. EDLIN: I'll hazard a guess, which is, if you thought about things a little more the way that Joe and I think about things, then you would find that the Department of Justice would probably have won the American Airlines case; that entry would be easier in many industries because monopoly or dominant firms would have more limited ability to thwart entry; more attempts by monopolies to prevent entry by tying goods together would be illegal, but not all; and those would be the kinds of things that you would see in terms of substantive outcome differences.

MR. SHELANSKI: I will just add that I think the process emphasis, while extremely important theoretically and at some level is absolutely correct economically does have some pragmatic difficulties.

I actually really worry about instructing juries on the process as opposed to outcomes. And you can combine the two to halve their inquiry, but I think the confusion between competition and competitor is one very easily sown in juries.

And connected to your question earlier about false positives, I think that as a firm, faced particularly with a private suit, knowing the instruction is going to the jury about process, you're worried about looking aggressive, worried about looking the bad guy, and

you get a lot of hidden false positives through settlement, particularly in the private cases.

So, I do think it's worth thinking a lot more about the pragmatic implications of the process instruction of going forward.

MR. COHEN: Finally, for Joe.

The theory that you've explained depends on the formation of these blocking coalitions. There are obviously impediments to this. You recognize them and they may not always be formed, but at least there's an incentive to do them.

Have you thought about how we should take into account the fact that not all of these coalitions will ever form in the first place, that there maybe information problems or the cost that prevents them from happening? How do we bridge from incentive to actual assumption that they're there and therefore that their losses are significant?

MR. FARRELL: I don't. I mean, I think, as I think I mentioned, the way you prove that a competitive -- that everything in the core is Pareto efficient, is by pointing to the so-called grand coalition of everybody, if it was prey to inefficient, then in theory this grand coalition could block. That's obviously not going to happen.

So, I think any policy, including antitrust, is not going to be able to get us all the way to Pareto efficiency, whether it thinks of it in terms of central planning, price-taking equilibrium or the core.

Now, as related more directly on a practical point, which is, well, what happens if -- this is I think maybe what you were getting at with the bad act question. What happens if we have a not very good outcome in the status quo and the blocking coalition that, quote, ought unquote, to form doesn't form, not because of anything that the incumbent does, but just because it's really hard to form.

Well, I think at some level that could be a competition policy question. There might be changes that could be made in the way the market works to make it more likely that such coalitions would form.

If it were a competition policy question, it wouldn't necessarily be an antitrust question. I think they're potentially distinct areas. And it might be neither. It might just be, well, that's too bad, that's one of the imperfections of the world.

MR. MATELIS: At the beginning of these hearings, both the Assistant Attorney General and the Chairman of the FTC stressed the importance of safe harbors for guiding businesses that are seeking to comply

with the antitrust laws.

And, Joe, I have a question for you. The examples in your presentation were responses of a firm to new entry. Northeast's response to Sprite's entry and the A and B product potential responses at the new entry.

Are there responses to new entry that, you know, looking at things through the core, should be within a safe harbor and something that firms should always feel comfortable doing?

MR. FARRELL: Well, I'm sure there are, but just as I don't know exactly what the right rules for liabilities should be in a practical sense here, I also don't know what the right rules for safe harbor should be.

I mean, one can give the following answer, which is sort of in the spirit of something Tim Bresnahan has said, and you will be hearing from him this afternoon, that the safe harbor is to make your money by being nice to consumers, not to make your money by being the other stuff you can be. That's not quite the way Tim put it, but he had a somewhat similar line which maybe you can get out of him if you ask him.

MR. COHEN: Directing some questions to Howard Shelanski's presentation.

You focused very much on intellectual property, the effects of possible changes in that area, bleeding

over into how we might look at Section 2 issues.

If we're looking at Section 2 issues, we're not likely to have differential treatment of instances in which there are lateral refusals for intellectual properties versus others.

Would your rule somehow -- are you envisioning somehow distinguishing between the two, or just a one size fits all modification?

MR. SHELANSKI: One size fits all is what I'm looking at. I'm actually not so much proposing a particular rule, because I agree with you there should not be two rules. Obviously the precedent is a little choppy between the various circuit courts on the extent to which you get special Section 2 protections for intellectual property.

But my view is you should not have a separate rule. And I was really looking at the macro level. If you take the total pool of goods that firms refuse to deal with, some of them are going to impose barriers because they're legally protected, legally blocked by IP.

The smaller the pool of goods where there's an anticompetitive refusal to deal, the less enforcement minded you want to be against refusals to deal.

So, for me it's really an adjustment mechanism about how permissive or strict a unitary rule you apply.

I mean, if you were to look and see, boy, a lot of these refusals to deal cases have at their core intellectual property. Then I think intellectual property would not, say, have a different rule for those cases versus others, but it would say we can have a more permissive rule towards refusals if we had intellectual property enforcement.

MR. COHEN: One thing that you mentioned a number of times in your talk was issues about the degree to which imposing liability or not imposing liability for refusals to deal might affect innovation, might affect efforts invent around whatever problem there is.

It's a little unfair, I know you gave a theoretical presentation, but of course we're very interested in anything empirical.

Do you have any -- can you give any summary or are there any indications of what there is out there in the way of empirical evidence on this?

MR. SHELANSKI: If I can cheat a little bit, I think I can. So, I did raise that issue of demand side innovation and competitive supply because I feel that in the discussion about duties to deals there's been overemphasis on deterring the initial innovation by the supplier. I think that's extremely important. And I wouldn't want to see a situation where we punished

innovation per se. So, I want to be very careful. But I wanted to build into the demand side there's innovation on both sides of the enforcement question.

So, here's a possible place to look for some empirical support, and this is contentious. I would go to the regulatory arena and I would look at the unbundling obligations of the Telecommunications Act of 1996.

There are allegations that overly permissive access for competitors to incumbent networks reduced the degree to which these new entrants built their own facilities and their own networks, therefore leading to less vigorous competitive entry.

I think there's a lot of debate over the extent to which this is true, but there is some empirical evidence that after the FCC repealed a very permissive access to the incumbent platform under what some would argue were subsidized rates -- there is a legitimate dispute over that -- that after they repealed that access, there was a lot more facilities-based entry, a lot more actual building and installment of competitive facilities.

This does suggest that a duty to deal, which would then include some kinds of terms of dealing, runs the risk of stopping entry of competitive assets into other markets. And the telecommunications market might be one place to look for such evidence. And there is some

literature out there with competing arguments about whether the essential facilities treatment or the duty to deal imposed by the Telecommunications Act of 1996 on incumbent networks deterred and chased out new competitive essence.

MR. FARRELL: I think part of the reason why people have focused on incentives of the original invention or the original investment is that, of course, that innovation or investment directly leads to social benefits.

Duplicative investment is -- I want to avoid taking too narrow a view here, but nevertheless, at some level duplicative investment is wasteful. And while having some of it may well be part of the process and negotiating for voluntary access in the shadow of the threat when you look at the investment is probably a bigger part of the process, I think it's actually wrong to treat reducing the incentive for duplicative investment as a policy downside in itself.

Now, it might actually be a kind of shorthand or a proxy for some other harms that you think come out of more mandated sharing than other policies would give you. But I think one wants to be wary of that shorthand.

MR. SHELANSKI: I'll disagree slightly. I think you're right that that's something to be taken into

account.

I think the market conditions under which that duplicative entry would be welfare decreasing are fairly specialized. I don't know how common they are. I think it needs to be taken into account. But while it's a consideration, I am not sure that it's a big enough problem that I would discount -- I certainly wouldn't discount the value of at least some competitive investment or duplicative investment, especially where it's not economically blocked. There's not some kind of natural monopoly or scale kind of argument that would make that investment a not be beneficial end, but where there's simply a legal barrier to producing something that could be produced fairly cheaply. Software would be an example.

MR. COHEN: Just one more. I'm going to return to something that Joe just mentioned a couple answers ago.

You drew the distinction in a sense between a competition issue and an antitrust issue. Another way of phrasing some of the same points we've already been going over.

To the panel just generally: Do you see a difference in your analysis between a competition issue in the sense of maximizing efficiency, and an antitrust issue in the sense of what should be a legal violation?

MR. FARRELL: I'm certainly very open to that, I

think. First of all, I would not phrase a competition issue quite as maximizing efficiency, for all the reasons we spent all morning talking about.

But I think it's perfectly possible for a competition agency, let's say, to discover that such-and-such a market would work a lot more competitively with these ground rules than with those ground rules. And to try to use its influence, perhaps even its legal authority, to have the better rules rather than the less good rules apply.

And that doesn't necessarily involve anybody having, quote, done anything wrong. And so I think there's potentially a difference between competition would work better in such-and-such a way than with the status quo, and saying so-and-so has committed an antitrust offense.

So, yes, I think there's probably a big area there, actually.

MR. COHEN: Okay. Do any of the panelist have any final points they want to make?

MR. EDLIN: I'm in favor of lunch.

MR. COHEN: Okay, we vote for lunch here.

I again want to thank all of our panelists for their thoughtful and insightful remarks. I ask the audience to please join me in a round of applause for our

speakers.

(Applause.)

MR. COHEN: And our afternoon session will begin promptly at 1:30.

(Whereupon, at 11:59 a.m., a lunch recess was taken.)

AFTERNOON SESSION

(1:30 P.M.)

MS. GRIMM: Good afternoon. I would like to welcome everyone to our afternoon session. And I'm glad that you all could be with us today.

I am Karen Grimm. I am Assistant General Counsel for Policy Studies at the Federal Trade Commission. I am going to be moderating the session this afternoon, along with June Lee, who is an economist at the Antitrust Division of the U.S. Department of Justice.

Before we start, I would like to just go through two housekeeping details. First of all, as a courtesy to our speakers, please turn off all your cell phones, Blackberries, and other devices

And, secondly, because these are hearings, we request that the audience not make any comments or ask any questions during the presentation.

This afternoon we are honored to have another group of distinguished economists from the University of California at Berkeley and Stanford University to offer their testimony in these series of Section 2 hearings.

Our afternoon panelists, like those this morning, will provide their perspectives on various issues related to the complex area of Section 2 jurisprudence and enforcement.

Our panelists this afternoon are Timothy Bresnahan, who is the Landau Professor of Technology and the Economy in the economics department at Stanford University; Richard Gilbert, who is a professor of economics at the University of California Berkeley and the chair of the Berkeley Competition Policy Center; Daniel Rubinfeld, who is the Robert L. Bridges Professor of Law and Professor of Economics at the University of California Berkeley; and Carl Shapiro, who is the TransAmerica Professor of Business Strategy and Professor of Economics and the Director of the Institute of Business and Economic Research at the University of California Berkeley.

Our first three panelists will make presentations, and Professor Shapiro will be participating in the discussion with his fellow panelists.

Our format this afternoon is as follows: Each speaker will make a 20 to 30 minute presentation. After all the presentations have been completed, we will take about a 15 minute break. And after that break we will reconvene for a round-table discussion. We are scheduled to conclude this session about 4:30.

I would like to thank all of you for being with us here today. I want to thank all of our panelists for coming and for their participation. We very much appreciate the time and effort all of them have put into

preparing their presentations and their willingness to share their insights with us.

I would now like to turn the podium over to my DOJ colleague and co-moderator, June Lee, for any remarks she would like to make

Ms. Lee: The Antitrust Division of the Department of Justice is pleased to co-sponsor today's single-firm conduct hearing. As noted by Joe Matelis this morning, five of today's panelists were Deputy Assistant Attorneys General in the Antitrust Division. Four of the five are in the panel. I thank them for participating and, like Karen, for sharing their insights. I look forward to their presentations in what I'm sure will be a lively discussion.

I join Joe in thanking the Competition Policy Center and the Berkeley Center For Law And Technology at the University of California Berkeley for hosting these hearings. And I thank Karen and her colleagues at the FTC for their work in organizing today's hearing and assembling the august panel we have today.

Karen.

MS. GRIMM: Our first speaker this afternoon is Timothy Bresnahan, who is Landau Professor of Technology and the Economy at Stanford University and Chair of the department of economics.

He is Director of the Center for Research in Employment and Economic Growth in the Stanford Institute for Economic Policy Research. He also has served as Chief Economist of the Antitrust Division of the U.S. Department of Justice.

His research interests lie in the economic of industry, especially of high technology industry.

Professor Bresnahan received his B.A. from Haverford College and his master's degree and Ph.D. in economics from Princeton University.

Tim.

MR. BRESNAHAN: Thanks for that very nice introduction. Let me see if I can find my slides.

While I'm finding my slides, let me confess that in my role as department chair, I worked with the agencies in a failed effort to bring these hearings to Stanford rather than Berkeley. If you think of the reputations of those two great universities, you might infer that signals a leftward shift in the antitrust enforcement effort.

But I don't think that's what it signals. If you either look over here to my left or at the brochure from the Competition Policy Center, you can see why Berkeley is an enormous center of academic influence in this area. This was the right place to put it.

I want to talk about monopolization (Section 2)

cases. And my real agenda is to normalize them, to regularize them within antitrust analysis.

We have a tendency in talking about Section 2 matters to immediately leap to the most difficult part, which is the part that's about alternative efficiency theories of whatever business practice it is that's challenged in the Section 2 matter.

I think that that makes Section 2 matters more difficult than they need to be, and I'm going to propose a different approach, not inconsistent with what we've done in the past, and which we'll see in a minute, not inconsistent with recent court decisions.

I'm going to suggest a different approach where we look at competitive effects first. It's not very surprising that I want to look at competitive effects first since I'm an economist.

And then I think I'm going to argue it's going to make thinking about whether a Section 2 case is procompetitive much easier than starting from that very difficult question of whether the challenged practices are an act of competing rather than anticompetitive act. So, I'm going to start with competitive effects.

There's been a good bit of action in the courts in Section 2 lately. You know, I see three big topics here: boundaries with other parts of the law, notably with

patent and copyright law; predatory pricing is another area.

What I want to talk about are bundling and related practices. So, vertical Section 2 cases where a monopolist commits monopolization or is alleged to commit monopolization through bundling its monopoly product with something else, or through contractual restrictions that amount to de facto bundling.

I'm also going to talk about Microsoft and Dentsply in some detail, but Dentsply first. This partly reflects the idea that I think that the folks who do judicial decisions have the same economics in mind that I'm going to talk about this afternoon. And it's partly that there are three cases, two recent cases in this area. And I found those two, again another confession, much easier to read than I found the LePage's case, which was a struggle for me, although I am not sure it's inconsistent with what I'm going to say.

So, any Section 2 inquiry I think has at its heart an economic structure if it's a rule of reason inquiry. Any rule of reasoning inquiry has economics in it. I think the economics enters at two distinct places. It has to enter in market power. You need economists to figure out market power. And I want to say, as I've been saying for a quarter of a century, the thing about market power is sometimes it's a useful shortcut in antitrust

enforcement. We should be thinking about competitive effects when we're thinking about market power, particularly I would encourage the agencies, when picking cases in the merger area or in the Section 2 area, to pick cases where there's potentially a substantial change in the conditions of competition in the market and significant impact on the economy. That's not the same as market power. That's a change in market power.

The other place where economics matters is in thinking about the causal flow from the acts which are alleged to be anticompetitive in a Section 2 case to the changes in market power. And I'm going to argue, this is my theme for the afternoon, you can gain a lot of clarity about a Section 2 case by bringing the competitive effects and causation arguments to the forefront. And I think that's consistent with the three bundling cases I cited, bundling or tying cases, I cited on the previous page.

Section 2 cases are never going to be easy. Let's be real. There's a reason for that. This is I think the hardest part. Almost all conduct which would be exclusionary in some context would be an ordinary and competitive business practice in some other industry. So, it's necessarily context specific. That makes it difficult I think for attorneys to get their heads around Section 2 matters all the time because it seems like

there's a fairly unstructured rule of reason analysis in a Section 2 case.

I'm going to argue again that monopolization can lead you to a fairly structured economic competitive effects decision. Let me do that right away. I'll do it in Dentsply first.

This is a Department of Justice case. I know a part of the history of it. I believe it was brought when Dan Rubinfeld was Chief Economist. It was litigated when I was Chief Economist. And I just learned from Professor Shapiro that it was under investigation on his watch.

MR. GILBERT: It was under investigation at the FTC before I was at DOJ.

MR. BRESNAHAN: Exactly. We are lucky that prefabricated artificial teeth is not a market which changed quite so quickly as computer software. But I note that the other case I am going to talk about, Microsoft, has a similarly long, long series of investigations before there was a serious enforcement action.

So, what's the story of Dentsply? Why did the Department of Justice bring a Section 2 action?

So, part of it, there is a market definition, there is monopoly power, and there is, in the current market, a monopoly in prefabricated artificial teeth. There are some small sellers, but there is one great big

seller named Dentsply.

Now, here's the competitive effects part. And this is something I think that's a reason that's going to make cases fairly rare in monopolization. While there is a monopoly in prefabricated artificial teeth, there could be substantially more competition in the market from a number of non-Dentsply like artificial teeth -- prefab artificial teeth providers who are smaller, very small at the time the case was brought, and typically lower priced.

And it's the difference between the competitive regime there is, monopoly, and the competitive regime there could be, much less monopoly, which is the competitive effect that I think we should bring to the forefront.

If it's inevitable, if Dentsply has a monopoly that cannot be changed, if there is some barrier to entry which cannot be lowered by any earthly force, there can still be a monopoly but how can there be monopolization? Monopolization I think needs to be cause of a change in the competitive regime or prevention of the change to a competitive regime that otherwise might arise.

Now, in this case, the mechanism, you need a bad act as well as a competitive effect to have a Section 2 case. The mechanism by which Dentsply prevented the emergence of competition from these other firms was

exclusive contracts with dealers. They were dealers who supply dental laboratories with all kinds of things, but in particular with prefabricated artificial teeth. And those contracts block the laboratory from sourcing another firm's teeth, preventing the American consumer from having an effective prefabricated tooth choice.

You know, there's a market in everything. Some of it might be competitive. As you get older, you get more serious about the importance of health care markets for having a competitive organization. And, Lord knows, there is not enough competition in most health care markets.

So, I want to bring to the forefront, the horizontal competitive effects. Impact, if there's a Section 2 case, the impact of the bad acts, the contracts in this case, is to reduce competition in the market for prefab artificial teeth. So, it's possible that there are two competitive regimes, one with monopoly and the other with competition.

And I want to push to the second, the vertical restraints logic, that the economic effects of these contracts, these exclusive contacts, is to change that competitive regime.

You know, it seems to me that you can, in the course of investigating an alleged Section 2 violation, discard an enormous number of cases just by thinking about

-- not about the efficiency theory of the supposed bad act, but rather just thinking about the anticompetitive theory. The inquiry would ask: is it possible that there could be less competition and also there could be more competition in this industry? Is it possible that if the dealer contracts weren't exclusive that then there could be competition? Without a "yes" to both, further inquiry is not going to lead a Section 2 case. The second question, the exclusivity of the dealer contracts having sufficient impact to change the compeitive regime, that is not a small inquiry. There is a lot of assumptions under there.

There are at least two base assumptions. The monopolist, Dentsply, is in a position to compel the dealers to accept these exclusive contracts. That's not going to be true in all industries. There can't, for example, be the possibility of some other parallel distribution segment which can grow up and distribute the competitive prefab teeth. Furthermore, while the distribution channel firms must not be in a position to resist Dentsply, Dentsply's competitors must need the distribution channel. Thus, the distribution channel must be dependant upon Dentsply but depended upon by the competitors. Not all distribution channels will satisfy both conditions. So, there's a reason that these exclusive dealership contractors have bite. Bite, it was entirely

accidental pun. I think if we could go down the path of the Dentsply puns, they would be very unhappy for us.

But I mean to emphasize that there are two dualities just in the competitive effects part of a Section 2 case, which means, before you get to the hard thing about efficiencies, you could throw a lot of cases out. It has to be possible that there's two competitive regimes, monopoly and more competitive, and it has to be possible that the bad act works to move the market between them, and that itself has two steps. The little guys, the potential competitive providers of these competitive teeth, have to need the distributors. The distributors need to be a powerful hard-to-replace force. And the existing monopolist, Dentsply, has to be able to kick around the distributors.

So, you've got two dualities, it's monopoly, but it might be more competitive. And the distributors are important, but the monopolist is in a position to either bribe them or compel them to prevent the outbreak of competition, competition which would be plausibly in their interests.

Those two dual tests I think will weed out a lot of cases before you begin this open-ended discussion of whether these particular contracts are efficient. So, here is how I graph it. You've got -- your centerpiece should be the anticompetitive effects. So, in

monopolization case, the effects are anticompetitive. There is an exclusionary act, in this case the contracts, which is keeping us in a higher market power monopoly, in this case industry regime rather than a lesser market power.

And, as I said, that's a lot for the plaintiff to show. In the case of the agencies, that's a lot for them to show. And I want to urge a review of whether we can show these things early in a case. When I said to kind of regularize Section 2 review, you know, it's just like merger review, is there a competitive effect this merger is going to do? Is there a competitive effect these are bad practices are going to have, too? Is it really true that there is more market power in the current regime but there could be less market power? And that is the centerpiece, that there is this causation, there's these exclusive contracts, which exist because the existing monopolist wants to maintain a monopoly, or what's keeping us in the less competitive regime rather than the more competitive regime.

And I think if you do both that causation carefully and that competitive effects carefully that would make Section 2 cases look a lot more like ordinary antitrust analysis.

So, I said a number of times that that's a lot

to show. It has to be possible that the competitive regime could change; it has to be possible that the bad acts are what's preventing the competitive regime from changing; there has to not be another explanation of why the competitive regime is not changing.

We spend so much time in Section 2. Here's my one slide. I think I only have one slide and it's sort of ordinary analysis. We spend so much time thinking about whether there's an efficiency theory of the anticompetitive acts. And that is important. But, you know, I guess I would say, solve the problem with whether there's a harm to competition first and then worry about if there's an efficiency theory.

A lot of this efficiency discussion -- and here I'm echoing Professor Farrell's earlier remarks in these hearings -- we're driving in the direction of that world of pure economic theory where we can figure out in a quantitatively precise and reliable way whether the consumer of the industry is better off with the existing industry structure, including its contracts, versus some counterfactual regime where the contracts would be gone and there would be less efficiency presumably from the contracts, but also more competition.

In economic theory, the author of the model knows everything and could calculate how well off consumers are in

another world. In the real world, the ability of empirical economics, even with the very high level of inquisitory abilities of the enforcement agencies to figure out what would happen in that but-for world in enough detail to calculate social welfare seems to me to be a waste of time.

So, I would say, plaintiff has to show that there is an anticompetitive effect and that it's causal. And defendant gets to rebut that. Defendant has to show that their practices are efficient. Plaintiff gets to rebut that.

If the world is not tired of hearing from me about the Microsoft case, let me talk about that one too. I mostly want to emphasize its parallels to Dentsply.

Again, my competitive effects story is in the graph here, I think I'm very close to the D.C. Circuit's logic here. The competitive story is slightly different because the industries are slightly different. And this is one of the inevitable costs of Section 2. Section 2 cases are rare. They arise in those industries where there is the possibility of a big change in competitive circumstances. That's not most industries and that's probably idiosyncratic industries. Certainly these two, the teeth and the software, are both idiosyncratic.

So, what's the state of the market? There is a

Windows monopoly in operating systems on PCs. That was true when the case was brought. I got the year wrong. It was tendered to the Department of Justice in 1997 or so. There could have been dynamic competition for the operating system market if the mass use of the Internet led to new standards in new markets.

So, here -- well, in the case of Dentsply, there was a monopoly and could have been competition in the market for prefab artificial teeth. In the case of operating system software, there is a monopoly and the industry in the past had had dynamic competition where entrants in many important software products had replaced incumbents. And in other important software markets, they had given incumbents a terrible scare and created incentives to get some real innovation out of them. In these software markets, there is persistent static monopoly, but there could be the prospect of Schumpeterian competition. So, that's the two competitive regimes that you get the competitive effects on.

The other part of Microsoft is really quite similar to Dentsply. What kept the world in the monopoly regime rather than in the potentially more competitive regime, a regime where say a Linux might have taken a run at the position of Microsoft Windows on the desktop?

It was a distribution case just like Dentsply,

how could actual distributors, and a wide number of different kinds of complementors, with other third parties that would have worked with something like Linux on the desktop prevented a market test for the Internet entrepreneurs, and thereby ultimately prevented Schumpeterian competition in the operating systems market.

So, again, this is the stuff that the Antitrust Division had to prove in Microsoft. That's why it's such a long case. Two potential competitive regimes. One, the present one in operating systems and other infrastructure software on the PC, which is about ten years you've had very little competition in those industries, but in the same industry in the previous twenty years before that you had it all the time. Maybe there could have been, certainly the Microsoft guys thought there could have been, dynamic competition against some of those valuable position if the Internet entrepreneurs had succeeded.

Some of this was more complicated and it's vertical in more senses. The Internet entrepreneurs wVere not horizontal competitors for Windows. The browser was a complement. So, this was vertical restrictions to prevent vertical disintegration. The vertical disintegration would have permitted horizontal (dynamic) competition in the operating systems market. So, it's a good thing that the history of the industry had so much

vertical disintegration causing horizontal competition for the market, and that the Microsoft guys in their internal documents were so clear about that that such a complex case could be argued.

So, there's Andy Grove. Everybody has seen Andy's slide a hundred times. The way you get competition is you get a vertical disintegration. Andy was, when he wrote this, the CEO of Intel. Mr. Gates of Microsoft has said this many times as well.

This was the essence of the antitrust case, that the internal documents, used that model of vertical disintegration leading to horizontal competition, provided evidence for the potential change in the competitive regime.

Now, again, I want to say, these cases are going to be rare. There's not a lot of industries where vertical disintegration is the key trigger for horizontal competition. It happens to be in infrastructural or mass market software on your personal computer that that's true, and it's been true since the industry was founded. But, the cases where there can be causation from a vertical restriction to horizontal competition are going to be reasonably rare. This was one.

I would emphasize again, look for evidence of that causal change before you go worrying about

efficiencies.

This part is pretty much the same as Dentsply in many ways. Microsoft is more complicated because it's vertical in two senses: vertical restrictions to prevent vertical disintegration, and vertical disintegration in turn preventing horizontal competition.

But what was really important in the competitive effects in the case was that chain of causation did lead to blocking of a threat which could have led to the kind of dynamic and very valuable competition we had seen over the previous twenty years in this industry.

Microsoft -- this other pragmatic, question about when to bring a Section 2 case, it's helpful to have a defendant that tries to prove entirely implausible things like, there's no market power in Windows. It was a bad moment for their economics expert witness, I think.

The other very unwise thing that Microsoft chose to prove was that their reaction to the widespread mass market use of the Internet wasn't strategic, even though there were hundreds and hundreds and hundreds of internal documents saying that it was strategic. The CEO, whose memo I just quoted saying, this is a terrible threat to us, chose to testify that he had no idea what the threatening firm was doing at the time.

So, defendent's trying to prove that it wasn't strategic, trying to prove that there was market power, made it somewhat easier for the government to prevail. These are complicated cases. The agencies are not always going to prove both dualities, that there could be a change in market conditions and that the distribution system is essential causally to keeping an out.

So, here's another one with a slide. The ultimate remedy chosen in Microsoft was to require divestiture of all applications, including the browser and Microsoft office. This was not on Richard's, Carl's or Dan's watch. This one is on my watch. And I have to say, I had to put up this slide. There slide -- actually there is a long history of this particular slide. When Dennis Yao, who was my roommate in high school, was a Commissioner in the FTC in 1989 or 1990, called me and said, you know, we figured out we don't want to go after IBM and Microsoft together, should we go after Microsoft. And the metaphor immediately leapt to my mind, you're going to be like a dog that's chasing a fire truck, you know, they're rolling down a little street, noisy, illegal as hell, anticompetitive as hell, but what are you going to do with it when you catch it?

As it worked out, they didn't catch Microsoft. I did. And the dog in this picture turned out in actual

history to be me. What did we get? Not any remedy which changed the conditions of competition. Ultimately, there was an entirely ineffectual settlement in the United States and a mildly effectual settlement in the EU. Certainly not enough remotely to have the kind of competitive conditions change that was possible from the widespread use of the Internet.

So, there's another problem with the agencies, bringing large, complicated antitrust cases. The counter example here would be, of course, U.S. v. AT&T. The United States was incredibly well served by that case. During the long interval between the AT&T breakup and the soon-to-happen reestablishment of the Bell System, we were incredibly well served to have vertical disintegration in telephony. The fact that we had vertical disintegration in telephony at the moment in history when, for example, technologists finally figured out how to have mass market use of online services. That was incredibly fortunate and that resulted from the antitrust case. But they can also fizzle. And even if you win a case, there can be severe problems in finding a remedy that the antitrust system will undertake.

So, let me go to my bottom line. I really want us to turn around. These cases are going to be hard to prove and I want us to turn around and think about both the potential

for a competitive effect, meaning there could be change in the conditions of competition. The form of that change was different with the two cases I talked about. Second, think about a causal link between the alleged act and monopoly. I would bring those to the fore. Those would be my framework for thinking about a Section 2 case.

But of course that discussion is only about the question of whether there is an antitrust case. This doesn't remove from the agencies or any other plaintiff, but particularly not for the agencies, the problem of thinking about whether there's enough of a harm to competition at stake to justify any intervention. I guess I would say that in an cases like AT&T or Microsoft, where you've got a substantial impediment to technical progress in an infrastructure industry, that matters to the whole economy, arising from the lack of competition. That one might get you over the hump. But there are other metrics that can be used, such as the size of the differnce between the two competitive regimes and the importance to consumers.

And also to think through whether there might be an efficiency defense, whether there might be more harm than good done by the antitrust intervention. I don't want to take that away, but I do want to say that I would emphasize -- I would emphasize thinking through whether there is an antitrust case in a perfectly ordinary

antitrust analytical way, competitive effects and causation.

Thank you very much.

MS. GRIMM: Thank you very much.

Our next speaker is Professor Rich Gilbert, who is Professor of Economics of the University of California at Berkeley.

From 1993 to 1995, he was Deputy Assistant Attorney General in the Antitrust Division of the U.S. Department of Justice, where he led the efforts that developed joint Department of Justice and Federal Trade Commission "Antitrust Guidelines for the Licensing of Intellectual Property."

Professor Gilbert has served as an Associate Editor of the "The Journal of Industrial Economics," "The Journal of Economic Theory," and "The Review of Industrial Organization."

Professor Gilbert research specialties include antitrust economics, intellectual property, and research and development.

He earned his Ph.D. from Stanford University in 1976. He received a Bachelor of Science degree in Electrical Engineering in 1966 and a Master of Science degree in 1967 both, from Cornell university.

Professor Gilbert.

MR. GILBERT: Thank you very much, Karen.

While I figure out how to find my talk here, I will thank you for bringing these hearings to Berkeley. We're very glad we could be able to host these hearings. And here we go.

I'm going to talk about a very narrow slice of conduct that could invoke Section 2 liability, namely innovation or product design, and ask the question of whether innovation, certain types of innovations can be a source of Section 2 or contribute to Section 2 liability.

Now, I don't think many people would argue that innovation is great for the economy. Nevertheless, there are quite a number of cases that have alleged that innovation or product design has contributed to monopolization. Of course, Microsoft, as we just heard, is one. A slew of cases involving IBM and standardization for complimentary products, the use of complimentary products. There are some interesting cases on the horizon in the prescription drug industry that raise innovation issues in a Section 2 sort of context.

So, I'm going to be reviewing some of these cases and asking whether we could have a standard, we've heard a lot about standards this morning to evaluate Section 2 type conduct, whether any of these standards is useful for evaluating innovation. Maybe I will give you

my punch line right away. I think the answer is no, and try to tell you why.

I'll begin -- let's see. I'm going to begin with a very simple model. I hope not to raise the fear factor too much and talk about letters here. If you are worried about this, you can replace any letters with numbers. So, I want to talk about a very simple model of innovation.

I have here an old technology. It has a social value, v, zero, for each use. You could use, say, fifty dollars for v, zero. A new technology could come along with a higher social value, maybe a hundred dollars, for each use. I'm going to strip away marginal cost to keep things as simple as possible. There are a bunch of users, say there's a thousand users, if you want. And there's some R&D costs.

Now, in this simple model, the innovation is socially desirable, I mean, it's still the small one can be as simple as possible if the total incremental social value exceeds the cost of the innovation.

So, we have our thousand consumers and they each use this technology in one application, the extra value of the innovation is fifty dollars, so that would be fifty thousand dollars. The question is: Does that cover the cost?

Now, in terms of whether the innovation is privately profitable, there's a price that the innovator can collect for the new technology and it's profitable if the price it can collect times the number of people who buy it, assuming they all buy it, in fact covers the cost.

So, the first that I want to make, and there is a paper that should be coming out in "Competition Policy International" on this topic, the first point is to say, innovations can be socially desirable but not privately profitable, or you can have innovations that are privately profitable but not socially desirable.

So, the first point is a very simple point: That innovation can go any way -- there can be any order in evaluating social and private profitableness. It's not like a price -- innovation is like a price change in some respects. If you come out with an innovation for a product, it's like reducing its quality-adjusted price, and you can make an analogy between innovation and, say, predatory pricing. If you reduce the quality-adjusted price, that leads to the exit of competitor, and then you raise your price again, that has a sort of predatory flavor to it.

But unlike pricing, where lower price certainly lowers the price above marginal cost is a good thing, we really don't know if more or less innovation is a good

thing unless you do the whole analysis.

So, the standards I want to talk about, these came up this morning, I want to talk about different rules of reason which I interpret as either a total rule of reason, which looks at all of the economic value associated with some conduct, whether it's value to consumers or value to producers.

And then there's probably the more popular consumer rule of reason analysis which focuses on consumers, and some people would say is at the heart of antitrust analysis, at least according to, say, Steve Sala, although others such as Joe Farrell and Mike Katz, and Ken Hirers from the antitrust division, have advocated a total rule of reason standard.

Then there's the profit sacrifice test in one of its many forms. There's the no economic sense test. We've heard a little bit about that this morning. And then I'll talk a little bit about sham innovation.

So, a total real of reason analysis, in a sense it's the right thing to do if you are, sort of by definition, an economist, it's the right thing to do because it ask whether total surplus is increased from some activity. And even if that makes producers relatively better off than consumers, at least there's the possibility that those producer profits will flow

eventually to consumer benefit, or that somehow producers can bribe consumers to get it all right.

But the problem of course is that you can have the price being either larger or smaller than the incremental social benefit. And all of the analysis would have to be done when the innovation decisions from the perspective of the decisions that are actually made, which means what we call an ex ante analysis. And this really I think sets up innovation as being distinctly different from other conduct. Because when you talk about innovation, it's absolutely necessary to keep going backwards and backwards to what are the incentive effects of whatever rules or policies you have in place, what are their incentive effects for innovation in the first place.

And now it's easy to say, well, of course that's right, of course we're going to take that into account. But I want to ask you, if you have been in these hearings, how many times have people really gone backwards and said, what are the implications of what we're doing for the kinds of decisions that people are make that could have developed and could develop new products or new processes or whatever ten years from now. And I would say you haven't heard it very many times.

So, it very easy to lose sight of these incentive effects. And on top of that, if you did a total

rule of reason analysis, the analysis that you would have to do is hugely complex. You have to really take into account all spillovers, how innovation affects consumers and firms in other industries, and those we know can be very, very large. And with the complexity, you can lead easily to false positive and false negatives. I'm not going to say Type 1 and Type 2 because I always forget which one is which, so I will just say false positives and false negatives, and you can figure out which one is a positive and which one is a negative on your own.

Too much enforcement or too little enforcement. Portion. It can go either way.

A consumer rule of reason analysis. Again, it's very complex. The problems are similar to those that arise in a total rule of reason analysis. Again, the ex ante problems, the uncertainties, the spillover effects, etc. And as well can lead to conclusions that just simply don't make sense. This is particularly a problem in innovation. You could have an innovation that just saves millions of dollars in production cost, but maybe it leads to a nickel increase in price, which certainly could happen. And would you want to say that this is an anticompetitive innovation because consumers are slightly worse off, despite the fact that it's generated enormous savings and efficiencies on the

producer's side.

Well, I know that people can differ on that, but my view is that it just doesn't make any sense to discount all of those efficiencies. Now, you can say that you're looking at a merger case or you're looking at other conduct that doesn't involve product design, that those kinds of efficiencies are not likely to be huge or have not been demonstrated to be huge, but when you're talking directly about innovations these efficiencies exist as part of the innovation. So, you can't discount them.

A profit sacrifice test. There are, of course, different versions of a profit sacrifice test. And I'm going to quote Janusz Ordover's and Bobby Willig's definition: "Predatory intentions are present if a practice would be unprofitable without the exit that it causes but profitable with the exit." Now, Ordover and Willig also say this is just talking about predatory intent not facts, they add a lot of other conditions in their analysis that make this analysis considerably more elaborate, and in many ways closer to a total rule of reason analysis. So, this is just the basic idea of a profit sacrifice test.

Now, the profit sacrifice test, I am not the first to say this, it doesn't seem to me to make any sense to innovation, even though it was in fact developed

originally to talk about innovation as well as price -- predatory pricing. The problem of course first of all is that innovation almost always involves a profit sacrifice. It's called investing in research and development. That's what you do.

It's also the case that innovation, if it really works, probably excludes competitors. So, exclusion is sometimes a direct result of producing a really good mousetrap. The other mousetraps can't compete.

Now -- and furthermore, and this is absolutely crucial, is that we need to know how much market power after the innovation occurs is necessary to justify the investment in innovation in the first place. And you can make statements about whether innovation creates too much or too little market power relative to its social value. But the social value is very hard to calculate. And the amount of power or pricing power that is necessary to evoke the right amount of investment in research and development is simply a very hard question. So, I conclude, based on this, that a profit sacrifice test really doesn't do very much to inform this analysis.

What about a no economic sense test. I am going to use Greg Werden's version of this. He says: "Conduct is not exclusionary or predatory unless it would make no economic sense for the defendant but for the tendency to

eliminate or lessen competition."

Now, you can see that, with all the negatives again, the no economic sense test is really a test of the absence of predation. So, if it makes sense to do this activity, then it's not predatory.

Now, although it's not really clear in the no economic sense test what no economic sense means, there are two interpretations of this, certainly as applied to innovation. One is that it's not profitable. No reasonable firm would have dumped all of this money into a new product design unless it had a purpose of excluding competition. A second interpretation is that innovation really always makes economic sense because it's just a good thing that firms do.

Depending upon which one of these interpretations you have, if it's the first one, then the no economic sense test is very similar to the profit sacrifice test. Now, if it's the second one, the no economic sense test is similar to really whether innovation is a sham, meaning whether it's a fraud or not. I think it's the case, and I know that Werden has said that his view of the no economic sense test as applied to innovation is the second version, not the first version. And I also know that he has views of conduct that do not in fact involve a profit sacrifice, even though there was

some discussion this morning that they're the same. His example was a world with no arson laws and flush with matches. So, you can go out there and burn down anybody you want, including your competitors.

So, let me review a little bit of some cases involving predatory innovation, particularly with respect to complimentary products, products that interact with other products. Those are almost totally -- well, they're not entirely, but to a great extent they have to do with changes to the interface stands. That was certainly the case with the IBM peripherals litigation, a bunch of these in the late 1970s, whether it's other people's disk drives would hook into and work with IBM mainframe computers. And the Microsoft case. And there's been a few others.

As a general conclusion in looking through these cases, well, you can find a lot of lower court decisions, a general conclusion is that in nearly all of these cases, weak evidence of efficiencies was sufficient to avoid liability for predatory innovation.

So, after there was lots of talk about whether there was monopoly power or not, or whether or not there was a monopoly of market effect, competitive effect. The final analysis, they said -- these courts generally said, well, we can think of it as an efficiency reason for this conduct, therefore it's okay.

To my knowledge, only the Microsoft case, Microsoft 4 as it is sometimes affectionately called, purported to apply a rule of reason analysis to innovation. So, let's talk about Microsoft a little bit.

The Microsoft case actually came up with a road map to kind of evaluate innovation. There actually five steps to the road map. I'm going to condense them to three.

The plaintiff first must demonstrate that the conduct that harmed consumers had an economic anticompetitive effect. Second, if a plaintiff successfully demonstrates anticompetitive effect, then the monopolist may prefer a procompetitive justification for its conduct. So, the second step is the monopolist, alleged monopolist can talk facts and say, we have a reason for doing this. And then the third step says, well, the plaintiff can now come back and rebut the monopolist's justification. Or, if it can't actually justifiably rebut it, it can demonstrate that the anticompetitive effect was bigger than the procompetitive benefit and outweighs it. So, it can do a rule of reason analysis is what it says.

Well, let me just review what happened in the Microsoft case. There were many allegations having to do with Java standards and with various contracting policies

with lots of different players in the industry.

There were really three design elements that were challenged in the Microsoft case. One was not having Internet Explorer in the Add/Remove programs utility. The other was designing Windows so as in certain circumstances to override the user's choice of a default browser other than Internet Explorer. And the third one was commingling browser and operating system code.

Now, interestingly, the court concluded that Microsoft offered no procompetitive justifications for the first and the third, and these were held by the court to contribute to the Section 2 violation. But then the court also concluded that plaintiffs -- that Microsoft did offer a justification for the second element of its conduct, that is, the overriding of user's choice of the browser, which the plaintiff did not rebut, and therefore in fact the Microsoft court never got to the third step. So, the court never got to the rule of reason balancing in the third step because either it was anticompetitive with no efficiencies or there were efficiencies and the plaintiff didn't come back. So, maybe Tim will explain or Dan will elaborate on this, but this is my reading of what happened with the court.

So, the practical effect of what happened in the Microsoft court's analysis was really, I think, similar to

the no economic sense test of the first variety. That is, was there some reason for this conduct. If there was, it's okay.

Now I want to turn to another area that I find quite interesting. As they say, this is emerging antitrust. This is that drug patents may delay generic competition. So, the innovation that contributes to these drug patents can have competitive effect. It can have competitive effect both through the nature of generic substitution and also because of the specific elements of the Hatch-Waxman Act, which impose a 30-month stay on generic competition if you have a patent.

So, one of these cases is called Tricor, which is actually a drug called phenofibrate. It's used to control triglyceride and cholesterol levels. And I should acknowledge I have been a consultant in this case. A second case is Prilosec and Nexium, which Prilosec is a common drug prescribed for heartburn, gastric reflux, and then your more serious conditions like esophageal and duodenal ulcers. It turns out that Nexium is what is called an isomer of the chemical that's in Prilosec. It's basically the same molecules. It's been rearranged a little bit. And it's supposed to have some advantages for the esophageal and duodenal ulcers, but not for heartburn.

The allegations that came up in both of these

cases is that the innovations are costly but minor improvements, that they're contrary to the intent of the Hatch-Waxman legislation to promote generic competition, and they have large adverse competitive effects by delaying generic competition.

Now, I think certainly if you just take a snapshot of competition, once these drugs exist, anything that delays generic competition has at lease the possibility of a competitive effect. But it's important to recognize that the Hatch-Waxman legislation was a trade off between more generic competition and more protection for patented drugs. In fact, the first three letters of the Hatch-Waxman Act are patent term restorations. I think it was designed to protect pioneer drugs, as well as promote generic competition.

Product line extensions certainly increase incentives for drug innovation. If you actually look at the respective patent terms for prescription drugs, patented prescription drugs, it's actually quite short. It's one of the shortest of all industries because of all the FDA delays and regulations required to actually produce the drugs. And it's very hard to assess these benefits from these innovations.

So, I think instead of looking at any of these standards to inform a Section 2 analysis for innovation, I

find all of them seriously lacking. I think instead you can turn to consistency with other rules.

And let's talk about something we've heard before, talk about the process rather than the outcome. That was discussion was featured in this morning's session to great extent by members of the panel talking about the process rather than the outcome.

So, the quote that I'm quoting here is by a distinguished economist, but not anyone from our group. It's from an economist who works for the Oakland Athletics who was quoted by Michael Lewis in "Moneyball," and he was actually talking about how to hire baseball players, but I think his insight here is equally applicable to antitrust policy, "We have to look at process, not outcomes."

So, if we think about making an analogy between innovation effects, and the effects and rules that are applied to other conduct, I want to argue that, in many innovation cases, the effects of the innovation are very similar to the effects of a unilateral refusal to deal. When you're talking about, say, if IBM refuses to make mainframes compatible able with third parties' components, it's a lot like saying, well, one day Microsoft gets up and says, I don't want to work with these third party people anymore, I want to build computers just for myself. Microsoft refuses to make Windows compatible with other

browsers. Or a generic drug manufacturer refuses to supply a drug that generics can copy.

In effect, this conduct looks a lot like a unilateral refusal to deal. Now, these days, after "Verizon v. Trinko", seems like unilateral refusals to deal have a long way to go before they can generate antitrust liability.

Now, I don't want to state that as a categorical fact, or that "Verizon v. Trinko," that all the words in "Verizon v. Trinko" were necessarily the greatest words that have ever been uttered in all of antitrust policy. I am not sure it's the greatest policy.

But my only point is that if you are going to have a policy that gives considerable deference to a decision by a single firm about who that firm will deal with or supply, it just seems odd that one wouldn't have a more strict policy, more intervention policy with respect to innovations that have very similar effects.

So, I'm not saying -- again I want to emphasize that I'm not saying that we should have policies that say that unilateral refusals to deal with per se legal, I don't think that's necessarily the right thing. But if we are going to have such a policy, then consistency seems to say that if you unilateral innovations that have similar effects should not be treated more severely.

So, one of my conclusions here is that all of the rule of reason and profit sacrifice tests have limited value to evaluate what is sometimes called predatory innovation. It's hard to do; likely to get the wrong answer; very hard to look al at the incentive effects that are necessary to really thinking about innovation.

The no economic sense test is better, but only if it's interpreted as a test of sham innovation because otherwise it comes out just like or very similar to a profit sacrifice test.

And my other conclusion is that this is what courts in fact almost always have done with very few exceptions in the way they've treated these cases and it's probably as reasonable an approach as any.

MS. GRIMM: Our third presenter this afternoon is Daniel Rubinfeld, who is the Robert L. Bridges Professor of Law and Professor of Economics at the University of California at Berkeley, where he has taught since 1983

He has also served as Deputy Assistant Attorney General for Antitrust in the U.S. Department of Justice, as well as in various capacities with the President's Council of Economic Advisors, the National Academy of Sciences, the Urban Institute, and the National Bureau of Economic Research.

Professor Rubinfeld's major books include "Econometric Models and Economic Forecasts" and "Microeconomics." Recent publications include, "Antitrust Enforcement in Dynamic Network Industries" in "The Antitrust Bulletin," 1998; and "Empirical Methods in Antitrust: Review and Evidence" in "American Law and Economics Review."

He is President of the American Law and Economics Association.

Professor Rubinfeld received his B.A. from Princeton University in 1967; his M.S. and Ph.D. from the Massachusetts Institute of Technology.

Dan.

MR. RUBINFELD: Thanks very much. I really, like everyone else, appreciate the opportunity to appear before you today. It's been about eight or nine years since I left the Antitrust Division and I guess, understandably I've aged about eight or nine years during that time, and I find as one gets older one tends to reflect back on the past, perhaps more than one should. But what I'm going to do in my comments today is to really do some reflection on what happened, and I might hit on some of the previous commentators' issues, but see I can do it in a way that will be constructive for the agencies as you think about forming your policies.

So, the first point I want to make is why I think it's really important to have an active Section 2 jurisprudence. And I want to look back and talk about the legacy of "U.S. vs. Microsoft" for antitrust enforcement. And, finally, I want to look at bundling and talk about the legacy of "LePage's vs. 3M".

I should say, to make it clear, that I had an interest in both of those cases. I helped to prosecute the Microsoft case. And I have consulted for 3M with respect to some of the issues that arose in its appellate case. I was not involved in the LePage's case itself, but I was involved in thinking about some of the appellate issues. So, I have taken a pretty close look at the Third Circuit opinion in that case.

If you're interested in some of the deeper comments I am going to give today, they will appear in two articles. One is an article that Doug Melamed and myself are completing for our forthcoming volume in which we are looking at the lessons of the Microsoft case. And the second is an article I published a year or so ago, looking at the bundling in the "LePaige's vs. 3M" case.

Before I go on to the cases, as far as the active Section 2 jurisprudence is concerned, I guess history affects how one views things, and I can be very quick, I can just say, having been involved in actually bringing

both Microsoft and Dentsply, both of which I thought was the right thing to do, and the D.C. Circuit and the Third Circuit in both cases have written opinions that were supportive of that decision, I'm proud to have been involved in both of those cases, and I think that shows, consistent with what Tim Bresnahan said, it shows the kind of active Section 2 jurisprudence that I think makes sense.

Both cases had a particular set of facts associated with them that told a story that made them the right cases to bring, viable cases. And I think the agencies need to be careful because there is not going to be a lot of good Section 2 cases. So, you need to be careful and active and watchful for the appropriate opportunities in the future.

So, having said that, let me go on and take a look at "U.S. vs. Microsoft". And I am going focus now really on sort of what we've learned from the case in a very broad perspective. I'm not going to try to go into some of the technical details unless we have discussion later.

It's sometimes easy to forget, since this is almost ten years ago when at least my version of Microsoft was brought, that people were barely talking about network effects. Now it's taken for granted that in high tech

it's common to face industries in which network effects matters and that enters into the economics and to the law, legal thinking about the cases.

I see one of the legacies of Microsoft is sort of helping to bring us from the pre-network effect world to a world where network effects are often the core of the analysis.

Next important is people are thinking somewhat differently now than they were before about barriers to entry. When we originally think about investigating the Microsoft case, obviously barriers to entry was something that I paid a lot of attention to. We became convinced that there was a significant barrier to entry, but it's not the usual one you might imagine. It had to do with the fact that in order to have a successful operating system, you really needed to have successful applications. There was what we called a two-level entry problem. And we spent a lot of time developing the underlying economics that describe this applications barrier to entry.

One of the things that people forget, actually I almost forget myself, is that the term "application barrier to entry" did not exist, at least to my knowledge, prior to our work. We coined and reiterated it every time we could at trial until the judge finally got it into his mind.

And it was fun to watch the trial, by the way, because at the beginning of the trial, Microsoft disavowed the application "barrier to entry." By the end of the trial it was being discussed by them as if it were a common coin of the realm.

So, let's remember that that was one, for better or worse, I think for better, one of the legacies of the Microsoft case.

The other thing is, as you all know, the case involved tying, but it was different than the classic kind of tying case, which is usually thought of leveraging market power from a market where a firm has substantial market power to use some related power where it does not necessarily have significant market power.

But this case did involve tying as well as bundling. And it was a non-leveraged form of tying. And now it's not, I think unusual to think about bundling in that context in certain cases where it was probably quite radical at the time.

The other thing is that the case brought to our mind a different way, a different perspective of thinking about market definitions. As Tim suggested earlier today, there's always been a lot of talk about Schumpeterian competition and certainly the agencies have been aware of it for a long time.

In this case, to one degree or another, Schumpeterian competition really came to the forefront because, in the debate about market definition and market power, Microsoft took the position that it was the threat of entry by competitors that really not only restrained this market definition, this market power, but also in fact meant that the market should be defined very broadly. Microsoft argued for an extremely broad market definition that included almost all operating systems, from hand-helds pretty much up through mainframe computers, and argued that it had no market power over that relevant market.

I still remember one particular trial exhibit which Microsoft presented which sort of brought this issue to the front. And the exhibit said that Microsoft faces substantial competition from known and unknown competition. And my view, which was borne out, by the way, by the Circuit Court opinion, is that when you have to defend your market power or lack of it by describing competition that no one knows about yet, you really have a fairly weak position.

And if you read the D.C. Circuit opinion, I think the D.C. Circuit got it right, as they did in most areas, they said, the nascent competition really could be important but it really has to be competition which is

expected with reasonable certainty to actually be there in the marketplace at some period in the future, thinking about two years would be the relevant time period.

But the fact that someone might come along and take away your market power isn't sufficient. I think the court was pretty clear about that. And it's basically the right place to be.

As far as legal issues I see coming out of the case, there are about five. I'd like to highlight, again, without getting into the technical/legal side of the case, the first thing which I think we now take for granted, or at least I hope we do, which is that the same antitrust principles apply in dynamic high tech industries as apply in the other industries. The application of course might be somewhat different, but the principals are the same.

And I quote Judge Posner, who really says what I have in mind, which is that antitrust doctrine really is pretty well situated to allow us to handle high tech industries. We don't need to rewrite Section 2, in my view.

Up until Rich started speaking earlier, I would have said hardly anyone remembers that there are IP issues raised in Microsoft. Rich laid them out pretty well.

And so, what I wanted to say is that the court makes it pretty clear that the same general antitrust

principles that apply to conduct involving intellectual property that apply to any other form of property under the antitrust laws.

Originally, at one point in the case, Microsoft actually claimed that their IP rights covered the entire desktop, at least with respect to the first boot up of their operating system. The court made it very clear that (a) that was too expansive an interpretation, and (b) that it was appropriate for the Sherman Act and the courts to really look at the IP issues. You did not get a free ride just because you did in fact have some legitimate intellectual property.

And Rich described in detail and correctly where the court finally came out about these specific IP issues.

With respect to product design, as I interpret the court opinion, it makes clear that the court is going to give pretty wide deference to firms that are designing new products, along the lines Rich described. But the court also said this is an area that's open for viable investigation. And where particular aspects of Microsoft's product design excluded rivals, the court did shift the burden to Microsoft to establish a procompetitive justification for the design. There is no safe harbor just because you're involved in innovation or product design. And the removal of the Add/Remove utility

which Rich described was one good example of that. The court was very clear that was problematic and there was no procompetitive justification given that I can see in the case.

There's also an issue in this kind of Section 2 case as to whether you ought to kind of just describe the case with kind of a broad brush or kind of go into the practices with fine detail. My sense, my personal sense during the trial was that there were times when the defense seemed to say, we want to just talk very broadly about the rights of a dominant firm to engage in certain kinds of potentially procompetitive activities. And the government, as I saw it, focused really in with apparent detail about the details surrounding each of these kinds of conduct.

And I read the D.C. Circuit as basically saying that any aspect, the explicit, discrete aspect of monopolist conduct that tends to exclude rivals may be illegal, unless there's a legitimate procompetitive justification for that particular conduct.

So, there is at least a burden-shifting aspect to some of the illegal rules that flow from the Microsoft case, which I think is appropriate.

There is an issue about whether you ought to focus on rules or cases, specific facts. Here, as you

know, the court, the appellate court, on the time claims, suggested that the per se rule didn't apply because of the particular attributes of platform software. So, we're now left in a somewhat unclear world that may apply mostly to Section 1, but also has Section 2 implications as to how to treat tying.

And I have to say here, as an economist, you may not be surprised to hear that I'm pretty sympathetic with the comments of the court. I think it's really hard to, as an economist, come up with per se rules that would apply in this kind of high tech context.

Of course we don't know quite where that would have ended up because the Department of Justice chose not to appeal that part of the D.C. Circuit's ruling.

With respect to causation, I see the case telling us conduct that violates the antitrust laws only if it injures competition. Causation can be inferred when exclusionary conduct is aimed at producers of nascent competitive technologies, as well as when it's aimed at producers of established substitutes.

So, basically the court spelled out causation along the lines Tim suggested, and I think the court makes it pretty clear that that's necessary and that the government succeeded in that effort.

What about profit sacrifice? Here we could

debate exactly how to characterize the case. I would say that the case we put forward did really involve a profit sacrifice test. My definition would be that conduct is anticompetitive when it would not make business sense for the defendant but for its tendency to exclude rivals and create or maintain market power for the defendant.

This is kind of a crude paraphrase. If you go back and read the details of the case, you'll see a more formal definition. It is a variant on a profit sacrifice test. I wouldn't say it's quite a no nonsense test, but it's pretty close.

Now, that's not what the D.C. Circuit said. What the D.C. Circuit said was quite close to what Rich Gilbert said earlier. The court said that the conduct is anticompetitive if it harms the competitive process and either it's not shown to further efficiency or to have some other procompetitive justification or the anticompetitive harm outweighs its procompetitive benefit. So, the D.C. Circuit was suggesting more of a balancing test than a profit sacrifice test.

And this leaves us with the question of what we should do if we find Section 2 type conduct that harms competition and furthers a legitimate purpose should we have a balancing test.

Now, I should say here, I am not entirely sure

of where I would end up, but I lean strongly towards the profit sacrifice test, at least in most cases, because I think it's easier to operationalize. We could debate about how to exactly operationalize it, but I think Tim suggested that, in most of these cases, it's just not possible to sit down and do a fully complete balancing rule of reason analysis. We don't have the time or the information available. And the cost, by the way, including the cost to the parties, would be tremendous. And I think in most situations, a profit sacrifice test would get us to the right place. I think you can try to find some counter-examples, but I think you have to work hard to do it. So, I am on the side of the folks who think we ought to just refine the profit sacrifice test.

Okay, let me switch to my other case of interest, "LePage's vs. 3M". You have heard about it a little bit already. This was the case involving bundled rebates offered by 3M in the market for transparent tape. 3M was facing substantial competition from LePage's, not a new entrant, but an entrant that had become very successful in the production and sale of private label tape.

And the question was: Were 3M's programs, specific bundling programs, anticompetitive and a violation of Section 2.

Now, here I'm very critical of the Third Circuit opinion generally for two reasons. One is that the opinion itself does not, in my mind, in any way provide any clear guidance as to how firms ought to behalf when they do have a dominant position and they are deciding what kind of business practice to engage in. And I think any clear legal rule ought to do so.

And, secondly, I actually think that I have been unable to come up with what I think is any coherent theory of predation or any Section 2 theory which fits the facts of the 3M case. In my view, the Third Circuit was a little bit loose in how they actually borrowed and used facts of the case. I actually went back and read most of the record in the LePage's case and I cannot find a theory that I find coherent that actually fits the facts of the case.

And the thing to remember is that bundling itself of course is quite ubiquitous and often is procompetitive. So, if we generate a legal rule, we want someone else to define those relatively few cases where bundling is a problem and distinguish it from the majority of cases where bundling is procompetitive. So, we're looking for those particular situations. Lack of clarity is a problem.

Let me briefly take a few minutes and just very

quickly tell you about 3M's programs. There were a whole bunch of programs being attacked, but the two that involved bundled rebates were, first, the executive growth fund program. And the thing that's key about this program was it was actually I think a one-year program and it was a pilot program for a small number of customers.

Now, what it did do was it set up growth targets for six different errant divisions of 3M, which would cover a lot of office supply products. And firms actually had to meet target goals in each of these divisions.

Now, my view is that the executive growth fund program -- let me be clear that this is my view and not 3M's view. My view is that, had this program been expansive and had it covered all customers rather than just a few, and had it continued for a number of years, it could well have been an anticompetitive program. I don't think it was because it was too narrow. It had no ability really to substantially exclude competitors because many of the key competitors, Walmart being the most important, were not covered by this program. But it had the potential if it continued to actually be restrictive because of the specific design of the program.

But for various reasons, which I think relate partly to the demands of some customers, including Walmart, 3M changed its program to a partnership growth

program, and this program did involve discounts in six different areas, but there were no specific targets to reach in each of the areas. Basically you got a rebate based on the aggregate of all your purchases in all six categories. So, this amounted to a somewhat complex discount program, volume discount program.

And my view is that the PGF program, as it's called, was not anticompetitive, even though the court felt otherwise.

So, if you go back and look at the LePage's trial and ask -- take a look at the trial and ask if the trial helps to support some of those theories of competition, I would say no. I didn't see any testimony in the record about economies of scale or scope, which would be important, particularly to get at the issue of whether LePage's or any other competitor would remain viable in the face of these practices.

There was no predatory pricing claim. Plaintiffs agreed that LePage's was pricing above cost. In fact, by my calculations, even if you took all of the discount programs at 3M, no matter what the products were, attribute all the discounts to tape, it would still be pricing above cost.

I didn't see anything about profit sacrifice that I could infer from the opinion. So, there was

nothing that fit my particular interest in pursuing these kinds of Section 2 cases.

There was no time claim at all. It was a bundling case, not a tying case. There was also no showing of market power with respect to any product other than transparent tape. So, the kind of leveraging theory you might expect to see in a time case was not present either.

Now, the jury did find, interestingly, no exclusion under Section 1, but they did find a violation under Section 2. So, this leaves me with a puzzle of what the legacy is of "LePage's vs. 3M". I think for a while the Commission may have though this case was unusual, but it's pretty clear now that the Third Circuit opinion has, let's say, encouraged a lot of litigation surrounding these kinds of practices.

So, I went back and asked myself, what should the principles be here. And I would say, speaking very broadly, if the rebates associated with bundling reduce consumer welfare by impairing rivals' ability to make competitive offers to potential customers, that's going to be something generally that's going to give me concern. I am not going to say it's necessarily anticompetitive, but that would give me great pause.

And that general rule takes into account efficiencies and allows price increases by firms, as long

as they don't impair rivals' ability to compete. But that general rule is really not very helpful from a process point of view. It's really too broad to make applicable.

So, I would say the following. I'd say, there are conditions under which one may be anticompetitive, but none of them fit LePage's.

And, just quickly, because I think we're running out of time, here's some examples of situations in which I think bundling might be anticompetitive, none of which fits the LePage's case.

The first would be traditional contractual tying of the kind that we saw in Jefferson Parish. The second would be predation through profit sacrifice of the kind where bundling was used in the form it was in the Microsoft case, and perhaps I'd include Dentsply there as well. The third might be monopoly maintenance through the creation of barriers to entry, which is, at least my interpretation of "SmithKline versus Eli Lilly," a case I was not involved in, where at least the court stated that the sale of monopoly products were used to harm competition in a non-monopoly market.

Now, where does this leave us? We need a workable test. I wish I could come here and tell you I figured out what that test is. I have read many papers written by folks in the agencies and elsewhere suggesting

various tests.

I still not have seen one that I am entirely happy with, but a couple things strike me as important when and if we get such a test. One is that, weakening a rival should not be sufficient to condemn a monopolist, otherwise we will be discouraging firms from innovating and growing and being successful, which I think would be harmful to our competitive process.

Secondly, while it would be very nice to have an incremental cost benefit test for certain kinds of bundling, there are a lot of difficulties in putting that test into play that I won't bore you with here. So, we have more work to do there.

Third, we might say that for a bundled rebate program to be anticompetitive, it at least necessarily ought to be the case that the incremental costs associated with the available discounts exceed the incremental profits associated with the incremental sales that generate. If you take that language, I think you can create a viable safe harbor at least that would at least give firms some comfort that certain practices would be presumed to be legitimate.

And I actually believe, having done my work in LePage's, that the behavior of 3M would actually satisfy this safe harbor test. But you don't want to condemn

nondiscriminatory price cuts in single markets and you want to be careful not to penalize policies that exclude less efficient competitors.

That's a different issue because if you want a test that's workable for a firm that's engaged in a policy, it's very hard to say you shouldn't exclude a less efficient competitor because the firm is not going to know typically whether its competitors are more or less efficient.

So, this test really is not going to be a perfect test and probably never will be.

A workable rule should be one that's clear and manageable. We don't want businesses to say what I hear a lot in recent years, which is we have no idea which practices we can engage in or not because anything that seems to have any bundling aspect to it could lead to a Third Circuit lawsuit.

Now, as far as the thoughts I have given you, I just happened to go back and look on the web recently at the AMC's tentative recommendations. I assume they're still tentative. And I found myself in agreement with their recommendations in the areas I am talking about. There are some other areas I would disagree.

But I noticed that the AMC tentatively is recommending no need to revise the antitrust laws to apply

to high tech industries. And I agree very strongly with that.

The AMC is proposing no need for Congress to amend Section 2. And I agree strongly with that as well.

And, finally, it looks like the AMC is thinking of recommending additional clarity and improvement in Section 2, particularly with respect to areas such as bundling. And I agree strongly with that as well.

Thank you very much.

(Applause.)

MS. GRIMM: I'd like to thank all of our panelists.

We are going to take a 15-minute break now. We'll reconvene in 15 minute for our round-table discussion.

(A brief recess was taken.)

MS. GRIMM: Before we get to our questions and round-table discussion, I would like to introduce our fourth panelist, who will discuss some of the ideas that have been advanced by our other panelists this afternoon, as well as some of his own ideas about Section 2.

Carl Shapiro, our fourth panelist, is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley. He also is Director of the Institute of

Business and Economic Research and Professor of Economics in the Economics Department at U.C. Berkeley.

He earned his Ph.D. in economics at MIT in 1981; taught at Princeton University during the 1980s; and has been at Berkeley since 1990.

He has been editor of the "Journal of Economic Perspectives," and a Fellow for the Center for Advanced Study in the Behavioral Sciences.

Professor Shapiro has published extensively and his current research interests include antitrust economics, intellectual property and licensing, product standards and compatibility, and the economics of networks and interconnection.

Professor Shapiro served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice in 1995 and 1996.

Carl.

MR. SHAPIRO: Thank you very much. I don't have any slides. I am going to cover some ideas I have and then comment on and kind of get the discussion going about each of the previous panelists.

You probably already picked up the theme here is that we get up here and we reminisce about the cases that were brought or investigated while we were at the Antitrust Division. Okay? We really appreciate you

coming out here because we all have a love for the Antitrust Division. FTC, too. And we sort of appreciate your coming out here so we don't have to go again to D.C.

One of the themes that we've picked up here and throughout many of these hearings is that Section 2 cases are inherently really hard because it's a single-firm conduct and it's not like a cartel case. They're really hard and there's always elements and you have to be very careful.

And I don't disagree with any of that, but I want to focus on they seem to be harder than they need to be in some cases. And it's one of my themes, intersecting with the role of patents and plus innovation and Section 2.

And I'm going to depart from the DOJ reminiscing and actually talk about the Unocal case, which was brought by the FTC, and which I served as an expert witness for complaint counsel. And that was litigated at the -- by an administrative law judge, before the administrative law judge.

So, let me just quickly remind you of that case or tell you about the case. So, Unocal had some patents -- had patents -- came to have patents during the '90s on reformulated gasoline. The State of California through the California Air Resources Board, CARB, established

regulations for gasoline in order to make the cleaner-burning reformulated gasoline.

And it came to pass that the regulations that were adopted, that Unocal's patents, apparently or very likely, many of the refineries would have to infringe those patents for a large fraction of the gasoline they would make if it would comply with the state regulations.

So, and the allegation was that Unocal had acted deceptively by leading the industry members to believe that its patents would be -- that either it did not have patents or would make them available on a royalty-free basis. That was the representation when the regulations were being formulated and that Unocal then later sought to get royalties. That was the allegation of deceptive conduct.

So, you would think -- well, let's say I would think, at least, maybe you would think, that this should be the sort of Section 2 case, and I guess it was FTC Section 5, and I'm not distinguishing those for my purpose here, that it would be relatively straightforward.

Big factual question about whether Unocal acted deceptively. They vigorously denied that they did so. The FTC or certainly complaint counsel was arguing they had. I simply assumed that they had for the purposes of evaluating market power and competitive effect. That was

the fact question. If they had not engaged in any deception, I believed there was nothing to the case. That was my understanding, as I recall it.

So, if they acted deceptively, and let's take the really cleanest version, they led people to believe patents would be available on a royalty-free basis. Regulations are selected. Literally billions of dollars are invested by refiners to comply with these regulations, made CARB gasoline, as it is called, and then they asserted patents.

So, the reason I would say this should be, to my way of viewing, a relatively simple case because the conduct alleged and assumed by me, as an expert at least, deception is not something that we have to wring our hands over, oh, is that something that's procompetitive, is it important that companies engage in that sometimes. It's not like discounting. It's not like product innovation. Deception.

So, now then the question is, okay, we don't really have to worry about stifling deception, okay. So, does it have a significant effect on prices, on market power? And if they represented that the patents would be available royalty-free and are later seeking something like five cents a gallon, to throw out a number, for pretty much the whole industry a very large fraction of

the gasoline that would be produced, well, that's a price increase. There's very strong evidence that would be passed to the final consumers, motorists. Not that that matters so much because, even if not, it would be borne by the direct customers of the technology, refiners, who would be using the technology. And so you get right away the competitive effects without any real business justification for the conduct that's alleged or challenged.

And yet, Unocal raised many, many arguments. We do not know how the administrative law judge or the commission or subsequent appeals court might have reacted to these. We do know from other cases, the case of -- the Rambus case. There are a variety of Rambus cases that also involve similar allegations regarding standards and patents. And we know from other cases I won't get into that the courts have tended to say, well, wait a minute, you have a patent and so you get some market power associated with the patent, and so we should be very careful not to jump on -- not to conclude that, just because there's market power, somehow it has to do with anticompetitive conduct, because patents may very well confer market power in a perfectly desirable way.

So, I guess I'm raising a concern that what should be a simple case, there seems to be, in some

quarters at least, sort of a worship of patents that therefore mixes up market power attributable to the innovation versus market power -- additional market power that comes about from conduct, just the sort of thing that Tim was mentioning, actually, look at additional effects of the conduct.

And the economic opportunities of hold up I think are very clear, going back at least to Oliver Williamson, my distinguished colleague here at Berkeley, and yet these were denied essentially by Unocal and its economic expert. That is to say, the notion that once refiners had invested enormous sums in order to comply with the regulations, that would necessarily put Unocal in a stronger bargaining position to get royalties that they could not have gotten earlier.

So, I would say it's relatively fundamental economic principles, fairly clear fact pattern, and yet we have -- and, for example, the whole Antitrust debate about defining the relevant market. Defendants can often, in this case at least, try to make that very complicated, exactly which technologies are in the market and which ones are substitutes, and what was the best alternative, and how good was it, and how much -- they even argued, our technology is so good that people would have picked it anyhow and, therefore, even if we engaged in deception, it

wouldn't matter.

Well, I just don't think that's right because there's additional market power that results from lock in.

So, sometimes the elements that we always think of for Section 2 cases: defining the market, measuring the market power; being cognizant of preexisting market power, in this case because of patents, I think we need to be careful not to lose sight of what may be a simple or more direct argument that can get us to analysis without doing -- without necessarily following some of these steps and without getting tied up particularly in market definition. And, again, Tim, I know, emphasized that he really, as most economists, if we can, we want to get to competitive effects. And market definition may or may not be helpful in getting us there in market shares.

And if you think about the cases I've described today, measuring exactly which share of how much of the gasoline infringes or might infringe and what other technologies are being used is a distraction, fundamentally a distraction to what's being looked at here.

And that came in in terms of remedy as well. My testimony was, we should restore competition, which means they should license these patents on a royalty-free basis, as they had represented under my working assumption. And

yet Unocal argued that, well, our technology is so good that we should be able to charge more than that, even if we engaged in deception, because under competition somehow they would have been able to charge a lot.

Then you ask, well, then why did you act deceptively. And they say, well, we didn't. Well, what if you have. So, you go back and forth. All right.

So, while I'm not expecting the DOJ or FTC to suggest that we throw out market definition, for example, in Section 2 cases. I do think looking for shortcuts that are reliable is a good thing to do.

Let me go on to say something about the previous speakers now that I've made some points about some of my own thoughts about Unocal.

So, Tim first, Professor Bresnahan. Very gracious of him to come up here to Berkeley and appreciate his kind words about Berkeley. I will try to reciprocate and I will make two trips to Stanford in the next week for conferences there, and with pleasure.

I took some of what you said, Tim, to be suggesting that we could think of screening cases based on whether there's a theory of harm that the conduct would lead to a significant increase in market power, or let's put that differently, relax the constraints on pricing that are facing the firm that's accused, or the defendant

firm.

And I think that's a really good way to go. So, I support that.

One way I like to think about it is we could ask if the conduct is directed at certain competitors or maybe at certain distributors who then would be important for certain other competitors in your Dentsply case, we could ask, if the conduct was really effective and eliminated those competitors, a certain class or group of competitors, would the firm be able to significantly raise price. Or, alternatively, if those competitors were fully enabled, would that lead prices to fall significantly.

If that's true, then we need to proceed further in the inquiry. If not, because the price is really governed by some other set of dynamics, you know, in the case of patented drugs, if you get rid of the generic competition, that would usually lead to a higher price, but it could be in some cases that competition from other patented drugs is what's driving price or, in principle, that sort of competition, and then we could stop that inquiry if the targets were not really providing sufficient competitive discipline. So, I am very supportive of that line.

You said at some point, Tim, that it was very hard to do some sort of balancing, you know, particularly

quantifying the balancing of net effects, harm to consumers, benefits to consumers. And so I guess the economic theorists, I guess that's going to include me now, may like to measure all these things and do this in our models, but in practice that balancing would be hard to do. It is hard to do.

One thing we might do is then focus more on the competitive process, rather than necessarily a particular outcome.

But you also said the defendant could show that the practices were efficient and that would be a defense. So, if there was anticompetitive danger, the defense could come back and say the practices were efficient. I don't know what that means in practice. I guess I'd like to hear more from you about that. Because there is typically going to be some story about, oh, this has lower prices for some customers so it's efficient, or this is going to prevent free riding, so I need to have exclusive dealing here. There's going to be some efficiency story and I don't understand how you can avoid doing some balancing after the efficiency flag is raised and now are we done. I don't think you mean they're done just because the defense raises the efficiency argument. So, what happens next?

My last comment was on -- I don't want to get

into Microsoft. Believe me, I really don't want to get into Microsoft. But you did mention -- I like your term, the "remedy fizzle." I don't know if you coined that term, but I like it. You took some responsibility, I think --

MR. BRESNAHAN: I lived that term.

MR. SHAPIRO: For years, right? I just wanted to share the responsibility because, having testified for the states at the remedy phase, I want to share that responsibility with you.

MR. SHAPIRO: Rich -- next, Rich Gilbert. I really liked to hear what you had to say about interfaces, Rich, because this seems to me -- I kept coming -- this came up when I heard you talk about IBM and Microsoft and other examples, it seems to me, going back to at least IBM, and probably selling machines in the 19th century or something, you've often got this pattern where, I have a product and I innovate, I improve it and, as part of improving it, I change the interface or I start producing a complementary product that needs to be compatible and it's innovative and very often intellectual property rights are used to control or secure an interface. And yet we know from the telecommunications, we know from other network industries, that controlling interfaces can lead to a certain octopus-like nature from what might be a

secure monopoly in one product initially.

And speaking for myself, I get really torn because I feel like, well, fine, the monopolist, if you want to call them, improved their product. Integration, where different components are integrated together, is a very important element of improved performance, and so how are we going to draw these boundaries. You know, do we want to treat interfaces differently, for example, either under a copyright or patents or how does it intersect with antitrust. I think these things are hard and I wonder if you want to say more about that.

I was -- it was shocking to me, I have to say, to have an economist tell lawyers to focus on the process rather than the outcome. I just --

MR. GILBERT: Not the first today.

MR. SHAPIRO: I know, it's true. This is all the more shocking because lawyers are very good at process in my experience and economists are always thinking about these outcomes and are often blind to the process. So, I just -- I don't know, we might have to revoke your card. I don't know.

And then -- well, I guess I was maybe not shocked, but a little surprised that you said, well, the courts have done fine because all of this is hard. If it's sham innovation that's your standard at the end, that

seems very hard for plaintiffs. And maybe that's what you want. I mean, what would it take -- what would count as a sham? Could you give us an example? For example, to say where, well, the product is a little better but they didn't have to do it this way, for example. What would be a sham? You know, I think it's sort of ironic when I think about Microsoft -- I said I wouldn't talk about it much -- but one of the things Microsoft really pushed throughout the trial was freedom to design their product the way they wanted to and the great benefit of integrating different features, as opposed to more components or modular.

Well, what is it now, eight, ten years later? I think they're really having trouble because what the computer science community always does know is, no, that's not good design. Good design is modular and basically people on the other side are telling Microsoft, you wouldn't do this except for strategic reasons. And now in a way that's sort of spaghetti code or the increasingly complexity of Windows has made it very, very hard for them to meet deadlines in terms of coming out with new versions and a lot of other problems they've had.

So, what would you do in that case to say, well, you don't have to design it this way, or maybe you don't want to go there if it's not a sham. Any company can

choose how to design their product, even if it's not something they would choose to do except for strategic or exclusionary reasons. Or is that too intensive. I don't know.

But maybe, and you can confirm this, Rich, you're saying it's so hard to do these cases, that it's true a sham innovation standard is very hard for a plaintiff, but that's okay and we're just not going to get many cases. And maybe that's where we're at. Is that what you support?

Dan. I will finish soon here. Dan, there's a lot to say, but I noticed you were emphasizing the somewhat novel nature of network effects and the coining of the application "barrier to entry" in the mid to late '90s by you and Joel Klein, I guess.

I have to tell a little story. So, Mike Katz and I did work on network effects going back to the '80s. And so we're working -- (laughter). No, that's neither here nor there. Academics can do anything, but until it comes into practice... So -- but I just want to tell a little story around that.

So, we're working in the early '80s and we're working on the network effect. And actually personal computers and computer software is a good example of applications -- that was our example, actually,

applications that run on an operating system.

And Mike said to me -- and we're getting kind of excited about this and I guess we got published in a top journal, and Mike says, this is great, but I have to tell you, I have a friend who is doing a lot more with this. Not a friend. I should say, a former classmate. So, he says, back when he was at Harvard, there was this guy and he was making a lot of money on this. The guy's name was Bill Gates.

So, we often think, oh, we work out these theories, but often after somebody else puts them into practice and understands them pretty well, then the law can kind of catch up with that and maybe academics as well.

Okay, I'll leave it at that.

MS. GRIMM: Tim, would you like to start off here and respond?

MR. BRESNAHAN: Yes, I want to start off. I'm not sure I want to respond. I really like Carl's restatement of my screening idea. That was exactly what I was trying to say.

Let me take on hard-to-balance because I don't think I'm against balancing. And I want to use the example of sham innovation because I think that's pretty interesting.

The art of balancing, I'm against two things that sounds like balancing. One is a burden-shifting argument that suggests either an efficiency defense, defendant has to show that one rule really is better than the other quantitatively, or in a plaintiff's case where some sort of efficiency defense has been raised, an argument that plaintiff has to show that the world is going to be better off without the market power.

I think that those procedures in which one party or the other has to sort of calculate the counterattack from the rule with precision are not going to go very far.

And I guess I wouldn't go all the way to saying we should only like the competitive process. But, you know, a courtroom is a hostile environment for numbers. That's just a fact. There are things that courts are better at than numbers. So, a quantitative balancing I think is going to be very difficult.

If we were going to have something, for example, bigger than sham innovation, what if a court were going to say, you know, cutting off future races to replace Office and Windows, cutting off the widespread distribution of new innovations in the PC business sounds like a lot of harm to competition to me. There's maybe a lot of zeros at the end of the numbers. Mixing the code between the early stage browser and

the operating system, you know, you really got to hold your nose to call that innovation. Maybe there was something innovative to it. Maybe there were some benefits to integration, but it doesn't sound very innovative to me. So in this case the balance is pretty obvious.

At that level of a balancing test, I'd be very comfortable, and I think I'd be comfortable with a broader definition than just the innovation has to be literally a sham. I guess I'd be comfortable with the view that the court can feel that the efficiencies are either clearly smaller or clearly -- not smaller in a quantitative sense, but in a salient sense or in a quality of evidence sense than the market power or vice versa. So, I'd be in favor of balancing. I just don't want to do it first.

And I think the question that Rich raised earlier about, all the traditional tests are going to look pretty bad for innovation, I guess I would want a balancing test in that area. There's a lot of things that can get labeled as innovation. There's a lot of things which may seem like "innovation" to the defendant but which are dramatically less innovative than what other firms in the industry can do. I think this is one of the enduring lessons of the Microsoft case.

On one of my trips to Silicon Valley to discuss

the Microsoft case, I talked to a roomful of people and somebody said, weren't they accused of "innovating too fast." And somebody else said, they can't possibly be guilty of innovating too fast; those guys (Microsoft) have never innovated too fast in their lives; they never innovate fast enough. And stuff like that will come out in a courtroom.

For this reason, I think that a standard that innovation has to be a sham is too narrow.

MS. GRIMM: Professor Gilbert?

MR. GILBERT: Well, when I started this project of looking at standards for innovation, I did a lot of reading. And one of the papers I came across was the paper by a Mark Popofsky. And Mark, in that paper, advocated basically different standards for different types of conduct, very much a process-oriented approach.

And my initial reaction when I read that paper was I sort of reeled back and said, oh, this doesn't make any sense at all where we're going to put everything that goes on in the economy in a separate category and have a different set of antitrust rules for it. I guess at that point I still had my economist card.

But the more I looked at this area, the more I started to think, how do we actually do this analysis and what do you have to take into account to do the analysis right, the more I was led to the conclusion that maybe

Mark got it right, that there were certain things that you do and a lot of things you can't do, and that different standards apply to different types of conduct.

I mean, certainly the failure to innovate is not an antitrust violation, even though it's really what we're concerned about or should be concerned about.

Other problems in this -- along this line, I have a paper with Mike Reardon where we look at technological tying. And the point of that paper is that there are lots of different outcomes. And even if you had really good information, you could do an analysis and you really could examine the problem, you don't know which equilibrium outcome is going to occur in the market. And there could be good outcomes from technological tying and there could be bad outcomes from technological tying. But putting a court into the position of trying to figure out which equilibrium the market is at and which one is better, that's a tough place to be.

But I do understand that a lot of this conduct can have very undesirable consequences. If there are less restrictive alternatives, and you can identify them and really carve them out from the conduct, well, that's great. But unfortunately, lots of times the restriction that goes along with an innovation is inherent in the innovation. That's where it's difficult. I think, of

course, if you can separate it out, that's fine, it's a lot easier.

You mentioned IP protection. Yeah, it would be nice if we could -- it's hard to find an academic these days who wouldn't like to see lesser IP protections, and particularly for things that have network externalities, the other barriers to entry like interface standards. But that's a little bit out of our area.

Let me talk a little bit about sham innovation. Again, I'm very sympathetic to the concept that just calling it innovation should not be able to protect all kinds of undesirable conduct and consequences. That just seems pretty obvious.

But how you actually measure how discrete an innovation has to be before it is not a sham brings you right into the kind of numbers that Tim was saying are very hard for a court or anybody else to do. What number is big enough? And it's not just the innovation need, it's when the innovation occurs and how it occurs. Is it rolled out in every market, does that make it a sham or not?

And I come back to this unilateral refusal to deal analogy. Without defending -- I don't want to defend a "Trinko" approach, but I just find it very odd that innovation that has similar consequences should be held to

a higher standard.

So, I still think there are things that are unlawful. I don't think that innovation should be able to protect all kinds of activity. But when you are looking at pure product designs, it gets -- it's not just really hard to do, it's almost impossibly hard to take into account all of the incentive effects and the chilling effects if you get it wrong.

And the bottom line, it seems to me, is that most of the time we're not going to have a problem and you should just be careful about chilling innovation by intervening where there might be a problem unless you're absolutely, absolutely sure that that's the case.

MS. GRIMM: Professor Rubinfeld?

MR. RUBINFELD: I don't have anything to offer specifically on that debate. I just have a couple quick comments.

First of all, most of my good ideas actually come from Carl Shapiro one way or another. So, my only intimation was trying to get the courts to see that as well.

The other thing -- that actually was a serious comment. But the other slightly more serious comment is that there is an interesting theme I've noticed just at least from this group, and that is, when we -- before we

went off to Washington in one extent or another, we were, let's say each of us in our own way, somewhat more theoretically inclined in thinking about some of these issues. And the effect of the Washington experience I think on all of us to one degree or another is really for us to worry about finding something that's really operational that will actually help the agencies and others really resolve practical problems.

And so the emphasis on process, and I would put it as sort of finding workable kind of second best solutions, is the natural thing to think about. And I think that's something I do a lot of.

In another context, for example, I was struck in a lot of mergers I worked on that we had, I think, at the division, and also probably at the FTC as well, some very sophisticated simulation software, which only as far as I could tell one or two people understood, and not all of them were in the agency. If you know the folks I'm talking about, you know what I mean.

And it would have taken in many cases something like six to eight weeks to make it actually functional, which is hard to do under a Hart-Scott-Rodino. So, after I left, I actually, with my co-author, Roy Epstein, wrote some new software and came up with a much simplified procedure which, while greatly simplified, actually is

something you can do within the thirty-day period.

So, a lot of our work has been driven by that common theme. And I think with respect to sham litigation, that's sort of the same issue I think we're all heading towards, which is, we see a problem and now we have to sort of help to think about what would be a workable solution for the courts.

MS. GRIMM: I'd like to give our -- all of you panelists an opportunity to kind of question each other, if you'd like to, as Carl did for all of you, or to respond to any of the points made by each other. And then we'll ask a couple questions on our own.

MR. BRESNAHAN: I'd like to take the bait that Carl offered us in discussing the Unocal matter, because I bet that most economists would agree with him that, if there's some amount of market power or power to exclude associated with a patent, and if some act, deception is an extreme, but there might be others, some act or deception to embed it into an interface standard, or maybe even just embedding it in an interface standard in a way that doesn't have any technical benefits, there's some act that extends the coverage of that patent and gives the firm that holds the patent a lot more market power than it would otherwise have, that that's very troubling.

And this is one of the disciplinary divides I think you see between economists and attorneys. Economists are more eager to take that position.

I suspect that one of the problems with that is that, patent law hasn't been particularly successful -- forgetting antitrust law for a minute. Patent law hasn't been particularly successful at delineating the power to exclude in any particular patent conveys on its owner.

So, when you get into these cases in the pharmaceutical industry where the patent on the original molecule is running out but there's a new patent on, the same molecule but packaged into a lozenge form or something like that, that it's actually not completely transparent, what's the right answer to the question, "how much market power does the patent provide?" And when the pharmaceutical firm starts playing Carom shots off the enormous complexities of the regulatory process under Hatch-Waxman, what is the answer to the question, "how much market power was conveyed by the original patent?"

So that even if we're fairly comfortable with the idea that creation of additional market power beyond what the patent originally would have given that can be a thing that can be very hard to determine in a legal sense.

There probably is a near consensus among academic

economists that patent policy in the United States over protects the patent holder. I think I agree with Carl on that. There's this other problem that patent policy is too vague, that patents simply don't look like property rights here. You have to go to courts or to the regulatory system to find out who owns what. And that -- the antitrust doctrine, Carl quoted the traditional antitrust doctrine that, intellectual property law if what it is and we ask whether there's additional market power on top of that. That may be more attractive in its economics than its law because it's hard to determine how much market power there would have been absent the anticompetitive acts.

MR. GILBERT: I'd kind of like to reinforce what Tim said earlier, Carl, and I think also Dan as well.

While a lot of our discussions today might be interpreted as suggesting that Section 2 analysis is very hard to do and therefore we shouldn't do it, and there's a lot of ways in which I think that's absolutely wrong, and that is Section 2 analysis isn't that hard and should be done, I do think that the law creates a road map to make Section 2 analysis unnecessarily difficult. You've got to have -- you know, you've got to identify the market, the product market, the geographic market, you have standing, you have all of these things. In all of these cases, I know cases I have been involved in, I'm sure everybody

else, it seems like you never get to the question.

You know, the relevant question is: Does the conduct really raise prices. And most of the time that's pretty obvious whether it does or doesn't and you don't have to do all this other stuff. And I think the law often puts us in a position of having to go through this kind of rogue set of steps that's in many ways very, very counterproductive.

MR. SHAPIRO: Well, two things. The first one is to emphasize my concerns about the fetish over patents in intellectual property rights, therefore in some cases being a little blind to the fact that they can be leveraged, if you want to use that word, and you can get more power than was granted with the patent, particularly with patents that are very iffy. And there's a whole set of these questions about that.

I mean, I guess it's outside of Section 2, but these pharmaceutical settlements cases, like the Shering case the FTC brought, and where the Second Circuit has gone with those cases was the tamoxifen case and seeing the patent as, oh, well, even if you paid off a competitor to leave because you have a patent, somehow it's okay, it doesn't mean you've stated an antitrust claim, that's something the -- you know, even if that's outside Section 2, that thinking is something that both agencies

should really head off.

And I guess there's an IP report still coming. There's -- that seems to be a very important role to delineate the importance of patents, yes, and the reward, yes, but there's a limited power that is granted, and beyond that, we can have abuses.

I would shift topics a little bit and actually ask a question of Dan that I skipped when I was standing up.

I'm curious, Dan, in your discussion of LePage's, whether you -- I guess you favor a bright line test of comparing price to marginal cost for additional units sold in a bundle. Or maybe, what about comparing marginal revenue to marginal cost to see whether the extra sale and bundling was profitable or not, a kind of profit sacrifice test.

So, would you favor either of those? I mean, you're objecting to LePage's as being vague. So, here are two potential standards that are a lot more specific. I guess I'm talking about a safe harbor, either if the price is above marginal cost or if the marginal revenue is above marginal cost, then the bundling is okay. Of course, even if it's not, we assume you want to look first back to scope and so forth. So, there's two questions related to scope.

If the program is limited, there's only a few customers or a short period of time, if that's the case, would you just wave it through? It just doesn't matter what the structure of the program is to you because it couldn't have anticompetitive effects or not?

And then related to that, I don't know if you're familiar with the EU's approach to this, but they're required to share methodology and calculating volume discounts, multi-product or single product, and whether you think that's something that the U.S. should pick up on.

MR. RUBINFELD: Good questions, Carl. I actually am not familiar with the EU side, so I am not going to try to answer that.

With respect to the workable test, you're right, I was suggesting just a safe harbor and I think I would accept your clarification. I was looking for a profit sacrifice kind of test, so I would compare marginal revenue and marginal cost, that's if marginal revenue is different from price, but only to get a safe harbor.

The problem in extending that test is that, while I think there's some bundling cases which I think are appropriately seen as really being an extension of a predatory pricing case and probably ought to come under Brooke Group, I think there are other kinds of bundling

practices which probably are not seen that way. So, the safe harbor I don't think ought to be seen as characterizing all, all types of bundling. Other types of bundling might seem more smart with respect to other kinds of exclusionary conduct of the kind we talked about earlier today.

The other thing that you asked me about my point about the effect of this initial program being very limited. To me that is quite important because -- I may hear something to the contrary in a second -- but it seems to me that if there's a practice that cannot be shown to either have the effect and be sufficiently exclusionary that it makes a competitor not viable or perhaps even has no effect on its ability to operate at an efficient scale. I don't see how that practice ought to be considered anticompetitive.

So, I think you do -- in my opinion, you do have to show that if there's exclusion, it's substantial enough to really matter from the point of view of the potential competitiveness of the firm that's being affected.

We can debate whether we should focus on volume scale or efficient scale, but certainly there ought to be some measurable effect.

MS. LEE: Dan, you had said in your presentation that a variant on the profit sacrifice test would be

appropriate to use as a general standard for all Section 2 conduct.

I was hoping that you could refine that a little bit, in particular, you know, how is this different from the traditional profit sacrifice test, whatever that may be, and how does it differ from the no economic sense test?

MR. RUBINFELD: That's a great question. I think I really can't -- without going back to my drawing board for maybe a few years, I don't think I can answer that very well.

The reason why I was saying a variant in my comments is that I have been trying to follow some of the debate in the literature among the folks who prefer more of a balancing test to a profit sacrifice test. And it's not that hard to come up with hypotheticals that would defeat almost any version of a profit sacrifice test under certain circumstances.

And so what I was imagining was that one would be able to come up with either a more robust rule that was not subject to too many of these hypotheticals, or maybe a complex rule that said under certain circumstances we do the test one way and under other circumstances another.

But, unfortunately, I don't really have an answer to that question. I am hoping, Jim, that you and

others at the Division will work hard to give me an answer.

MS. LEE: Okay. That was a good way to deflect the question.

MR. RUBINFELD: Others here may have an answer.

MS. LEE: Let me also get you to react to Tim's proposal in terms of how we should evaluate Section 2 cases, I would call it a step-wise rule of reason. Tim, please feel free to disagree with me if you don't think I am charactering that appropriately.

MR. RUBINFELD: You are asking me that question?

MS. LEE: Yes. How would it be different from a variant of the profit sacrifice test that you think would be appropriate.

MR. RUBINFELD: Well, I guess without being too specific, I have some of the same reactions I guess others on the panel have expressed based upon my own experience both in the Division and working on private cases, and that is the cases often get bogged down in complex debates about issues like market definition, without really talking about competitive effects.

So, I'm actually -- at the level Tim is talking about, I'm very symptomatic with his suggestion. I think the pharmaceutical cases for me are really an excellent example of that. I have been involved in a number of

these where there's a huge battle about market definition, which can be a very tricky issue in pharma cases for a lot of reasons, and yet I thought that -- the answer to the question, how you define the relevant market, at least if you are using the guidelines, really has almost no impact on whether there's a competitive effect.

If you think that a generic would have entered earlier, and the generic most of the time is going to enter at a substantial discount off the price of the brand product, there is likely to be an effect. It's going to be the rare case where competition is driven just by other branded products.

Now, if you think that's the case, then the real battle is going to be on issues such as causation, whether the practice itself had procompetitive benefits, and so on. So, there will still be a lot to debate, but the debate will be about whether this competitive effect A and B, whether there are justifications that say that that procompetitive effect was worth it.

Rather than debate, which can get pretty far off the subject, or market power -- certainly most, if not all, successful brand products generate a lot of market power. That's the point of Hatch-Waxman to some extent, or the point of patent laws generally. And -- but the point of Hatch-Waxman in part is to encourage entry to

benefit consumers. And the effect of that entry is going to be to reduce some of that market power.

And I don't think any of that should be very controversial and yet I have seen a number of cases where the battles over whether firms have market power seem to take prominence. And so a process that in my view would move us more quickly to the heart of the cases would be a constructive process.

Ms. Lee: Tim, let me ask you to clarify something that I didn't quite understand about your proposed way of analysis.

In particular you had suggested that, well, if you look at -- if you first establish a causal effect between the act and then the effect, this gets you around the whole complex processes of trying to figure out what the appropriate but-for world is when you do the traditional sort of economic efficiency analysis.

I don't quite see that in terms of, to establish causality, don't you have to establish in some sense what the world would have been absent the exclusionary act?

MR. BRESNAHAN: That's a good question.

I agree that to establish causality you need to say what the world would have been like in a competitive sense absent the anticompetitive act.

I think the force of my argument is to -- is

really procedural. It's to move the things which are going to be most difficult for courts to do back in this sequence. So, I mean, you heard us all economists say, it's often easier to see whether there's a competitive effect than to get market power right. I think that's probably going to be true.

Certainly if there's a Section 2 case there, it's going to be easy to see what the competitive effect is. And then if you can't see it, there's no Section 2 case there.

Similarly, that the challenged conduct causes the market to be less competitive, that's an inquiry that can be undertaken within the four walls of what causes competition, without any balancing against the efficiency of the challenged conduct. Does it change the conditions of the competition? And I bet a lot of cases will follow thereto, and that's within the four walls of ordinary antitrust analysis. Is the reason that the market is less competitive because the challenged conduct raises entry barriers, raises them in a way that, you know, the entrants and third parties can't get around to the relevant time frame. Those are all difficult tests to pass.

So, most Section 2 inquiries should fall by the wayside. I just want them to fall by the wayside cheaply.

And then you come to the last thing, which as we've all said is really, really hard, you know, you've got causation, there's some challenged conduct which is changing the conditions of competition, but there's also something good about it. You know, it's innovative or it's a price cut so it's especially good for customers, and now we've got to do this balancing, which I think is a very, very difficult thing to do.

So, I just want to reduce the incidence of the balancing. Rather than leaping to that right away, go through other things first and discard cases. And I think that the causation -- the causation inquiry which says, is the challenged conduct holding entry barriers high is an easier counter-factual inquiry than, is the extent to which it's holding entry barriers high worse than its countervailing efficiency. It's got one less difficulty.

So that would be how I would proceed. And the basic idea is to save wear and tear on the system, which is potentially the result.

MS. LEE: Thank you for the clarification.

Rich, I wanted to ask you, you had said you have became more sympathetic to the idea that in different Section 2 matters different standards should apply.

How would one go about determining the best

standards to apply in each situation?

MR. GILBERT: Again, a very good question.

Certainly what sets innovation apart is the temporal linkage and very complicated linkage between the conduct at issue and the investment research and development that create the innovation and the prospects that any antitrust venture that would show that kind of very beneficial investment. And suppose you had a case where you didn't think that linkage was all that important, so you intervene in that case. But then if you do that, that also creates a precedence for there being other cases the linkage could be very important, and you definitely don't want to chill innovation in those other cases.

If you think about how some of those early cases -- if some of those early cases came out differently, because almost all the cases that I can see ultimately basically are pretty close to a sham innovation test. If they had done something very different from that, what the implications would be for people actually involved in product design could be kind of interesting.

Now, there is a lot of conduct where I don't think those issue are at all significant. You know, they may be present to some extent, but they're just not significant. And so if you're talking about ordinary

exclusive dealing or bundling or whatever, I think in many of those cases you can if not forget about, certainly discount, the more complicated intertemporal effects. And the analysis I think becomes much easier. And the sort of rule of reason analysis becomes much more possible. Weighing of benefits and costs becomes more reasonable.

MS. LEE: Carl, do you have anything you want to say in addition to what you said already about general standards? You had said in your comments that you were very sympathetic to a standards approach.

Is there anything else you would like to add?

MR. SHAPIRO: Well, you called it a structured -- what did you call it?

MS. LEE: No, I called it a step-wise.

MR. SHAPIRO: Good, that's the ticket.

MS. LEE: I think that's what it was.

MR. SHAPIRO: So, I think of it in terms of screens. Traditionally, the monopoly power screen. You have a lot of power, and if you don't, then Section 2 doesn't apply.

I think I would push for: Does the conduct hold up the prospect to leading to significant increase in market power, okay, as actually a better question to use as a screen.

Now, the reason I think the traditional screen

has been applied, it's been assumed if you don't have any power to start you, you can't manufacture something from nothing. And that may be true in a lot of cases, although not always. Maybe deception turns up.

Furthermore, even if you have power to begin with, if the conduct couldn't add much to it, maybe you have a patent, then we can dismiss that case, we don't have to go anywhere. So, you would get something knocked out on this increment screen that you wouldn't get knocked out based on a preexisting traditional power screen.

So, I think it's a lot more closely tied to what Tim was saying at the top of the program here about looking at effects and increment. And there are ways to do that, implement that, and I have written about that and other people have, too. So, that's a general concept I think that cuts across a lot of cases.

At the same time, I agree with Rich that -- and I think Dan -- well, profit sacrifice may apply in some cases but not others, so then you have to be more nuanced. You know, profit sacrifice would not apply in the Unocal case.

MS. LEE: So, let me ask you the same question I asked Rich.

Do you have a suggestion about the methodology of figuring out, well, which is the best approach in each

type of matter?

MR. SHAPIRO: It would be very unwise for me to get into that at this late hour.

MS. GRIMM: I just have one question on remedies, and this is for Tim. Again, on the Microsoft remedy which you labeled a fizzle and you said the remedy in AT&T from your point of view was successful.

I was wondering if could share any views with us on appropriate remedies in Section 2 cases, perhaps structural versus the conduct remedies.

MR. BRESNAHAN: I'm almost certain there's no general law of remedies in Section 2 cases because Section 2 cases are so context specific and so fact dense.

You know, in the structural remedy that was negotiated rather than imposed by a court in AT&T, I think the logic of that was caused by an attempt to minimize the harm to competition and innovation by walling off the rest of the industry (by vertical disintegration) from the necessarily regulated sector of telephony, local phones. And that's just a very specific argument.

So, some principle that has remedies that are reasonably proportional to the harm to competition that's been proved, I think it's going to -- I think it's going to be very hard to go farther than that to a broader abstract statement.

MR. SHAPIRO: If I could just make a quick comment. I thought about Microsoft remedies in context here. At one end you have, sin no more, don't do what you did before, narrowly defined, maybe defined to reflect the market changing. And, you know, that doesn't seem to me that does much to restore competition if there's been real damage with some lasting effect, okay, if the case was significant to begin with.

One of the things that was interesting in that case was that -- and I think it's true in a lot of cases -- it's very hard to know exactly what the effects are. So, you can't say, ah, we're trying to engineer the market to return to a certain state and that's what we mean by restoring competition.

So, again, in that context, really the case was about raising entry barriers, as Tim put. My view was, you should have a remedy that lowered entry barriers and then come what may. Maybe entry will occur, maybe it won't.

But sin no more seems to me it's probably going to be too weak in most cases where the case was worth bringing to begin with.

MS. LEE: Let me ask a follow-up to that.

If the only suitable remedy is a sin no more remedy, do you think the agency should bring a Section 2

case in that instance?

MR. SHAPIRO: Well, there still could be some deterrent effects. And there are private cases that follow on, for example, that could have a major role. And there were private cases in the Microsoft case that involved a lot of money.

So, it could well be. I guess I would hope if it's a major case that either agency could come up with something a little more effective and maybe even creative. But, at the same time, partly from the Microsoft experience, it's very hard for a court to impose a remedy when the company says this is crazy, it won't work, you'll destroy all sorts of good things, and the government agency, you know, yeah, there's information but it's hard to know. So, I think it's very hard. And so if you are stuck with sin no more, it could still be worth bringing, sure.

MS. LEE: Let me just solicit the other panelists about that. Anything different or anything to add?

MR. BRESNAHAN: Yes, I guess I'd be more conservative on this ground than Carl. It's hard to get a lot in deterrence in this area of antitrust law because it's so hard to -- you know, we're never going to have a doctrine that says these specific practices are

anticompetitive. I mean, guys will just know not to do those particular practices. It's much more complex than that.

So, other than generally wanting to keep the idea that there might be this prosecution of particularly egregious anticompetitive acts, this is not a great area where you can get an awful lot of deterrence out of -- you know, out of a case where there's a remedy that doesn't do anything.

So, I'd be less -- I'd put less emphasis on deterrence and, more emphasis on the view that it should really be looking for cases where you can make a big difference for the American consumer.

I mean, before I was in government, in connection with Microsoft, I took the position, don't bring it unless you're going to do something really big, which I went on to say, probably meant don't bring it, although that turned out to be wrong. The government did ask for a remedy that would have changed the conditions of competition.

I think these experiences are rare, important and efficacious in the first instance, and seeking deterrence only, you know, only perhaps in flagrant examples.

MR. GILBERT: Sometimes, not always of course,

the case that dominance leads to conduct that is persistent and durable, that companies in dominant positions tend to do the same sort of anticompetitive things. And it's also the case that that dominance is persistent, that even if you try to break it up, forces are going to tend to recreate it. And I wouldn't say that's always true, but that's sometimes true.

But I also say that, even in those cases where you cannot have a real structural remedy, that structural remedies wouldn't be very effective, a big case like this brought by DOJ or FTC has a lot of consequences for these companies. And I think you have a significant deterrence effect.

MR. RUBINFELD: The only thing that I was going to add is, these remedies come out of course not in just in court decisions we're talking about, but also in consent decrees that are reached. And I think it makes a big difference how you craft a consent decree. You know, I can think of some cases which I was involved in where we literally got a promise never to do A again and nothing more. There were other cases where the consent decree really laid out fairly carefully what we meant by not doing it again, not only for this company, but also the consent decree sent a clear message since the consent decree can be part of the public record.

So, you can get some deterrence even in a situation where the structural remedy doesn't work if you craft the right consent decree. And, obviously, it depends on every case, but I think obviously the agencies should and I am sure do think hard about exactly how to did that. And that's an important exercise.

MR. SHAPIRO: Let me just clarify. There was kind of a sin no more at one extreme and then I heard a couple of people talking about structural remedies. There's a lot of running room in between.

MS. LEE: Agreed.

MS. GRIMM: Well, my watch says it is 4:30. I would like to thank all of our panelists for being here this afternoon and sharing with us their very insightful ideas.

I would also like to thank again the University of California at Berkeley for their hospitality.

Would everyone please join me in giving our panelists a round of applause.

(Applause.)

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

C E R T I F I C A T I O N O F R E P O R T E R

DOCKET/FILE NUMBER: P062106

CASE TITLE: SECTION 2 HEARING, PREDATORY PRICING

DATE: JANUARY 31, 2007

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: February 22, 2007

_____

KATHLEEN CARR MEHEEN, CSR 8748