

The Current State of Economics Underlying Section 2: Comments of Michael Katz and Michael Salinger

Editor's Note: *The Economics and Section 2 Committees of the ABA Section of Antitrust Law presented a Brown Bag program on the current state of economics underlying Section 2 of the Sherman Act on July 24, 2006, in Washington, D.C. Organized by David Scheffman, the Brown Bag was moderated by Susan Creighton and featured Michael Katz of the Haas School of Business at the University of California at Berkeley and Michael Salinger, Director of the Federal Trade Commission Bureau of Economics. In light of the high level of interest in examining Section 2 from many different perspectives, we are publishing in this issue of The Antitrust Source the edited comments of economists Michael Katz and Michael Salinger.*

MICHAEL SALINGER: I haven't done a scientific survey, but I'm confident that the most frequently told economics joke is the one about assuming a can opener. I won't repeat it here. If you don't know it, you can ask an economist.

I suspect, albeit somewhat less confidently, that there are two candidates for runner-up, and they both involve lampposts. There is the one about using data the way a drunk uses the lamppost, more for support than illumination. Then, there is the one about the woman who happens upon a man on his hands and knees under a lamppost outside a tunnel. What is he doing? Looking for his keys? Is that where he lost his keys? No, he lost them inside the tunnel. Why isn't he looking in there? Well, it's dark inside the tunnel; it's light under the lamppost.

I will argue that this last joke comes closest to characterizing the state of the economics literature with respect to unilateral conduct. When I talk about unilateral conduct, I will be a little broader than Section 2, so that when I talk about tying, the lawyers don't point out to me that the per se prohibition is based on Section 1.

Now, for this analogy to hold, I need to embellish the story a bit. Imagine that the man on his hands and knees had a set of keys on a key ring, that the key ring somehow became unattached and that the keys fell off in different spots, some of them inside the tunnel and some of them underneath the lamppost. So, in this extended version of the story, looking under the lamppost is not an entirely useless exercise but it's not sufficient for finding all the keys that we need to formulate sensible antitrust standards for unilateral conduct. Let me add one further embellishment: there might be more than one lamppost outside the tunnel, and the other one might be casting a brighter light.

Enough of speaking cryptically. At a broad level, I don't think there is much controversy about what we would like to know. Of course, as I might be wrong about the lack of controversy, I should stress that this is just my opinion and not necessarily that of the Federal Trade Commission or of any individual Commissioner.

Still, as an economist, I find it both striking and really quite encouraging that there seems to be a wide acceptance of decision theory as a way to organize our thinking about legal standards. Decision theory starts with the premise that mistakes are inevitable. If you think about it, the issues of what needs to be demonstrated and by whom only make sense if you entertain the notion that mistakes will happen. Then, the problem is how do you think about minimizing the damage.

Now, decision theory is pretty clear on the factors that should enter the consideration of legal standards. For any particular practice, there are basically three broad considerations:

1. First, what do we know about the anticompetitive uses of the practice? What's the underlying theory of how the practice can be anticompetitive? When it is anticompetitive, what is the cost to consumers of it being anticompetitive? (Because we need to know the cost in order to know the error cost of permitting anticompetitive instances.) And then, we want to know how often is the practice used anticompetitively.
2. The second thing we want to know about is the procompetitive uses of the practice. Again, what is the nature of the procompetitive benefit? How large is the benefit when it occurs? That tells us about the cost of chilling procompetitive uses of the conduct. And then, how often is the practice used for procompetitive or competitively neutral reasons?
3. And then, the third sort of thing we want to know is, what tests are available to distinguish between the procompetitive and the anticompetitive instances of the practice? And, for any such test, what is the risk that it will mislabel procompetitive behavior as "anticompetitive," and what is the risk that it will do it in reverse?

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No one seriously supposes that we can objectively measure all of these factors. When we talk about the relative frequencies of pro- and anticompetitive instances of particular practices, there is no way to take a random sample. And then, of course, you would have to measure the effects. That is a very hard thing to do. And yet, any standard that we adopt implicitly rests on at least subjective notions of the relative frequency of the pro- and anticompetitive uses of the practice, so we need to try to use evidence as best we can to form those objective assessments.

Now, it seems to me that the silver standard for this general approach to unilateral effects doctrine is predatory pricing. I would not quite call it the gold standard because there remain some issues as to whether we've gotten it entirely right. But, whether or not we've gotten it entirely right, the process by which we arrived at predatory pricing doctrine was to ask the right questions.

To prevail in a predatory pricing case, plaintiff bears a very tough standard of proof to show that pricing was below the relevant notion of cost and that the structural conditions of the industry are such that recoupment is feasible. Now, the rationale for that doctrine is the belief that price cutting for procompetitive reasons is common, that the cost of chilling aggressive price competition is high, and that anticompetitive instances of predatory pricing are quite rare.

If one looks to the literature beyond predatory pricing for related practices, many of the pieces of the puzzle we would need to formulate the right doctrine are just missing. Much of the modern literature starts from the assumption of a monopolist, typically faced with one specific known entrant, and the absence of any valid business justification for the practice. It then works out whether there is a set of assumptions under which the anticompetitive use of the practice is a Nash equilibrium.

As an aside, the lamppost under which many industrial economists seem to look is the Nash equilibrium. In my view, the light emanating from that lamppost is not nearly as bright as many of my colleagues seem to believe. Indeed, sometimes I think economists are attracted to it because they are the only ones with sufficiently keen eyesight to find anything there.

Now, without going into the details of those concerns, this type of analysis, at most, answers the first part of the first question; that is, it tells us what is the theory under which the practice is anticompetitive. It does not tell us the cost of the anticompetitive practice when it occurs, nor does it tell us how common it is for the practice to be used for anticompetitive purposes. The answers to those questions, and in particular the latter, remain inside the dark tunnel.

—MICHAEL SALINGER

The specific area of unilateral conduct that I have worked on the most is tying. As I have recently argued, the literature on tying should be viewed as a complete embarrassment.* Ask yourself this question: Does the economics literature on tying explain the tying that we observe in practice? Would you take it to business students and say, “If you’re considering tying, these articles explain to you the factors that you need to think about”?

Now, to be sure, the economics literature and the legal literature do acknowledge that there is lots of tying for efficiency purposes. The example that typically gets used to illustrate the point is shoes, that right shoes and left shoes are typically sold as pairs, although as Mark Frankena pointed out to me several months ago, if you go to the Birkenstock Web site, they will sell you separate shoes. But that is the exception, and Birkenstock is a little offbeat anyway.

But this is a completely misleading example because it creates the impression that when tying occurs for efficiency reasons the people buying the tied product want all of the components. That just simply is not true. It happens all the time in competitive markets that people buy tied products and they end up buying a component of the product that they don’t want.

The simple example that I keep talking about is the set of four plug adaptors that you buy when you go to Radio Shack or some electronics store when you’re taking a trip to Europe and you want to use your laptop in Europe. You’ve got to buy along with it the adaptor for Australia and Britain, and also the New York City adaptor, which you don’t need. Until David Evans and I raised this example in an article a couple years ago, I would argue that the economics literature on tying did not contain an explanation for it. Even though that example by itself is economically unimportant, once you look at it, you realize there are tons and tons of examples of everyday tying that are like it. Until we understand the competitive instances of the particular practice in question, we are not going to be able to formulate sensible policies.

Now, like the law on tying, it may be that the economics literature on tying is unusually bad in terms of explaining what we actually observe. If we look at other practices, I think we understand them better. So, for example, I think we understand the efficiency justifications for exclusive dealing reasonably well, and there are a couple of them: exclusive dealing can help solve agency problems when contracts between a manufacturer and a distributor are inherently incomplete; also, I suppose related to contractual incompleteness, it may be that one of the parties in a transaction has to share intellectual property with another party and they want exclusivity because they don’t want the intellectual property to be shared; and finally, some buyers might want exclusive dealing as a way of breaking up what they fear might be cartel behavior, so they may ask parties to bid for exclusivity, and when that happens that is generally efficient. So I think we understand what the procompetitive explanations are. I’m not sure we understand how large they are, nor am I sure that we have a great sense of how frequently they arise.

Take another practice, one that has acquired quite a bit of interest recently, which is “all units” discounts and bundled discounts. Here I think our understanding is more up in the air. This area has the virtue that everyone seems to have a fair amount of humility, acknowledging that we need to understand them better than we do.

Much of the analysis to date has been to understand at a theoretical level the anticompetitive uses of these practices. I’m not sure that we know much about the competitive benefits. When I talk about the practice here, I’m not talking about any bundled or “all units” discount, but the ones

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* *Editor’s Note: See, e.g., Alden F. Abbott & Michael Salinger, Learning from the Past: The Lessons of Vietnam, IBM, and Tying, 2 Competition Pol’y Int’l 3 (2006).*

that are puzzling, which are those that entail incremental revenues over a fair range of output that may be negative, or at least well below the relevant notion of cost.

Now, even if we do figure out the procompetitive reasons for this pricing practice, I would like to know how big the benefits are relative to the alternative, because there is a pretty obvious rule to consider with these practices, which is that if a firm has a dominant position, its prices are inherently suspect unless the incremental revenue over substantial portions of business at least covers the avoidable cost associated with that chunk of business. So even if we come up with these procompetitive explanations, I'd like to know how much benefit do they generate compared to other kinds of nonlinear pricing schemes that would have this less-puzzling feature to it.

Now, in my elaboration of the joke about looking for keys under the lamppost, I posited the existence of another lamppost, perhaps one giving off brighter light. What I had in mind there was simple observations of examples of particular practices under sufficiently competitive conditions for which anticompetitive exclusion is not a candidate explanation. In other words, I had in mind ideas like the adaptor example. Now, you might argue that examples like that are subject to the criticism implicit in the other lamppost joke, that examples like that are used more for support than for illumination. There is a danger of that there, but I would argue that, given our current state of knowledge about a bunch of these practices, these kinds of cases are really quite illuminating.

Now, of course, much of what I have said so far has been looking toward the joint FTC and DOJ Section 2 hearings and also discussion about the implementation of Article 82 in Europe, what would we like to know. But, of course, the law can't wait for economists to figure out all that, in principle, we need to know to get the optimal policy. So the question is, what should we do in the meantime?

I find the debate comparing the relative merits of the "no economic sense" test, the "profit sacrifice" test, and the "consumer welfare" test not particularly illuminating. Look at a particular practice—take pricing, for example. You might reject the "profit sacrifice" test in favor of the "no economic sense" test with predatory pricing, and there are good arguments for doing that, but that would reflect a judgment about the risk of false positives and false negatives and their relative likelihood. So I don't think your decision on that issue of prices would necessarily apply to the other practices. I really think that we need to approach these different practices on a practice-by-practice basis, using decision theory as the guide to what the right standard is.

So how do I think it is going to wash out once we do that? I don't want to say too much because, after all, we are going through a set of hearings in which we are trying to learn more, but I'll just hazard some guesses.

I do think that the distinction between overly aggressive behavior and behavior that raises rivals' costs is a useful one. As a rule, dominant firms should not be allowed to pay their customers or suppliers not to deal with their rivals. Saying "not be allowed" is too strong, but I think that kind of behavior is suspect, and policies that have that effect should be treated with suspicion.

In this regard, exclusive dealing strikes me as being a relatively problematic practice among the nonprice practices that come under Section 2 scrutiny. Firms don't get exclusivity for free; they have to pay for it in some way. So exclusive dealing looks to me like paying companies not to deal with your rival. Obviously, we are not at the point where that should be per se illegal, and we are never going to be at that point, but I would treat that practice as being suspicious for firms with sufficiently strong market positions.

The other practice that strikes me as being particularly suspicious is the bundled and "all units" discounts when they have substantial ranges, where, in effect, a company is paying customers to take their product. Again, that doesn't necessarily fit into the raising-rivals'-cost category, but

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it strikes me as being behavior where the efficiency benefits are not so clear, and so I think that's a practice that at the end of the day will be treated with hostility.

I know we want to leave time for discussion, so I'll end my comments there. Thank you.

MICHAEL KATZ: Let me summarize where I think we stand on the economics of unilateral conduct, or at least its implications for legal decision making. I agree that we have a wide range of practices where you have plausible economic theories that say there are consumer and efficiency benefits and there are also plausible theories of consumer and efficiency harm and these include practices, such as those already mentioned—exclusive dealing, pricing below cost, refusals to deal, tying, loyalty discounts. Those are all things where economic theory alone is not going to tell you the practice is always good or it's always bad, and, therefore, you are going to have to do something on a much more case-to-case basis.

One of the things that I think is important here—and it's something I know a lot of non-economists have criticized—is the rise of game theory. I think the problem is not so much game theory itself, but I think what is problematic is that a lot of the theories we have nowadays—and I think correctly so—require somewhat detailed knowledge of how people think and what they think they are doing, so that expectations and beliefs become important.

Consider a concrete example of what is certainly not a concrete concept. In the U.S. case alleging that American Airlines had engaged in predatory pricing, one of the theories put forth for how that could work is that other airlines would see American Airlines successfully beating up on a low-price carrier that tried to establish a hub in Dallas and, seeing that, they would expect the same thing to happen to them later. So the idea was that, even though American was losing money in the short term, and even though other carriers would be able to come in later if they chose to do so, predation could be profitable. There was no need for some hardcore entry barrier that kept rivals out no matter what. The degree of entry barriers was disputed in the case, but for the purposes of this theory, you wouldn't even need other types of entry barriers. What would be critical is that other potential entrants would see that American had beaten up an earlier entrant and they would fear receiving the same treatment. Intuitively American Airlines would be investing in a reputation for toughness.

Now, that I think is a perfectly logical theory, and it's even a common sense one: someone gets a reputation as being a bully and that keeps other people out of his or her way. You don't need a Ph.D. to tell a story like that.

The difficulty, of course, is that the theory depends on what people believe. If the other potential entrants say, "Well, American beat up on those guys, but we don't see any reason to think that they'll beat up on us," then the whole theory unravels. There was evidence that this pattern arose with Southwest, and that American in fact left Southwest alone. So then the question becomes: How does a judge get into the thinking—put him- or herself inside the minds of the parties? Now, of course, that happens in criminal cases all the time, but somehow it is thought to be difficult—and I think it is difficult—in antitrust cases.

So I think where we are is that we have these sophisticated theories that can depend on things that can be very hard to measure. The question is: What do we do about that?

There seem to have been at least three broad responses to this sort of situation, or potential responses. One is we could have courts become economic experts, or expert analysts, and say, "Okay, these theories are hard, but let's just really weigh in, have the courts figure out what is going on, look at all the facts, apply all the theories, and off we go." Now, that one, I think, is one that hasn't been tried. I mean most judges are not economic experts, and, in fact, courts often really mangle the economics.

The Tenth Circuit's opinion, I think, in *United States v. American Airlines* is an example. I think that some of what they said would fail a freshman economics course, at least a well-run course. I am referring, in particular, to some of the discussion about how to measure opportunity costs or determine whether prices are below cost when a company adds capacity, and to their notion that if I sell some units below-cost but then there are some other units that I sell above-cost, that somehow selling below-cost doesn't count. I think that's just flat-out wrong and that their reasoning made no sense at all.

So let's give up on having all judges become economists.

The predominant approach is the second one, which is to adopt rules of thumb that are relatively easy to apply. I want to come back in a couple minutes to say what it means to be easy to apply, or what I think Susan Creighton called a "practical test," because I think that is really important. I think we tend to mix up or conflate several different concepts of what we mean there, and I think it is useful to untangle them a bit. But first, let me give some examples of what I mean by rules of thumb.

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The Supreme Court's two-prong test for predatory pricing in *Brooke Group* is one. There is the first prong, which it seems to me to be rather unfortunate, that says pricing has to be below some measure of cost, and then the Court is deliberately vague about what that cost measure is. Economics actually tells us that whether price is above or below cost isn't even necessarily the right test. In any case, that's one prong.

There is also a second prong that says that there has to be a reasonable probability of recoupment. Now, I think in some ways that test makes sense, but I am not entirely convinced that it makes sense for the reasons the Court may think it does. In particular, at least one reading of what the Court says is that they think that that test is there because, if the firm couldn't recoup, then consumers wouldn't be harmed. That is just false. As a logical matter, you can certainly write down well-specified numerical examples proving that it is false and that there is not a congruence between recoupment and harm to consumers.

—MICHAEL KATZ

Now, the test may make sense, but I think it makes sense for a different reason, which is that you can think of it as a reality check: If there was no reason for the firm that has been alleged to have engaged in predation to expect to be able to recoup, then it raises the question of why the firm would have ever tried to engage in predatory pricing.

But notice the Court here has gotten us into the very thing that a lot of other courts say is something you don't want to do, which is raising the question: What did the defendant in this case believe it was doing, as opposed to what it actually did? If what you are saying is, "No, we don't get into intent; what we care about are actual effects," then you should look at the effects on consumers, and whether or not the firm recouped isn't relevant for that. It is related, it's close, but it is not the right thing. On the other hand, if you think of it as a reality check, then you're saying, "Could the firm have been thinking this?" and you are very much asking, "What were they thinking?"

So we have some rules of thumb, and they are not tightly linked to the underlying economics.

In the case of exclusive dealing, I think the recent *Dentsply* decision gets us closer to having the right economics. For many years, one of the things the courts looked at in exclusive dealing was whether or not there were long-term contracts with the distributors, with the notion that, unless there were long-term contracts, there couldn't be a problem. Well, economics quite clearly shows that that's just incorrect; that you might have no contract at all or have an "at will" contract, yet you could still create the economic pressures and economic incentives that would replicate the effects of long-term contracts. I was pleased to see that the appellate court in the *Dentsply* decision recognized that fact.

So we have a history of adopting rules of thumb, and as I say, I think it is an unfortunate history in some ways because it is not tied closely enough to economics. If someone says, “Okay, well whose fault is that?” I’m not saying it’s the courts’ fault. I think the courts struggle to do what they can and to come up with rules that make sense to them, and I think, as other people have already said, economics has not been overly helpful in coming up with workable, useful rules of thumb.

Now, the third approach—and then I’ll return to rules of thumb—is just to make various practices per se legal or per se illegal. I think that, despite having called it a third approach, it isn’t really, because it often ends up being some variant of the rules of thumb; if you get a good enough lawyer, you can always start defining one practice to look like another and it becomes very hard to know where you are drawing the boundaries, and pretty soon things break down into some sort of rule of thumb.

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Let me give an example to try to clarify this point. Consider the treatment of tying. I think it’s a not entirely unfair caricature of *Jefferson Parish* to say that tying is per se illegal if a rule of reason analysis says so.

The other thing—and this is somewhat controversial—is it is not clear, to me at least, that per se rules ever make sense and can be justified by decision theory or taken as a rational approach to decision making. In particular, one would have to ask the question: If you think a practice is really bad and almost never likely to have pro-consumer or procompetitive benefits, then why not still let the firm have its day in court if it is willing to bear all the expenses? Now, that could be a little tricky because you would have to figure out how they were going to compensate the other parties, but I think that is something one would have to consider before saying, “Oh, this is so unlikely we just have to declare it impossible.”

—MICHAEL KATZ

That last point gets into some issues of decision theory. Michael has already talked about that, so let me say a little bit more about rules of thumb. I’m going to say some things about decision theory, but also some things about what makes something a good rule of thumb generally.

Now, one thing we want is a usable test, something that works outside of the boundaries of an economics journal. Often, people say they want something that is easy, they want something that is predictable. As I said, I think it is important to separate out some different elements of what it means for something to be usable or to provide certainty.

One is that we want theories that are based on data that are actually available. As I already mentioned, that can be a problem, particularly for some of the strategic or game-theoretic theories, because they may depend a lot on expectations and beliefs, and those data may be hard to get. But that is clearly an important element as we move forward, trying to get more refined rules of thumb; we want ones that are based on things that you can potentially see.

The second element to think about is whether or not the rules should require a lack of technical sophistication. I think this one is problematic because people say they want easy rules. On the face of it, it is not clear why it should be easy to apply the rule. We are talking about decisions that involve tens or hundreds of millions of dollars, sometimes billions of dollars. So if it is hard to do, so what? It should be worth spending the money to get the right decision.

Now, I think the problem is, of course, that I don’t see any reason to think that we are going to change the court system and have judges or juries—if we are talking about private cases—who are going to have the technical skills to apply sophisticated theories. I am really at a bit of a loss as to what we should do about it, but I have to say I am disturbed that people don’t worry about these issues more.

Econometrics is, I think, a good example of what I have been talking about. The fact of the matter is that most people cannot understand a sophisticated econometric analysis at all. There is a

real issue, then, of what it means to introduce it into a court proceeding. Now, some people's reaction is, "Well, you shouldn't do it, because if the common man can't understand it, it doesn't count." I think that's ridiculous. It would certainly have interesting implications for the use of technology in society generally if we said that we can only do things that the man on the street can understand. But there is a real question of what we do going forward.

So when we talk about easy, if we mean that it is either cheap to apply or it doesn't require sophisticated technical skills, then I think we really need to think through whether that is something we want to impose.

The final one of these differing characteristics is whether it is easy to predict the outcome. Certainly, people talk about that for business certainty and for investment, and that's fine. But again, that is different than saying it's easy in the everyday sense of the word. What that implies is that we should have rules that say, "Let's take data that the firms can find, or later the courts would have access to, and rules that are relatively unambiguous so that one can apply these rules or apply the algorithm, whatever it may be, and come up with a good prediction of how the court would rule as well." That would be a process that would create certainty. Observe that this approach is consistent with having rules that are extremely sophisticated or complicated or require lots of data, as long as those rules are well-defined and don't rely a lot on opinion and judgment.

That said, lest you think I have taken leave of my senses, I know that in the real world, everything is going to have some degree of opinion and judgment; it's just a question of how much.

So this notion of having rules that are based on data that we can actually get, having rules that a layperson can understand without having a lot of technical skills, and having rules where it is relatively straightforward, where you can with a high degree of accuracy predict the outcome—those are three very different things that often get lumped together when people talk about having practical rules. As I've said, I think it is important to unpack those and think about the implications of each of them. I think the data-availability point should be uncontroversial, but the other two I think raise trickier issues.

Now, I want to say a little bit more on decision theory and this whole thing about weighing the different errors. But I also want to say something else about decision theory. That is, that in my experience—and in talking to others who have been involved in antitrust cases, I think it's their experience as well—the courts do a terrible job of applying decision theory. I don't just mean in the design of rules, but I mean in hearing the evidence and weighing what it means. I think if we want to invest in improving decision theory in antitrust, one of the things we should think about is ways to improve judges' understanding of it.

I'll give one example from my own experience, although I'll fuzz it up a little bit. I was testifying in a case. There was a question about determining the value of a threshold such that an outcome over that number would trigger that harm. The judge said, "What's the answer?" I said: "I know the following: I know that the number is bigger than 90 percent and I know it is certainly less than 100 percent, and that's what I can tell you. I know there's a breakpoint somewhere in there." It became clear that the judge thought that I was somehow trying to mislead her and I was hiding something. The judge wanted "the" number. Had I started my testimony by saying, very confidently, "The number is 93.7 percent," I would have gotten in a lot less trouble than I did by saying, "Look, what economics tells us is it is bigger than 90 and smaller than 100."

And judges are not alone in this. People like point estimates; they hate hearing things about confidence intervals; they hate hearing that things are in ranges. But the fact of the matter is that's how the world is and people have a completely false precision or accuracy when they look at point

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estimates. But that's what courts like. Almost any expert I have ever talked to will say that, if you go in and start saying, "Look, there are these factors this way and these other factors that way and on balance I think it goes this way and this is my view of the range of possibilities," then you might as well not even go into court. You need to go in and say, "There is this, this, and this that support my case, and here's the number." This is a bit of an overstatement, but the underlying tensions are real.

You can blame experts for not being true enough to economics, but I think there is a fundamental problem that the courts do not do a good job of processing information under uncertainty, and that's what we are always talking about in these cases. I think there could be huge gains to antitrust process if we could have ways for courts to be more sophisticated about the application of decision theory.

Now, the other place decision theory comes up in antitrust—and Michael already mentioned it—is this whole question of designing rules of thumb and trying to minimize the harm that comes from Type 1 and Type 2 errors.

Since Michael has dusted off almost all of the old economist jokes that I know, I guess I will have to use the one I know that's left. As you know, there are Type 1 errors and Type 2 errors. Then there is the Type 3 error: you don't know which is which between Type 1 and Type 2 errors. Unfortunately, I'm always in that category, so I'm always glad for the joke, because somehow if you get people to laugh, it doesn't matter so much that you're ignorant.

Anyway, the idea is that you are worried about false positives and false negatives. Now, the one thing I will say here is I think it is the right way to think about the problem, but it is trickier than I think is commonly recognized. This is so because everything that happens is conditional on the policy that you have. For instance, once the parties observe the rule in place, they are going to decide which conduct to go ahead with and which not, which will influence the mix of conduct that enforcers see.

And what you really want to know is not whether a practice—for example, low pricing—is usually a good thing or is usually bad. What you really want to know is: "If I adopt the following rule for predatory pricing, when I say that something is bad, how often is it actually going to be bad and when I say it is good how likely is it that it is actually going to be good?" That is a very different question than just asking, "If I look across the economy, how often do I see good pricing versus bad pricing?" In fact, if I had a perfectly functioning predatory pricing rule, the answer would be that when I looked out at the economy I would never see predatory pricing; by hypothesis, there is a perfect rule and, hence, no one would ever even try to engage in predation. So you can't conclude from that observation that predatory pricing is not a problem and that we don't need the rule.

People make the claims about the distributions of the different types of errors, and we've got to be careful about what we look at. The Supreme Court is often "quoted" as saying that predatory pricing is unlikely. But what they actually said is that there is a consensus among commentators that predatory pricing schemes are rarely tried and even more rarely successful. I suspect the Supreme Court did not do a systematic search of commentators, and I know that many of the commentators on which the Court based its opinion did not do any sort of empirical study of the extent of predatory pricing.

Now, all of this said, I think it is probably right that we want to be very cautious about challenging predatory pricing because we don't want to chill price competition, and it is all-important. But I think, in fact, we have never made a serious attempt to figure out how likely it is or how likely it would be absent rules. Instead, we rely on some sort of folklore that there is some empirical study done somewhere. But there hasn't been, and we need to have one done.

Let me add a couple of other things to my rambling account, and then I will stop.

There is the issue of what do we do given the state of economics, where experts on each side get up and tell what some people call “Just So” stories. Well, one thing is I think we certainly need it to be the case that the plaintiff—as a minimum requirement—should be able to come up with a “Just So” story because if they can’t even do that, how can you bring a case? Of course, beyond that, I think what is important is that the courts demand that the “Just So” stories plausibly fit the facts of the case.

Now, of course, there is the issue: What if the defendant has a story that says, “Here’s our ‘Just So’ story and here’s why it’s good.” Some people would think that’s enough. I think here, too, it is really important (and that the right way of proceeding is) that the court demand that the story fits the facts of the case.

In the U.S. case against MasterCard and Visa, for example, the defendants’ experts came up with what was clearly a logically coherent theory, and in some ways an elegant theory, of why MasterCard and Visa needed to demand that member banks not issue American Express cards or Discover cards. As I say, it was a perfectly fine *theory*. If you just looked at the logic of it, you’d say it’s a good thing. But there was absolutely no evidence—at least they presented no evidence at trial—that the theory had anything to do with what was going on in this market, that anyone at Visa or MasterCard had ever thought that’s what they were doing with the rule. Now, you might say, “Well, wait a minute. They don’t have to think it. They’re not economists. We care about effects, not intent, anyway.” But I think in some of these things it does matter.

I want to distinguish two points here. Sure, sometimes economists will talk about a practice in very different language than business people will, and the fact that business people did not use the economic terms of art does not, I think, tell us much of anything. But, after one does the translation, if there is still no evidence that the business people thought they were doing anything remotely like what the economic experts claim the practice is doing, it seems to me that should be worrisome to the court. There should be some expectation that business people understand the markets that they are in and know what they are talking about, and that, if they expect the practices to have some effect, that it is likely the practices do have that effect.

I’ll give one more example on this one. It’s in *Dentsply*, where the trial court concluded that the rationale that Dentsply put up for its exclusive distribution requirement was completely pretextual. The court essentially said, “Look, the experts and the business executives came up with this as an ex post rationalization for what was being done.” Yet, the trial court said, “Nonetheless, Dentsply wins” (for other reasons). Now, fortunately, it got overturned on appeal and Dentsply ended up losing the case. It seems to me that, if you have a story and it doesn’t fit the facts, then it should count against you.

I’ll end with one last thing on this point. Maybe I’m ducking the issues, in that, rather than talking about the economics, I’m talking a lot about process, but I do want to make another process point. That is, it seems to me the courts do a really terrible job of telling witnesses or forcing witnesses to give full and complete answers. What a lot of people get away with in depositions is, I think, just ridiculous. It is quite common for experts to try to refuse to answer the questions and just to run the questioners around in circles. Now, of course, some of that the questioners bring on themselves because they love to ask questions like “Have you stopped beating your dog yet?” and they’re playing games as well. But there are some just astounding cases. And the same thing happens with fact witnesses, where they’ll just flat-out refuse to answer the questions, and the courts seem to take no notice of that and not to care.

I'll give one final example of that. Since I'm not the one accusing the person of giving untrue answers, I won't be the one to get sued. *Business Week* described Bill Gates's deposition in the *Microsoft* case. They said it the following way: "Worse, many of the technology chief's denials and pleas of ignorance have been directly refuted by prosecutors with snippets of emails Gates both sent and received." Put another way, I think a lot of people who looked at Gates's testimony thought he was lying through his teeth when he said he didn't know this stuff. Yet, nothing happened because of that. Well, actually what happened is the trial judge got mad, the trial judge then did silly things because he was so mad, and it worked in Microsoft's favor.

I think it's a situation, again, where we could improve the process a lot if the courts would do more to hold fact witnesses' feet to the fire, but also the economic experts', because we do have a situation where there is a lot of "on the one hand, on the other hand," there's a lot of judgment, and I think the courts do a very poor job of getting the experts to identify the underlying sources of the disagreements between them. And I think the courts do a poor job, as I've said, of dealing with uncertainty. I think just those process improvements could make a difference and would be positive changes in dealing with the situation we have in the economics, where it's so much "on the one hand, on the other hand."

One last thing on process. To sound upbeat and positive, I'll make a recommendation, something to think about. In some countries, notably New Zealand and I think also Australia, they have what they refer to as a "hot tub," which is not everybody's idea of a dream hot tub. You get in a room with a bunch of economists, and all the economic experts sit down at once in front of the court, and then they hash out their disagreements and go back and forth and comment on each other. It is, I think, a much more efficient process for at least helping the court narrow down the issues. Also, it is a chance for the economists to point out what they think are the strengths—or, more likely, point out what they think are the weaknesses—of the other economists' theories. I think that is a lot more efficient way than filtering everything through lawyers in cross-examination and not having the back-and-forth.

—Michael Katz

The courts do a very poor job of getting the experts to identify the underlying sources of the disagreements between them.

SALINGER: Michael said a lot, and I agree with virtually all of it.

On the issue of the rules of thumb and what are good rules of thumb and what are bad rules of thumb, it seems to me that we have a rule of thumb for predatory pricing that's pretty good and we've got a rule of thumb for tying that is awful. So we have a doctrine that says if you have market power in the tying good—and there are a couple of other conditions, which are almost always satisfied—provided you pass the separate product test, that tying is illegal. I don't agree that that really is not a per se standard.

If you go back to the district court's decision in *Jefferson Parish*, there were a lot of compelling efficiency justifications that were given for the exclusive dealing agreement. When people say there really is not a per se standard, the part of the standard they point to is the separate products test. But the court didn't rule that because there were efficiencies, anesthesiology and surgery were a single product. They, in fact, ruled they were distinct products, even though there were lots of efficiencies.

So, with something like tying, I think we are going to need a rule of thumb, but we're just going to need a different rule of thumb, because, in light of the relative frequency and how common it is as an efficient practice, a hostile treatment is problematic.

The other comment I wanted to make . . .

KATZ: Michael, could I just say something about that before you make your other comment? That

is, the point I wanted to make on tying is it is not a clean or a pure per se rule and that it has important elements of rule of reason. I agree with you, though, that the rule of reason applies. It's structured, and by forcing the rule of reason analysis, there ends up being all this discussion of separate products. I agree with you that that's not the appropriate full scope of the inquiry, that you could have things that in fact were separate products, in the everyday sense of the word at least, where you would still think tying is okay.

But it is also the case that the separate products clause or rule allows a lot of things we might call ties to get through. So, for example, clearly you could sell automobiles without brakes—brakes are a separate product; as replacement parts they are sold separately from everything else—but no one has successfully brought a tying case saying that the rest of the automobile has been tied with the brakes. So that's why I'm saying there is at least an important element of rule of reason in there, if not necessarily the right one or the best one.

SALINGER: It is certainly true that the doctrine has been less harmful than you might expect given the nominal per se illegality.

The other issue I wanted to comment on is who bears the blame when the courts make decisions that are economically wrong. Is it because the courts just can't get it, or is it because economists are not providing the analysis that is needed?

Michael mentioned the *American Airlines* case, and there are a bunch of important issues in that case. One of the issues in the case was what's the right cost standard. One of the things that has happened in industrial economics over the last couple decades is economists have decided that they don't really know how to measure cost; it is really beneath them to do that; that they should leave it to the accountants, who they are sure are going to get it wrong; but that it is not really worth it for us to get it right. And so, having neglected the issue largely for several decades, I don't think it is really fair for us as a profession to criticize the legal community when the decisions don't get it right. I think we would be as a profession much more productive taking a more detailed look at costs than we have been.

KATZ: Let me say something about that.

I agree with you completely about looking at more detailed costs. One of the big issues in all of the airline predation cases is trying to figure out how to measure costs, how to deal with the planes and the people on them, and all of the different kinds of tickets—is a business class ticket in the same market as a coach ticket; and if they're not then how do you allocate costs?—and then, the fact that the airlines have very sophisticated algorithms for allocating costs, because they need to look at things like what happens if I have a hub-and-spoke system and this is a flight that is feeding other flights. So I agree that economists need to get into cost issues more deeply. Those are issues that are just flat-out hard.

I thought the United States should have won in *American Airlines*, and I was involved in the appeal. But the fact of the matter is I can see how the court, when it looked at the actual tests that were being done, just said, "I don't find these convincing" or, "It's just so hard, I couldn't tell what was going on." That's one level of dealing with cost.

But if you look at the district court's decision in that case, and also look at what the appellate court said, they also dealt with a little, simple textbook example—so we're talking about what the principle was—and they got that wrong. That example has been around for a lot of years, and it would be the kind of thing you'd have in a Principles of Economics course. I believe it was in Areeda and Turner—maybe it's Areeda and Hovenkamp—it's in there now.

They had the simple example that was in the *Antitrust* text. It said: “Suppose you had bought a whole bunch of gasoline in the past for a dollar”—this is really in the past—“and now the price of gasoline is, say, \$1.50 going forward. But you still have in your gas tank in your gas station, or wherever this is, 1,000 gallons left that you paid \$1.00 for. The question is: Going forward, what is the economically relevant cost of gas? What should I use, for example, if I want to ask the question, is this guy selling the gas for less than he paid for it or less than its economic cost?” I believe any economist I know of would say, “Look, obviously the right answer is \$1.50. That’s the market price. That’s what it is going to cost you to replace that gas after you sell it.”

The court said, “No, no. Obviously, we’ve got to average in that stuff you paid \$1.00 for.” While there is one situation where that would be the right thing to do, I guarantee that’s not what the court was thinking about, and the logic the court put forth to support its averaging was flat-out wrong. That is not a question of economists not having explained it well enough. The textbook explained it very well. It’s just that the court doesn’t know economics. I think that’s a serious problem, because I think if the courts misunderstand the economics at that fundamental a level, it’s really hard to see what you are going to do to get sensible decisions.

SALINGER: Michael, do you think economists would be unanimous on whether or not the airplane expense should be included as part of cost?

KATZ: As I said, I think there are two levels. This is completely my personal opinion. When I was at DOJ, in terms of appealing the *American Airlines* decision, I said: “Fine, so we lost out on how to treat the aircraft expenses and do those things.” I think the court was wrong on it. “But fine, we’ve lost on that.” It’s incredibly fact-specific and very detailed, and I think it is controversial, and different economists can come up with different answers. But on this fundamental principle, which they got wrong, and unfortunately they state it as a fundamental principle, I don’t think there is disagreement on that one.

But I agree with you, there are a lot of really tricky issues in the *American Airlines* case and the *Northwest v. Spirit* case on how you do the cost allocation. But my point is that we’re worrying about the really tricky issues, where the court can’t even get the first-order issues right.

Questions and Answers [from the Brown Bag Audience]

QUESTION: My question was really suggested by that last comment. That suggests that the Commission should exercise more control over monopolization cases, on the theory that as an expert body we would get it right more often. One way we might do that is by having different proof under Section 5 versus Section 2, which we don’t tend to do.

KATZ: Well, I’ll sound like an economist and give an “on the one hand, on the other hand” answer, and I’m also going to sound like an economist who was the Chief Economist at the Antitrust Division. For all the criticism I had of what the courts do, I think that, overall, judicial review is really good, and I think that the process that the Department of Justice goes through is preferable to the process that the Commission goes through. I just think that the DOJ faces a harder time when it goes to court, and I think that’s a good thing. I even thought it was a good thing when I was at the DOJ.

So I think there is a balance there. I think yes, there is more expertise, and I think that’s a good thing, which does suggest moving in the direction you said, but I also think there is something to be said for having to get out there in federal district court.

QUESTION: In thinking about the interplay between market structure and conduct, doesn't the fact that we observe a practice adopted by firms in a competitive industry suggest that the practice is efficient? And in the context of predatory pricing, shouldn't we consider the possibility that low prices are designed not to drive rivals out of the market but to discipline those rivals?

SALINGER: It is plainly not sufficient to say, "Well, gee, if we observe a practice being common in competitive markets, then it's okay when practiced by a monopolist." The value of looking more carefully at a practice under competitive circumstances is that it might provide some insight into why it occurs and what the efficiency benefits are.

With tying, what has been missed in the economics literature was the notion that companies have a cost for each distinct product offering that they have, so that if you mandate untying, then you are, in principle, forcing a company to have this proliferation of products, which would cause its costs to go up quite a bit. But because there is that efficiency benefit, that doesn't necessarily mean that you would never condemn the behavior when practiced by a firm with market power.

What you should do, and what we should ask, is whether people have instances in which tying occurred in a way that it had an anticompetitive effect. Now, you do run up against the problem that Michael raised, which is that what you observe depends on what the policy is. So we have had, since *International Salt*, a per se prohibition against tying. Maybe if we hadn't had a per se prohibition, we would have all sorts of examples of anticompetitive tying.

With exclusive dealing, again there are efficiency benefits from it. Really, this is going to come down to a judgment call as to when do you think the efficiency benefits just aren't big enough to justify the anticompetitive risk. Can Microsoft or Intel go to Dell and say, "Look, you're going to use just our stuff?" Can Microsoft say, "You're not going to sell Linux machines," and can Intel say, "You're not going to sell AMD machines"? I think we've sort of reached a judgment call that they can't do that. I don't think we can prove as a matter of economics that that's exactly the right thing. I think it does require some judgment.

On the predation question, I haven't completely thought through the oligopoly point. Where I think the predation standard needs to be improved is a more sophisticated understanding of what the right cost standard is. Michael, of course correctly, pointed out that the Court has never said exactly what it is, and that is because we're not sure. But we should be able to know it better than we do.

There are these very complicated problems. Michael mentioned the issues of how do you deal with the hub-and-spoke nature of the network and its implications for cost, and cost allocation. That is very hard. But the question of whether or not you include the airplane, that's not that hard. We ought to be able to get that right.

KATZ: That's a good answer. We agree.

SALINGER: If they're expanding output, you certainly should be including the cost of the airplane.

KATZ: I want the record to show for everyone listening that two economists were asked a question and came up with the same answer. Could I just say one quick thing?

I agree with most, or maybe everything, that Michael was talking about but the oligopoly disciplining of predatory prices. Again, this is going to be one of these "on the one hand, other hand" answers. I think there is a very important point, which is if you are just looking within the confines of an economic journal, or taking the approach of "let me just understand what economic theory

What you should do, and what we should ask, is whether people have instances in which tying occurred in a way that it had an anticompetitive effect.

—MICHAEL SALINGER

says about this stuff,” there is nothing special about driving the company literally out of the market. If you have someone enter the market and then you beat up on them, and instead of leaving they meekly follow around and raise their prices and keep to some small percentage of the market and don’t really put competitive pressure on you, that’s a good thing too from the point of view of the firm engaged in predation. Bork said years ago that what you’re doing is using the pricing to discipline rivals.

So I think the theory would tell you yes, that’s right, that that’s just as important, and empirically maybe it’s more important, than literally driving the companies out of business. It’s disciplining them but letting them remain in business. But the real difficulty there is that does get pretty scary. For all I said, and I think it’s right, we don’t have good empirical studies of how often firms really try to engage in predation. But I have to say, in the absence of such empirical studies, I am with everybody else, or certainly the majority of commenters, who say, “We want to be really careful about deterring price competition.” It seems to me if you start letting firms say, “Look, this didn’t drive us out of business but it sent a clear message to us that we should set high prices because otherwise these other guys are going to respond aggressively to us,” if you let companies start bringing that kind of case, it seems to me it would be very worrisome, even though theoretically there certainly could be cases where it is harmful to let a firm respond to its rivals and compete vigorously against them. I think it is very dangerous to go down that road until we have a lot more confidence in our ability to isolate the bad cases from the good ones.

QUESTION: Why don’t we bring in evidence that we have from each of our investigations that would bear particularly on predatory pricing, but also more generally other types of Section 2 exclusionary conduct, in making an assessment about how frequently that conduct is likely to occur?

SALINGER: Well, it sounds like a pretty good idea to me. I think we all have ways of synthesizing what we generally observe in the world in forming these assessments of what behavior we observe frequently and what behavior we don’t observe very frequently.

I was at a conference at the National Bureau of Economic Research at the end of last week and we were talking about this general issue. I was bemoaning the lack of published evidence to support the proposition that predatory pricing is rare. I said that I thought that way too much weight was given to McGee’s analysis of the Standard Oil Trust, that that settles the matter once and for all. Then, Wally Mullin said, “Well, David Genesove and I are about to come out with a paper in the *RAND Journal* about the sugar trust, and they did do predatory pricing.” That’s nice that we have another observation. Of course, this one comes out the other way. But if that’s the one example, you might say, “Well, gee, it’s still a pretty rare thing.”

We’ve had a pretty long stretch of time where there has been a tough standard for bringing predatory pricing cases. If it were a common practice to try, I think we would be seeing a lot of it. We’d be seeing it in HSR matters and we’d be seeing it in lots of other places. I don’t think we have.

KATZ: I would agree with Michael that I think it is unlikely that, if we conducted a survey, we would see a lot of price predation, at least a lot of successful predation. I think Michael mentioned before what would we say to business people. Certainly, teaching in a business school, if an economist got up and started telling a bunch of MBAs, “Oh yeah, predation doesn’t make any sense, it doesn’t work,” they would start laughing or say, “Well, this shows how out of it economists are,” although, frankly, I think economists are probably more right than businesspeople on this one.

But I think Michael is probably right, that if we did do a serious study, if it was somehow possible to construct one, it would probably come out saying that there are not very many instances of successful predation where it's harmful. But I think we are both saying it would be nice to know that with greater certainty.

QUESTION: We haven't touched upon the issue of remedy in the event that there was a finding of predatory pricing or exclusive dealing or a refusal to deal, other than, in effect, saying, "Thou shalt not sin any more." That may stretch sort of to the edge of where economics can usefully help us. That may be an area too where we should be giving more thought, since certainly remedy is an issue where I would agree that people have argued that we shouldn't be bringing cases unless we have an effective remedy. So that's an area where we clearly need to be giving a lot of thought. It might be an interesting question whether economics could help us there.

SALINGER: You mentioned two kinds of cases in the same breath. I wouldn't mention them in the same breath. I think for the refusal to deal case you have raised exactly the right issue, which is refusal to deal means refusal to deal on what terms. Then, if you are going to go there, you are putting yourself in what looks like an awfully regulatory position. With predatory pricing, I am not sure I see the issue. If the standard is you can't price below the relevant measure of cost, which we have to get right—well, the penalty would be damages and then the threat of a subsequent suit if you keep doing it.

KATZ: I guess I would say that they probably belong in the same breath more than Michael is saying. It seems to me that either one of them, either refusal to deal or predatory pricing, both really run into the danger that the remedy is going to end up being regulation.

As Michael and I said at several points earlier today, coming up with these cost measures is really tricky, at least in airlines, and actually in a lot of industries. So to start saying to a firm, "you can't price below cost," of course what you really have to mean is, "you can't price below cost too much when it is going to do bad things" because there are probably good reasons to let them temporarily price below cost, and you've got to allow for them to make mistakes because there is uncertain demand and that might affect what costs are.

I think this question about the remedies is a really important question. I think in predatory pricing it is a problem.

The one thing on refusal to deal is, given that the courts have generally said there is not a duty to deal and the cases we are talking about—go back to *Aspen Ski*, where you say, "What we're requiring is when the guy shows up at the ski lift with a big pile of cash that you agree to sell him the tickets at retail." That is probably not too pervasive an intervention.

So it may be that, because the refusal to deal cases are so extreme, that in practice coming up with a remedy wouldn't be as hard as one might expect it to be. But I think the question is really important, and I think that, in a lot of cases, what the question brought up is a real issue, that you are trying to find liability for something that you are not really convinced you will be able to fix if you do find liability. ●