Exclusionary Conduct

Testimony Before the Antitrust Modernization Commission

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Summary of Testimony

Refusals to deal come in many different forms. Appropriate legal standards differ across these forms. A vertical refusal to deal arises when a dominant input supplier refuses to sell its input to downstream rivals. A complementary refusal to deal arises when the dominant supplier of one product sells that product to customers as part of a bundle but refuses to sell that product alone to a rival seeking to offer its own bundle to customers. A purely horizontal refusal to deal in a network market arises when a dominant firm refuses to interconnect with a rival. Equally important, all three types of refusals to deal can be either unconditional or condition in character.

General conclusions regarding the effects of conditional refusals to deal are not warranted; these cases require a detailed fact-based inquiry to determine the impact of the refusal to deal on customers. Unconditional refusals to deal are much harder for antitrust law to reach or control, in large part because the courts are ill suited to engage in price regulation. Vertical unconditional refusals to deal should not trigger antitrust liability. However, antitrust law can play an important role in controlling opportunistic refusals to deal by dominant firms adopting "open early, closed late" strategies.

Multi-product discounts are generally pro-competitive. The recent decision by the Third Circuit in *LePage's* is likely to stifle some pro-competitive discounting. Adopting a safe harbor for multi-product discounts analogous to the safe harbor in *Brooke Group* for predatory pricing would be an improvement in this area of the law.

* I thank my colleagues who have very kindly provided comments on an earlier draft of this testimony.

1. Introduction

Thank you for the opportunity to appear here today. I am Carl Shapiro, the Transamerica Professor of Business Strategy in the Haas School of Business, and Professor of Economics in the Department of Economics, at the University of California at Berkeley, where I have taught since 1990. I also am Director of the Institute of Business and Economic Research, an Organized Research Unit at U.C. Berkeley. I have served as the Editor and Co-Editor of the *Journal of Economic Perspectives*, a leading economics journal published by the American Economic Association. I also am a Senior Consultant and Member of the Board of Directors at CRA International, an economic consulting firm.

I am an economist who has been studying antitrust, innovation, and competitive strategy for roughly twenty-five years. I have written numerous articles relating to antitrust economics, including articles on market definition, exclusionary conduct, horizontal mergers, patent licensing, the settlement of patent litigation, competition policy in industries with network effects, and competition policy in industries experiencing rapid technological change. My curriculum vitae and recent articles are available at http://faculty.haas.berkeley.edu/shapiro.

I also have considerable practical experience applying economics for the purpose of enforcing the antitrust laws. I served as a Member of the Defense Science Board Task Force on Antitrust Aspects of Defense Industry Consolidation during 1993 and 1994. I served as the Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice during 1995 and 1996. I have served on numerous occasions as an expert witness or consultant to the Antitrust Division or the U.S. Federal Trade Commission. I also have consulted or served as an expert witness on numerous antitrust matters for private companies, including cases involving monopolization, collusion, and mergers and acquisitions.

2. General Approach to Exclusionary Conduct

Before addressing the Commission's specific questions regarding exclusionary conduct, I would like to explain my general economic approach to evaluating allegedly exclusionary conduct, so the Commission can place my recommendations in context.

First, I take as my starting point the proposition that the ultimate goal of this area of the law is to prevent firms with significant economic power over their customers from using that power to disrupt or undermine the competitive process and thereby harm those customers. Using more traditional language, the law attempts to prevent firms with substantial market power from employing tactics that exclude rivals without generating benefits to customers, thereby fortifying that power or extending it in time to the detriment of customers. This basic principle implies that we should ultimately be looking at the effects of challenged conduct on customers. Conduct can only be branded as anti-competitive if it is expected to harm customers.

I use the term "exclusionary conduct" to refer to business tactics that harm customers by undermining the competitive process, typically by disrupting or undermining the ability of rivals to meet the needs of customers. I use the term "legitimate competition" to refer to business tactics that benefit customers and thus are properly seen as part of the competitive process. Both legitimate competition and exclusionary conduct harm *competitors*, so observing that a given tactic harms competitors typically is *not* helpful in determining whether that tactic constitutes exclusionary conduct or legitimate business competition.[1]

In my experience as a government official, scholar, consultant and expert witness, there are a number of ill-defined yet loaded terms used in the area of exclusionary conduct. I urge the Commission to be very careful to define its terms carefully and to encourage others to do the same. Most notably, plaintiffs frequently refer to conduct that "excludes" competition or "forecloses" a competitor. However, a firm that offers high-quality products at a low price may well "exclude" competition or "foreclose" its competitors. Of course, antitrust law welcomes this behavior. Likewise, I have seen plaintiffs argue that the pricing terms offered by a dominant firm were "coercive" because they were so attractive that virtually all customers presented with these terms accepted them. Such language is misleading (because it suggests that customers were forced to do something adverse to their own interests) and unhelpful in assessing possible harm to customers. On the other hand, defendants have a habit of claiming that their conduct is "efficient" without addressing whether the claimed "efficiency" in fact leads to demonstrable consumer benefits. For example, the claim that a practice is "efficient" because is profitable for the firm employing it and thus provides that firm with a greater reward to its innovative effects is clearly too broad: few firms obtain a dominant position without some innovation, so all profitable practices employed by dominant firms would be "efficient" by this argument.

Second, there are a great many distinct types of exclusionary conduct, just as there are a great many dimensions to legitimate competition. Economic learning does not give us any reason to believe that a single legal or economic test can apply in all cases, other than the grand test that considers the long-run impact of the practice on customers. Experience with different types of conduct has led antitrust jurisprudence to different legal rules, different lines of inquiry, and certain shortcuts; the lines of inquiry for a case involving sham litigation are quite distinct from those in a case involving allegations of predatory pricing. One size most certainly does not fit all in this area of antitrust.[2]

Third, for many types of conduct, in practice the boundary between exclusionary conduct and legitimate competition is necessarily a fuzzy and controversial one, and our legal system is inevitably imperfect in assessing in a given case whether the conduct in question falls on one side of this boundary or the other. Therefore, in crafting and enforcing the antitrust laws, great attention should be paid to possible legal errors: false positives in which companies engaging in legitimate competition are ruled in violation of antitrust law, and false negatives in which

[1] For example, price discounting by a dominant firm harms competitors, yet price discounting is generally seen as the canonical example of legitimate competition, since it directly benefits customers. However, prices that are below cost can be predatory. As the Supreme Court has made clear in *Brooke Group*, for low prices to be predatory, there must be evidence that the alleged predator can recoup the losses incurred by pricing below cost in the form of higher prices later. Those subsequent higher prices represent the harm to customers that is necessary for the initial low prices to be considered exclusionary conduct.

[2] For an excellent articulation of this viewpoint, see Mark S. Popofsky, Defining Exclusionary Conduct: Section 2, the Rule of Reason, and the Unifying Principle Underlying Antitrust Rules, *Antitrust Law Journal*, forthcoming.

companies engaging in exclusionary conduct are *not* found to have violated the antitrust laws. Some of my recommendations are based on my judgment that judges and juries face severe practical limits in regulating the behavior of dominant firms. Therefore, attention must be paid to whether and how an alleged violation can be remedied, e.g., by recognizing the problems that arise when the courts regulate the terms and conditions on which dominant firms deal.

Based on this last observation, I favor certain safe harbors for conduct that is generally thought to be pro-competitive, even if economic theory teaches us that this same conduct can in some circumstances be exclusionary. For example, I favor a safe harbor for investment in new and superior production capacity, even though economic theory teaches us that a dominant firm might preemptively make irreversible ("sunk") investments in capacity to deter entry by rivals, thereby leading to higher prices and customer harm. Likewise, I favor a safe harbor for unadorned product improvement, i.e., for simply introducing a new and superior product, even though such product improvements can in theory harm customers by inducing the exit of rivals. I also favor a safe harbor for prices above incremental cost, even though economic theory teaches us that a dominant firm might drive smaller or less efficient rivals from the market by setting prices that are strategically lowered to weaken those rivals, yet remain above incremental cost, recouping at a later time the profits foregone today by lowering prices, and harming customers overall. I favor these safe harbors for two basic reasons: (1) the tactics falling into the safe harbors – investing in capacity, improving product quality, and engaging in price competition – are fundamental to legitimate competition, directly benefit customers, and can only harm customers under special circumstances that are difficult to identify in practice; and (2) they provide clear and relatively simple rules to guide business executives. In contrast, consider an exclusive dealing provision, under which a dominant firm refuses to sell to a customer who also is dealing with the dominant firm's rivals. While such provisions can be pro-competitive, they are not nearly so fundamental to legitimate competition, and their direct effect is to restrain the choice of customers, not to benefit them.

Fourth, antitrust law does not attempt to prevent the exercise of market power in the form of prices above competitive levels, but rather the use of that power to disrupt or undermine the competitive process. In the United States, it is an accepted principle that "merely" charging the monopoly price is not an antitrust violation. Apart from the operation of market forces such as entry over time, we rely on industry-specific regulations, not antitrust law, to control the "mere" exercise of monopoly power in the form of higher prices. This principle is very important when we consider refusals to deal, where one must ask how any refusal to deal differs from "merely" charging the monopoly price for the input in question.

Fifth, the central antitrust question in the area of exclusionary conduct is whether that conduct is likely to harm customers. In other words, we are concerned about the likely effects of the conduct in question. Evidence regarding *intent* is only relevant to the extent that it is informative regarding likely effects. Evidence that executives at a dominant firm were attempting to "beat the competition," "dominate the market," or even "kill the competition" is typically not very informative in distinguishing legitimate competition from exclusionary conduct. As an industrial organization economist, my starting point is the assumption that for-profit firms seek to maximize their profits. As someone who has studied competitive strategy, taught in a business school, and consulted for many companies over a number of years, I consider it important that antitrust law not dampen the competitive spirits and activities of business executives by imposing costs on firms whose executives express their competitive zeal in terms such as these. Rather, antitrust law should ensure that those competitive energies are harnessed in ways that benefit customers. On the other hand, executives are likely to understand the actual operation of markets in which they operate far better than judges or juries, so their more specific language regarding aims, such as “weakening competitor X by denying it access to customers” may be highly informative regarding the likely effects on competition and customers.

Lastly, while I am not an attorney, I do not see any simple way of enacting broad new legislation to improve the operation of antitrust law in the area of exclusionary conduct. While I consider the case law confused and unclear in some areas, and while I believe that some court opinions do not score well in the quality of economic reasoning employed, my hope is that the Commission can help in this area by identifying problematic areas in the case law for the courts and the antitrust enforcement agencies and suggesting resolutions.[3] For refusals to deal, the Commission might suggest a framework for analyzing these cases, hopefully including certain safe harbors and lines of inquiry such as I describe below. For bundled pricing, the Commission might suggest new tests for the courts to employ, including the safe harbor I propose below. The Commission also might encourage the higher courts to be receptive to accepting cases that will allow them to correct errors of economic reasoning made by the lower courts and identified by the Commission. With these aims in mind, rather than new legislation, I now turn to the specific questions raised by the Commission.

3. Refusals to Deal and the Essential Facilities Doctrine

I now address the Commission’s questions regarding refusal to deal and the essential facilities doctrine. For convenience, I repeat those questions here:

1. **What are the circumstances in which a firm’s refusal to deal with (or discrimination against) rivals in adjacent markets violates Section 2 of the Sherman Act? Does the Supreme Court’s decision in *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP,* 540 U.S. 398 (2004), state an appropriate legal standard in this respect?**

2. **Should the essential facilities doctrine constitute an independent basis of liability for single-firm conduct under Section 2 of the Sherman Act?**

A. Refusals to Deal Come in Many Forms

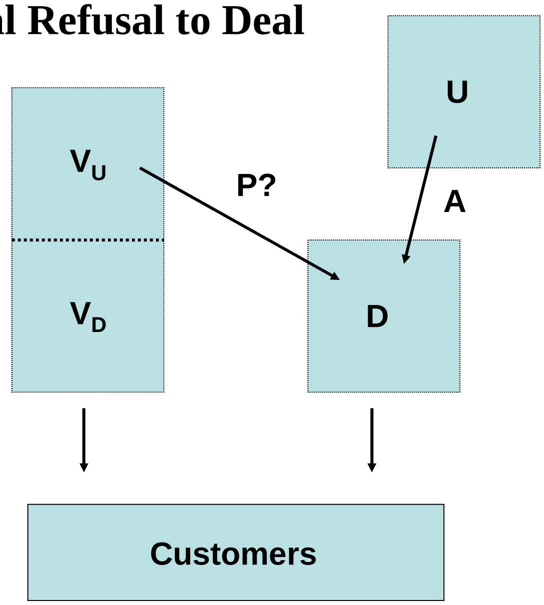
The category of conduct in which “a firm refuses to deal with, or discriminates against, rivals in adjacent markets” encompasses several distinct fact patterns. Accurate analysis requires that one distinguish these fact patterns. Distinctions must be made along two key dimensions.

[3] This paragraph constitutes my answer (such as it is) to Question #4 posed by the Commission.

1. Vertical, Complementary, and Purely Horizontal Refusals to Deal

The standard fact pattern involving a refusal to deal involves what I will call a "vertical refusal to deal." A vertically integrated firm, V, consists of an upstream division, V_U, which produces an input, and a downstream division, V_D, which produces and sells a final product. A non-integrated downstream firm, D, is attempting to compete with the vertically integrated firm. D requires the upstream input, and seeks to purchase it from V. A dispute arises when the two firms are unable to agree on the terms under which D will buy the input from V. Call P the price that V offers; a flat refusal to deal by V corresponds to a very high value of P. The figure below illustrates this fact pattern.

Vertical Refusal to Deal



Without loss of generality, suppose that the next best alternative source of the input for D is at a price of A. This includes several cases: (i) V is the only economically viable source of the input, which is captured by setting A to be very large; (ii) D can produce its own version of the input at some cost, which then becomes A; (c) D can buy the input from a third party, U, at price A.[4]

Presumably, the cases of most interest are those in which V controls an input that is significantly superior to the inputs available from other sources.[5] To keep the logic as clean and simple as

[4] In all cases, A is adjusted to reflect any quality differences between the input supplied by V and the alternative input available to D.

[5] Typically, there will be a factual dispute about the superiority of the input controlled by the vertically integrated firm. For example, in *Kodak*, there was a factual dispute about the quality, cost, and availability of spare parts from sources other than Kodak. Hopefully, there is consensus that there can be no customer harm, and thus no antitrust violation based on a refusal to deal unless the denied input is significantly superior to the next-best alternative.

possible, I assume in what follows that D's alternative sources for the input are distinctly inferior in the sense that A far exceeds C, the incremental cost of the input to V. If D has no viable alternative source of the input, A is enormous, so D must exit the market if it cannot buy the input from V. In this setting, it is important to bear in mind that V enjoys a dominant position in the upstream market. V's upstream advantage is measured by the difference between A and C.

The *Kodak* case is a good example of a vertical refusal to deal.[6] In that case, Kodak produced parts for Kodak copiers (and micrographics equipment). Kodak then combined these parts with skilled labor to provide repair and maintenance services for owners of Kodak equipment. The Kodak parts correspond to the upstream inputs, and service of Kodak copiers is the downstream product.[7] The Ninth Circuit found that Kodak had violated Section 2 of the Sherman Act by refusing to sell its parts to independent service organizations who were attempting to compete against Kodak in the servicing of Kodak equipment.

We can fruitfully ask *why* the vertically integrated firm has such a dominant position in the upstream market, a position we are assuming was obtained legally. Perhaps, as in the *Kodak* case (for some parts), the upstream input is patented. In other cases, there may be large economies of scale in the production of the upstream input, so it is not profitable for a downstream firm, or an independent input supplier, to incur the costs necessary to produce the input. This claim seems to be common in cases involving an "essential facility" such as a sports stadium or piece of physical infrastructure I am unable, however, to see any basic economic distinction between vertical refusal to deal cases involving a critical upstream input and cases involving an "essential facility." Put differently, if we assume that independent service organizations could not obtain Kodak parts from any source other than Kodak, and yet those parts are required to provide service for Kodak copiers, those parts constitute an "essential facility" in economic if not legal terms. So, I do not distinguish here between cases involving a basic refusal to deal and those involving an essential facility.

A distinct fact pattern involves a "complementary refusal to deal," which entails two complementary products, X and Y. Firm V now has a dominant position in the production of Y, which it sells to customers along with X in an XY package. Another firm, D, produces its own version of X, but seeks to purchase Y from V so that it can offer its own XY package to customers. A dispute arises when the two firms are unable to agree on the terms under which D can buy product Y from V. Call P the price that V offers; a flat refusal to deal by V again corresponds to a very high value of P. The figure below illustrates this fact pattern.

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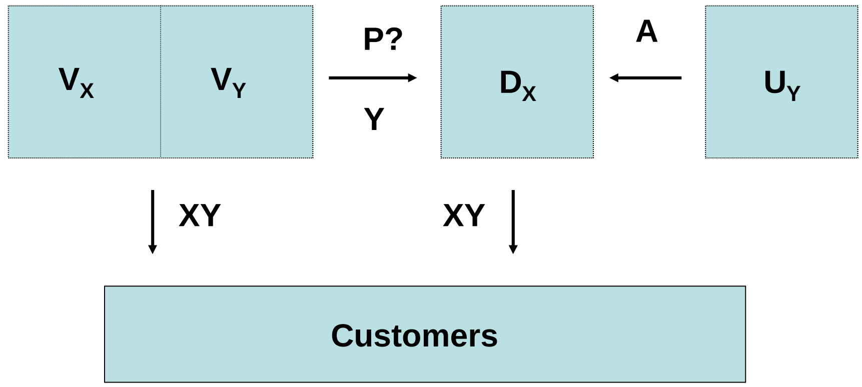
[6] *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997). I served as an expert witness for Kodak in this case.

[7] In fact, there were many such Kodak parts. For simplicity, my treatment here focuses on a single critical upstream input, such as Kodak's photoreceptor belt. Kodak owned patents covering this part, and others.

Complementary Refusal to Deal



Again, I have introduced an alternative supplier of product Y, denoted by U_Y, which offers to sell Y to D at price A. We are interested in cases where purchasing this alternative would place D at a large competitive disadvantage relative to V; in the limiting case of an essential complement, if V refuses to sell its Y to D, D must exit the market altogether.

One way that V might "refuse to deal" with D is by using a proprietary interface between products X and Y. This interface might be protected by a copyright, patent, or trade secret. For example, in the software industry a supplier of "platform software" might not disclose the interface information necessary for third parties to design their applications software X to work (well, or at all) with the platform software Y. Or the supplier of platform software might obtain patent protection for key interfaces and decline to license those patents.

Complementary refusals to deal can include or overlap with a wide range of conduct that is usually placed into different boxes under antitrust law.

- **Technical and Contractual Tying:** Suppose that V only sells X and Y together as a single product or package. D complains that V is tying the monopoly product, Y, to another product, X, by refusing to sell Y alone to D. If customers strongly prefer purchasing X and Y in an integrated package rather than separately, the harm alleged to customers does not arise because of V's unwillingness to sell Y alone to *customers* (a product they do not want), but rather because of V's unwillingness to sell Y to D so that D can offer its own XY package to customers. Indeed, a tying remedy that required V to sell Y to customers separately from X would be ineffective at enabling D to compete with X unless V were also required to sell Y to D.

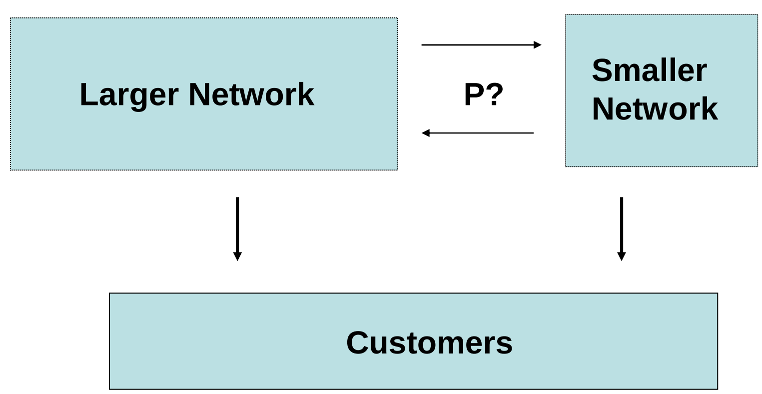
- **Bundling and Multi-Product Discounts:** Suppose that V sells X and Y separately but offers the XY bundle at a deep discount. Now D may complain that the bundled price is so attractive as to amount to tying. As just noted, if consumers prefer to purchase X and Y in an integrated package, the real harm is caused by V's refusal to sell Y to D, and an effective remedy would have to mandate and regulate the terms of such sales.

- **Exclusive Dealing:** Alternatively, suppose that customers have no aversion to purchasing X and Y from separate suppliers, and that V indeed sells Y to customers separately from X. However, suppose that V will only sell Y to customers who purchase Y exclusively from V. This exclusive dealing provision can also be described as a conditional refusal to deal: V refuses to deal with a customer who purchases Y from another supplier.

Unfortunately, it is not possible to analyze complementary refusals to deal without implicitly or explicitly addressing questions of tying, bundling, and exclusive dealing. Indeed, one of my messages to the Commission is that the "refusal to deal" category of conduct is not easy to distinguish from several other categories of conduct in antitrust law.

The third category of refusals to deal involves purely horizontal relationships in network markets. In a network market, customers value a product more highly, the larger is the network of users associated with that product. Refusals to deal can arise in such markets when a larger network refuses to interconnect with a smaller network. The figure below depicts this situation.

Purely Horizontal Refusal to Deal



The concern in this setting is that the smaller network may not be able to survive if its members cannot communicate with those in the larger network. A milder version of this concern is that the smaller network will be a far less effective rival to the larger network without interconnection. These issues arise in markets with either direct or indirect network effects. For example, in some software markets "interconnection" can take the form of product compatibility.[8] Dominant firms in network markets may claim that their intellectual property rights include the right to refuse to interconnect with their smaller or weaker rivals.

2. Unconditional vs. Conditional Refusals to Deal

The term "unconditional refusal to deal" is best reserved for situations in which the dominant firm simply does not sell the product in question to anyone (and has not done so in the recent past). In vertical refusals to deal, this is the case in which the dominant firm only uses its input internally. In complementary refusals to deal, this is the case in which the dominant firm does not sell the product in question separately from the other product. In purely horizontal refusals to deal, this is the case in which the larger network does not interconnect with any other networks.

When studying unconditional refusals to deal, it is tempting to try to distinguish a "flat refusal to deal" from "charging an excessive price." While this distinction may seem appealing on its face, I do not believe that it is workable or useful in practice. Indeed, economists think of and model a flat refusal to deal as charging a price so high that the customer certainly will not find that price acceptable. If the law made much of the difference between refusing to deal and charging too much, dominant firms would merely be encouraged to pretend to negotiate (slowly), or to offer to deal at a price so high they know it will not be accepted. Viewed from another perspective, the remedy for unconditionally refusing to deal cannot simply be a requirement to deal; it must specify price cap. Logically, then, a dominant firm that insists upon receiving more than this price cap has engaged in a "refusal to deal." So, while I believe it can be very informative to learn *why* a dominant firm is refusing to deal, or charging a price that has not been unaccepted, the remainder of my testimony will not distinguish between these behaviors.

Conditional refusals to deal can have very distinct economic effects from unconditional refusals to deal, and must be analyzed separately, paying attention to the particular condition(s) involved. Vertical conditional refusals to deal also encompass various forms of discrimination: a higher (perhaps unacceptable) price charged to some downstream firms (such as direct competitors) than others. I consider these below. Complementary conditional refusals to deal are highly diverse: as noted above, this category can include or overlap with tying, bundling, and exclusive dealing. Generally, I favor a flexible, fact-based approach to conditional refusals to deal; however, a more detailed analysis of these practices is beyond the scope of my testimony.

Naturally, in studying conditional refusals to deal, or discrimination, one must understand just what conditions lead to the refusal or discrimination, and why the dominant firm has chosen these conditions to trigger the refusal or differential treatment. In some cases, the conditions will be explicit. For example, we might observe a vertically integrated firm using field-of-use or territorial restrictions to prevent customers buying its input from competing against it downstream with final products made from its own input. In other cases, the conditions will be

[8] See, for example, Michael Katz and Carl Shapiro, "Antitrust in Software Markets," in *Competition, Convergence, and the Microsoft Monopoly*, 1999, Kluwer.

implicit, and must be inferred from the behavior of the dominant firm rather than obtained from a contractual provision. For example, we might observe that the integrated firm sells its input, but not to any of its downstream competitors. More obviously, we might observe that the integrated firm ceased dealing with a long-time buyer of its input when that buyer began competing downstream.

The remedies available to restore competition also are quite different in unconditional vs. conditional refusal to deal cases. In an unconditional refusal to deal case, the remedy must involve establishing a price cap. Regulation of the terms and conditions on which the dominant firm is required to deal will be needed to prevent the dominant firm from evading the price cap by imposing other conditions in conjunction with the maximum allowable price. In contrast, in a conditional refusal to deal case, the remedy can involve a prohibition on the use of certain conditions to trigger either a refusal to deal or less favorable terms of dealing. While some oversight is of course required to ensure compliance, it is far easier to enjoin the use of certain conditions, or to prohibit various bases for price discrimination, than to set an overall price cap.

B. Overarching Issues in Refusal to Deal Cases

Before providing my analysis of various flavors of refusal to deal, it is helpful to identify two major economic issues that are central to any economic analysis of refusal to deal cases.

1. Extension vs. Erosion of Monopoly Power

The root of the problem in cases involving refusals to deal is that a single firm has monopoly power over a key input, product, or network. Antitrust limitations on exclusionary conduct are most effective when they ensure that dominant firms cannot block competitive forces from operating to erode their monopoly power over time. To the extent that antitrust rules slow down the natural market forces that erode monopoly power, they are counterproductive.

Consider the standard case of a vertical refusal to deal. On the one hand, if the integrated firm's refusal to sell its input to a downstream rival causes that rival to exit the market, subsequent entry into the *upstream* market may become more difficult, due to the need for two-level entry. On the other hand, requiring the vertically integrated firm to lower the price at which it sells its input to its downstream competitors has a direct effect of *reducing* the incentives of third parties to enter the upstream market. In practice, it may be difficult to tell whether imposing a duty to deal will hasten the erosion of the upstream monopoly or perpetuate it.[9]

Alternatively, if the strength or duration of the upstream monopoly is unaffected by the terms on which the vertically integrated firm sells its input to downstream rivals, then it is important to bear in mind that those downstream rivals are dependent upon the integrated firm for an essential input. They are not truly independent downstream competitors. Put differently, with no duty to deal, the integrated firm has some ability to exclude downstream rivals, so we may see a single

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[9] Since "mere" monopoly pricing is not illegal, the goal of imposing a duty on the vertically integrated firm to sell its input presumably is not to prevent that firm from "merely" exploiting its input monopoly, but rather to prevent some additional consumer harm resulting from expansion of the input monopoly to other markets or over time.

firm at both levels. Alternatively, if the integrated firm is required to sell its input at the simple monopoly price that would be charged by a non-integrated firm, we may see a monopoly market structure at the upstream level and a competitive market structure at the downstream level. Therefore, in this case, the benefits of imposing a duty to deal are *not* the benefits of shifting from a monopoly market structure to a competitive market structure, but the smaller and perhaps nonexistent benefits associated with such a shift *only in the downstream market, in the presence of an upstream monopoly.* This observation suggests caution in vertical and complementary refusal to deal cases if the strength of the underlying monopoly is not at issue.[10]

2. Balancing Short-Term vs. Long-Term Customer Benefits

Frequently, short-term customer benefits can be obtained by weakening property rights and/or imposing duties on firms that have previously made investments to serve customers. For example, invalidating a patent on a pharmaceutical drug could well enable entry by generic competitors, leading to sharply lower prices. Plaintiffs in refusal to deal cases will typically be able to argue that customers will enjoy short-term benefits if the dominant firm is required to deal on terms that are more favorable than the ones it was offering voluntarily. In the case of a vertical refusal to deal, for example, it is immediate that the downstream firm will enjoy lower costs and thus be a stronger competitor if it can obtain the monopoly input at a lower price.

Given that "merely" charging the monopoly price is not an antitrust violation, it is clear that these arguments are incomplete. Taken alone, they would imply that any monopolist (or any supplier, for that matter) should be forced to give away its product free of charge. Antitrust scholars and courts generally recognize that the long-run interests of customers are served by establishing well-defined property rights and respecting those rights, even if they lead to *ex post* market power. The thorny question for this area of the law is just now broadly to construe such "property rights" in the case of a monopolist. In principle, we can regulate the price at which the vertically integrated firm must sell its monopoly input, recognizing the importance of providing sufficient incentives for firms to invest and innovate. In practice, I am concerned that the salience of short-term benefits to customers (and competitors) to judges and juries will lead to an erosion of the returns necessary to fuel risk taking and innovation.

C. Vertical Unconditional Refusals to Deal

I am dubious that antitrust law can effectively and helpfully control vertical unconditional refusals to deal by dominant firms. The experience of industry-specific regulation, including traditional public utility regulation, makes me doubt that the courts are well placed to control unconditional refusals to deal by imposing price caps and regulating the terms of which dominant firms deal. Furthermore, imposing a duty to deal in this situation would effectively overrule the firm's decision to serve its customers using a strategy of vertical integration. As explained above, the benefits of antitrust intervention in this area are unclear, and the potential erosion of incentives to engage in pro-competitive risk taking and innovation is very real.

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[10] In contrast, in purely horizontal refusals to deal, requiring dealing directly undermines the root monopoly.

For all of these reasons, I favor an approach whereby vertical unconditional refusals to deal never trigger antitrust liability, regardless of whether the monopoly input is especially valuable or subject to intellectual property protection. No justification is required for such a refusal to deal.

Those in favor of imposing antitrust liability for vertical unconditional duties to deal recognize the need for a price cap to define liability and as a remedy. I comment here on three approaches.

First, the courts might try to use the dominant firm's internal transfer price as a benchmark price for the purpose of determining the price cap for external sales. The transfer price is the price at which the input is transferred from the upstream division to the downstream division within the vertically integrated firm. The internal transfer price cannot effectively be used by the courts as a true price benchmark or measure of cost. The transfer price is a creature of accounting and internal organization, not a true economic price charged in an arm's-length transaction.[11]

Second, one might consider requiring the dominant firm to charge no more than the simple monopoly price that an upstream firm would charge for its monopoly input. However, this price is neither observed in practice nor at all easy to calculate. Furthermore, an upstream monopolist might well engage in price discrimination, adding further complexities.

Third, one might try to construct the price cap based on some notion of short-term profit sacrifice: in theory, the price cap could be set at the lowest price at which a vertically integrated firm could sell the input to and still earn no less money in the short term than by refusing to deal. The "short-term" qualifier is needed here, for otherwise this test would be vacuous, assuming that it is profitable for the vertically integrated firm to insist on a higher price. I am highly dubious that this price could be measured with any accuracy in practice, even if agreement in principle could be reached regarding the appropriate "short-term" time frame.

D. Vertical Conditional Refusals to Deal

I now consider a more complex fact pattern in which the vertically integrated firm sells its input to some downstream firms but refuses to sell to others.

1. Input Sales in Unrelated Markets

Suppose that the vertically integrated firm sells its input to downstream firms operating in unrelated markets. Suppose that these sales in unrelated markets occur at a price, R, which is less than P, the price the vertically integrated firm offers to its downstream rival(s). This case

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[11] Furthermore, if legal rules were based on the internal transfer price, firms would have an incentive to alter that price strategically. One view is that the integrated firm can change the transfer price charged by its upstream division and paid by its downstream division without altering its actual operations. In this case, requiring that external sales take place at the same price as do internal "sales" imposes no real constraint on the external price. Alternatively, if the internal transfer price does affect resource allocation, there are good reasons to believe that a price close to incremental cost is efficient for the firm and beneficial to its customers. In this case, mandating external sales at the internal price will tend to elevate the internal transfer price, thereby creating inefficiency and exacerbating problems of double marginalization, all to the detriment of customers.

differs from an unconditional refusal to deal only in that we can observe market transactions that potentially provide a benchmark price, R, to use at the "price cap" for sales to the downstream rival. So, the relevant question is whether customers would be well served by using the benchmark price in this way, i.e., by prohibiting the integrated firm from charging more to its downstream rivals than it does to downstream firms with whom it does not compete.

On balance, it is my opinion that requiring a vertically integrated firm with a dominant position in the upstream market to sell its input to its downstream rivals on the same terms and conditions as it sells to other customers in unrelated markets would not be in the best long-run interests of customers. Apart from the arguments noted above in the case of an unconditional vertical refusal to deal, there are two bases for this conclusion. First, there is no reliable connection between the price charged to downstream firms operating in unrelated markets and the price cap we would seek to impose on the vertically integrated firm. If the price cap is intended to be the price, M, charged by an upstream monopolist to the downstream firm(s) in question, there is no reason to expect that R and M are equal, or even close, since an input monopolist may well charge very different prices to downstream firms operating in different markets. If the price cap is intended to be based on the profit sacrifice test, there certainly is no reason to think that R will be equal or close to that price level, especially since sales to a downstream competitor impose an opportunity cost on the integrated firm in the form of lost downstream profit margins. Second, if such a rule were imposed, and binding, the vertically integrated firm might well raise the price charged in the unrelated markets, harming those customers.

2. Input Sales in the Same Market

The analysis is somewhat more difficult if the vertically integrated firm sells its input to some of its downstream competitors, but refuses to deal with others, or more generally if the vertically integrated firm charges different prices to different downstream rivals. Put differently, do we want to prohibit an integrated firm selling a key input to its rivals from setting different prices for different downstream firms? General conclusions here based on economic theory are not available: the effects of price discrimination (in comparison with uniform pricing) on final consumers (and overall efficiency) are generally ambiguous, and this ambiguity certainly carries over to price discrimination in intermediate goods markets.

The effect of this conduct cannot be assessed without determining *why* the vertically integrated firm is setting different prices to different downstream rivals in the same market.[12] For example, these downstream firms might differ in how directly they compete with the integrated firm, thus imposing different opportunity costs (in the form of lost sales) on the vertically integrated firm when they purchase its input. I am not aware of any reason in general to believe that such price differences harm customers. Alternatively, they may differ in their ability to use a substitute input. Courts and enforcement agencies should be cautious in this area, since mandating uniform dealing runs the risk of adversely affecting risk-taking and innovation and may even lead to higher prices for at least some downstream firms.

[12] In practice, many non-price terms and conditions governing relations between the vertically integrated firm and downstream firms may vary across those firms, making this exercise considerably more complex than a simple comparison of prices.

E. Ending an Established Course of Dealing

A distinct fact pattern arises when the dominant firm seeks to end an established course of dealing with downstream rivals. In this case, there is another natural candidate for the price cap: the price that the dominant firm had charged previously. Clearly, taken to the extreme, requiring the dominant firm to continue to deal with its rivals on the same terms as in the past is not workable: no price increases, or any other changes in the terms and conditions of dealing, would be allowed. Obviously, such a rule cannot work in a dynamic world. Some flexibility is required: the dominant firm's costs may have changed, or it may have introduced a new and superior product that naturally commands a higher price. Or perhaps the firm simply decided to change its strategy, e.g., to expand its own downstream operations and thus withdraw from relationships with some independent distributors. Surely the competitive process includes such shifts of distribution strategy, even by manufacturers of unique and popular products who might be found to have monopoly power upstream.

In my view, it is natural and reasonable to ask *what has changed* if a dominant firm sharply alters the terms on which it will deal in a way that is unfavorable for its customer/rivals, or if it simply announces that is will no longer deal with certain customers who also are competitors. Based on that inquiry, antitrust liability might be found.

If the change in terms can be reasonably linked to underlying changes in the economic environment (such as an increase in costs or the introduction of a new and improved product), the change in policy should not trigger antitrust liability. Less clear are the cases in which the change in the terms offered by the dominant firm is driven by a change in strategy. For example, suppose that a vertically integrated firm performs an analysis and determines that the price being charged to its downstream rivals is too low because it fails properly to reflect the opportunity cost of lost downstream sales. In other words, suppose the input price is raised, but is still below one or more versions of the price cap discussed above. Such a change represents a recognition that the prices previously charged were based on an incorrect measure of economic cost or some other management error. Fixing that error should not be seen as anti-competitive, even if the higher price for the input leads to higher prices for final customers. Whether this is the real reason for the price increase might be a hotly disputed factual issue, however. The example given above in which the firm changes its distribution strategy is similar: there might be "innocent" explanations for such a policy change based on changes in overall strategy or management, but distinguishing those from opportunistic changes (see below) might well be difficult in practice.

The most troublesome cases arise when the dominant firm appears to be following a strategy of "open early, closed late." For example, in a network industry, a firm might obtain a dominant position based in part on certain "open" policies that induce reliance by complementary firms, and then later exploit that position by offering less favorable interconnection terms or by refusing to interconnect with them altogether.[13] Indeed, it is very common in the computer industry for

[13] For a further discussion of "open" and "closed" strategies, see Carl Shapiro and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy,* Harvard Business School Press, 1999.

firms controlling "platforms" to welcome suppliers of complementary products, even those offering products that are directly competitive with products offered by the firm controlling the platform. Indeed, such "openness" can be crucial for a platform to become successful in the first place. But therein lies the danger: that a firm will employ an open policy in order to gain dominance and then impose less favorable interconnection terms once dominance has been achieved. To some degree, industry participants can protect themselves from opportunism contractually; opportunistic behavior based on misrepresentations may trigger other forms of legal liability. When the effects of opportunism are market-wide, antitrust concerns arise.

My main arguments *against* imposing antitrust liability in the case of an vertical unconditional simple refusal to deal are significantly weaker when installed-base opportunism is involved.

First, opportunism is not needed to spur innovation. To the contrary, fear of opportunism can dull the incentives of other parties – downstream firms, suppliers of complements, rival networks, or final customers – to make investments. And the return to opportunistic behavior is above and beyond the return to innovation and risk taking that would arise in a well-functioning, competitive market. Therefore, a key factual issue is the extent to which the dominant firm's monopoly power results from reliance on that firm's previously more "open" policies.

Second, while real difficulties remain in establishing the terms and conditions on which dealing must occur, there is an obvious initial candidate: the terms that applied in the past. As I noted above, genuine flexibility is required to reflect changing market conditions, but the presence of a relevant, real-world benchmark based on prior dealing is significant. Analysis can focus on the factors that have changed, and what those changes imply for the terms on which the input is sold to the downstream firms. Therefore, while my concern that courts are poorly suited to engage in industry regulation still applies, and still worries me, it has somewhat less force due to the presence of an historical benchmark.

There is no reason why opportunistic behavior requires any profit sacrifice by the dominant firm. To the contrary, opportunism tends to arise precisely in those circumstances where a dominant firm finds it profitable to exert greater control once it has achieved dominance. Therefore, to the extent that *Trinko* requires a profit sacrifice by the dominant firm as a necessary condition for a finding of liability for a refusal to deal (or discriminatory dealing), I do not believe that it states an appropriate legal standard for cases in which that firm achieved or enhanced its monopoly power in significant part through previously "open" policies which have since become significantly less "open."

Summarizing, I believe that significant changes by a dominant firm in a terms on which it will deal with downstream rivals, suppliers of complements, or interconnecting rivals should not be covered by a safe harbor. I consider this area a difficult one in which a fact-based inquiry is necessary, since there is no clear way to define a safe harbor that would not generate many false negatives, and since there are no simple rules known to be highly accurate.[14] However, establishing antitrust liability should require a detailed, disciplined, and fact-based inquiry taking

[14] An alternative that might be promising is to modify patent law to give patent owners more limited rights when software interfaces are involved.

into account the factors I have indicated above. I do not favor any *presumption* that such changes are anti-competitive. Rather, I favor a neutral inquiry to determine *why* the dominant firm found it profitable to significantly change its policies, when it did, as a way of determining whether the change is of a sort that can be expected generally to benefit or harm customers in the long run. I expect that this analysis will be especially complex if the dominant firm changes its policies simultaneously with the introduction of new and improved products.

4. Product Bundling and Bundled Pricing

I now very briefly address the Commission's question regarding bundling:

> **3. What should be the standards for determining when a firm's product bundling or bundled pricing violates Section 2 of the Sherman Act?**

I am concerned that the recent decision in *LePage's* will deter firms from offering various types of multi-product discounts that benefit customers.[15] In particular, the *LePage's* opinion states:

> "Rather than competing by offering volume discounts which are concededly legal and often reflect cost savings, 3M's rebate programs offered discounts to certain customers conditioned on purchases spanning six of 3M's diverse product lines." (p. 20)
>
> "In addition to bundling the rebates, both of 3M's rebate programs set customer-specific target growth rates in each product line. The size of the rebate was linked to the number of product lines in which targets were met, and the number of targets met by the buyer determined the rebate it would receive on all of its purchases. If a customer failed to meet the target for any one product, its failure would cause it to lose the rebate across the line. This created a substantial incentive for each customer to meet the targets across all product lines to maximize its rebates." (p. 20)
>
> "LePage's introduced powerful evidence that could have led the jury to believe that rebates and discounts to Kmart, Staples, Sam's Club, National Office Buyers and 'UDI' were designed to induce them to award business to 3M to the exclusion of LePage's."

While I am not intimately familiar with the facts in *LePage's*, I do know that if a dominant firm "excludes" a smaller rivals based on discounts, it is very important to show that customers are harmed on net by the dominant firm's discounts before concluding that they are anti-competitive. For the same reason, if certain multi-product discounts keyed to customer specific target growth rates are to be found illegal under the antitrust laws, it is highly desirable to explain how these discounts differ in their effects on customers from basic volume discounts, which generally benefit customers and which the opinion appears to conclude are legal.

My criticism here is not based on a difference of opinion about basic economy theory. One can construct economic models in which a dominant firm selling multiple products can profitably

[15] *LePage's Inc. v. 3M Co*, 324 F 3d 141 (3rd Cir., 2003).

employ multi-product discounts to drive its smaller rivals from the market and then recoup those discounts in the form of higher prices. But the same is true of above-cost single-product predatory pricing. Despite the theoretical possibility of above-cost predatory pricing, in my opinion it makes good sense to require plaintiffs in predatory pricing cases to show that prices are below cost. The safe harbor for above-cost pricing provides valuable clarity to the business community and reduces the number of false positives, which would otherwise discourage pro-competitive discounting.

In my opinion, for precisely these same reasons, a similar safe harbor should apply to multi-product pricing structures, along the lines that the Supreme Court has laid out in *Brooke Group*. The comparable safe harbor can be described as follows. For any subset of products sold as part of a larger collection of products subject to a multi-product discount, define the *incremental revenue* for the subset of products as the amount charged for the entire collection of products *minus* the amount that the supplier was offering (at the same time to the same customer) for the *other* products in the collection, i.e., those not in the subset in question. Define the *incremental cost* of the subset of products in the conventional way: the costs that would be avoided if these products were not produced. A multi-product pricing structure fits into the safe harbor if the incremental revenues exceed the incremental cost for all relevant subsets of products. Of course, even multi-product pricing structures that fall outside the safe harbor may well be pro-competitive or competitively neutral. Plaintiffs would still have to show that the structure employed was likely to harm consumers, presumably based on some type of exit and recoupment logic, just as in conventional predatory pricing cases.[16] As part of this inquiry, one must consider the scope of the discounting in question, since this is relevant to assessing whether it is likely to greatly weaken rivals or cause them to exit the market.

[16] Some unique issues arise when multi-product discounts are negotiated with buyers. For example, a subset of products may be offered below incremental cost in order to increase the probability of selling the remainder of the package. Strictly speaking, the analog to the above-cost safe harbor for predatory pricing is a specific form of profit sacrifice: is the firm making lower expected profits by offering the full, challenged package, than it would by offering a smaller collection of products without the subset of products in question, recognizing that the buyer may not have purchased the smaller collection. Indeed, this is the next logical question in cases falling outside the safe harbor, before one gets to questions of exit and recoupment.