View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Research Papers in Economics

ECONOMIC ANALYSIS GROUP

DISCUSSION PAPER

Predicting the Competitive Effects of Mergers by Listening to Customers

by

Ken Heyer *

EAG 06-11 September 2006

EAG Discussion Papers are the primary vehicle used to disseminate research from economists in the Economic Analysis Group (EAG) of the Antitrust Division. These papers are intended to inform interested individuals and institutions of EAG's research program and to stimulate comment and criticism on economic issues related to antitrust policy and regulation. The analysis and conclusions expressed herein are solely those of the authors and do not represent the views of the United States Department of Justice.

Information on the EAG research program and discussion paper series may be obtained from Russell Pittman, Director of Economic Research, Economic Analysis Group, Antitrust Division, U.S. Department of Justice, BICN 10-000, Washington, DC 20530, or by e-mail at russell.pittman@usdoj.gov. Comments on specific papers may be addressed directly to the authors at the same mailing address or at their e-mail address.

Recent EAG Discussion Paper titles are listed at the end of the paper. To obtain a complete list of titles or to request single copies of individual papers, please write to Janet Ficco at the above mailing address or at janet.ficco@usdoj.gov or call (202) 307-3779. Beginning with papers issued in 1999, copies of individual papers are also available from the Social Science Research Network at www.ssrn.com.

---

* These are the views of the author alone, and do not represent those of the United States Department of Justice. A modified version of this paper will be appearing in the Antitrust Law Journal, 74 ALJ 1 (forthcoming 2006). The author is grateful for the comments and suggestions provided on earlier drafts of this article by his colleagues at the Antitrust Division, Avery Gardiner, Deborah Minehart, Richard Cooke and, most especially, Sheldon Kimmel. He'd like to thank also Francine Barrington for helpful research assistance. Finally, the author would like to blame Joseph Farrell for all remaining errors. This is not because Farrell is actually responsible in any way for remaining errors. Rather, it is because the author remains bitter after discovering just recently that Farrell published some of the insights presented in this article fully two years before this author independently thought of them. See, in particular, Joseph Farrell, "Listening to Interested Parties in Antitrust Investigations: Competitors, Customers, Complementors and Relativity" Spring 2004, ANTITRUST.

Abstract

This article explores the role of customers in informing competition authorities and courts about the likely effects of proposed mergers. It discusses when, and about what, customers are most likely to be valuable sources of information. It also discusses the potential limitations of customer testimony. Customer views can certainly be informative. However, they are best employed as a complement to, rather than a substitute for, economic analysis that employs more objective evidence. Although the welfare of consumers appears increasingly to have been accepted by competition authorities as the appropriate goal for merger policy, customers will not necessarily have available the information required to predict the economic consequences of a proposed merger. And even when they do, customers may be reluctant reliably and accurately to provide that information, or to express their true opinions, to investigators and before courts. Worse yet, customers may themselves stand to benefit from mergers that are anticompetitive, or may be harmed by mergers that are welfare-enhancing. Appreciating both the strengths and the limitations of customer input is critical to the cause of sound merger enforcement, not only in the U.S., but overseas as well. A growing number of countries, many of whom have less experience or expertise than do competition authorities in the U.S., have begun to adopt merger control policies themselves, and are in the process of developing and implementing investigative best practices. They, at least as much as we, can benefit from better understanding the advantages, as well as the potential pitfalls, of using the views of customers to help ensure the welfare of consumers.

Introduction

Competition authorities and courts face a difficult task in evaluating proposed mergers. Predicting a future world following consummation of merger that has not yet occurred is no simple chore. One source of information commonly relied upon to help in this effort is the merging firms' customers. This article explores the role of customers in informing competition authorities and courts about the likely effects of proposed mergers. It discusses when, and about what, customers are most likely to be valuable sources of information. It also discusses the potential limitations of customer testimony.

Prosecutors understandably wish to place before a judge or a jury customer witnesses representing tangible prospective victims of an allegedly anticompetitive merger. And customer views can certainly be informative. Customers can, for example, be expected to know their own tastes better than outsiders do. Moreover, the interests of customers will often coincide with the proper goals and purposes of merger enforcement.

Customer views are, however, best employed as a complement to, rather than a substitute for, economic analysis that employs more objective evidence. As competition authorities are well aware, if customer views are to be given significant weight, they need to be supplemented by careful attention to the economic factors underlying the testimony being provided. Indeed, difficulty in obtaining from customers relevant and reliable information for assessing the likely consequences of a merger is one reason competition authorities frequently rely heavily on more systematic economic analysis, taking as inputs objectively verifiable data and other evidence.

Although the welfare of consumers appears increasingly to have been accepted by competition authorities as the appropriate goal for merger policy, customers will not necessarily have available the information required to predict the economic consequences of a proposed merger. And even when they do, customers may be reluctant reliably and accurately to provide that information, or to express their true opinions, to investigators and before courts. Worse yet, customers may themselves stand to benefit from mergers that are anticompetitive, or may be harmed by mergers that are welfare-enhancing.

Appreciating both the strengths and the limitations of customer input is critical to the cause of sound merger enforcement, not only in the U.S., but overseas as well. A growing number of countries, many of whom have less experience or expertise than do competition authorities in the U.S., have begun to adopt merger control policies themselves, and are in the process of developing and implementing investigative best practices. They, at least as much as we, can benefit from better understanding the advantages, as well as the potential pitfalls, of using the views of customers to help ensure the welfare of consumers.[1]

---

[1] As has been pointed out to me by my colleague, Richard Cooke, two important features of American antitrust enforcement are that the government has to convince a judge before it can win a merger case that the defendants decide to litigate, and in litigation, all of the government's evidence must withstand the adversary process. While government prosecutors could elect to ignore the biases or other limitations of customer testimony described in this article, those problems would likely all come home to roost in litigation. In jurisdictions where enforcement

An analysis of customer testimony is especially timely, given the opinions issued recently by U.S. courts in *Oracle* and *Arch Coal*.[2] In both of these closely watched cases the courts not only found in favor of the merging parties and against the government, but issued opinions that explicitly discussed, and greatly discounted, the testimony presented at trial by customer witnesses put on by the government. In light of these decisions, the antitrust community has begun asking itself how valuable a role can be played by customers in future merger cases, and what prosecutors can do differently to use customer opposition to mergers more effectively at trial. Indeed, the heads of both U.S. federal competition authorities recently addressed this subject in speeches, where each emphasized its agency's intention to continue giving serious weight to the views of customers.[3]

Finally, a question naturally arises as to what exactly it is that the merger analyst is supposed to do if information obtained from customers is incomplete or unreliable. I therefore discuss briefly below some methods of economic analysis that do not rely primarily on information obtained directly from customers. These types of economic evidence and analysis can potentially provide

---

agencies do not have to defend their decisions in court and do not face an adversary process, they may be able to sweep more of the defects in customer testimony under the rug. Doing so, however, would doubtless provide a disservice to the goals that merger enforcement is properly tasked with promoting.

[2] *United States v. Oracle Corp.,* 331 F. Supp. 2d 1098, 1175 (N.D. Cal. 2004); *Federal Trade Commission v. Arch Coal, Inc*., 329 F. Supp. 2d 109 (D.D.C. 2004).

[3] "One of the factors that we are examining is customer testimony. My view is that we should continue to give significant weight to the views of customers in our merger investigations, and continue to present customer testimony at trial. Customers are valuable sources of information about many mergers' competitive effects because they have the most to lose from an anticompetitive deal, and usually have little incentive to provide misleading information."
U.S. antitrust practice -- how does it affect European Business? Remarks by Federal Trade Commission Chairman Deborah Platt Majoras delivered to the Studienvereinigung Kartellrecht in Brussels, Belgium, on April 7, 2005**.**

"A number of people have asked me about the continuing relevance of customer testimony in a post-*Oracle* world. Customer testimony will continue to be relevant in the same way that it has always been relevant; customers remain the most objective marketplace participants. Their incentives generally are aligned with our goals of protecting competition, and the decisions they make in the ordinary course of business frequently provide a better window onto how the market actually functions than an economist's model or the court's intuition." **Antitrust Enforcement Priorities: A Year in Review**, Remarks by Thomas O. Barnett, Deputy Assistant Attorney General [now, Assistant Attorney General] Antitrust Division U.S. Department of Justice before the Fall Forum of the Section of Antitrust Law, American Bar Association Washington, DC November 19, 2004.

considerable added value. They tend to be more objective, and not to subject to the same types of criticisms that apply to the views and testimony provided by customers.

That having been said, even the best, most objective, and most sophisticated types of economic analysis will seldom produce unambiguous findings immune from legitimate disagreement and debate. Virtually all forms of evidence are subject to criticism of one sort or another, as are the inferences one attempts to draw from them. While this article focuses primarily on the testimony of customers, it recognizes that there are no simple, foolproof, alternatives. Ultimately, it is the difficult task of competition authorities and the courts to weigh the totality of the evidence put before them. Advances in understanding and appreciating he strengths and weaknesses of different types of evidence, however, is likely to produce better, more informed, decisions.

What, in principle, might be learned from speaking with customers?

Potentially valuable information from customers can be grouped into two broad, yet distinct, categories. The first is input into the traditional building blocks of merger analysis–elements such as relevant product market, ease of entry, efficiencies, and candidate competitive effects theories. A second is the customers' preference for whether the merger should be blocked.

As to the first of these, customers are regularly questioned about whether they consider the offerings of the merging firms to be close substitutes, whether they consider the products supplied by non-merging firms to be equally attractive, and how much they would be likely to cut back on their purchases in the event that the product in question is subjected to the proverbial "small, but significant and non-transitory increase in price." Customers do know a fair amount about, in particular, their own preferences, and inquiries such as these may help the investigator delineate the relevant antitrust product market and, perhaps, provide some assistance in estimating the magnitude and likelihood of a merger's competitive effect.

The competitive effects of a merger, whether positive or negative, will have an impact on consumers. This need not mean, however, that consumers will be especially well-informed about the facts, or even the factors, that will determine the merger's effect on them. Customers would, of course, *like* to know everything relevant to whether a merger will end up hurting them or harming them. Unfortunately, however, information is not free. Especially if a merger's likely effect on a customer is relatively small, the cost to that customer of obtaining the relevant information may exceed the benefits it anticipates from doing so. This is particularly true where, as is typically the case, making oneself knowledgeable about a merger's likely effect provides no guarantee that a potentially harmful merger will be blocked (or a potentially beneficial one permitted).

One area in which customers are generally quite helpful to investigators is in helping them determine just what it is that the products of the merging parties do, and whether these products are even substitutes for one another.[4] Though not itself a complete exercise in relevant market

[4] Convenient "industry classification codes," or descriptions accompanying a merger filing,

delineation (much less a full competitive analysis of the proposed merger), customers can here be quite a valuable source of information to competition authorities. Particularly for more esoteric goods or services with which the analyst is completely unfamiliar–including, for example, new or evolving forms of computer hardware or software–simply having the products' names and a brief description of their uses can be more confusing than enlightening. These may lead the investigator to believe, for example, that products being sold to the same group of customers are substitutes when, in fact, they are economic complements. Speaking even briefly with customers familiar with the firms and what they sell can dispel such confusion relatively quickly, and will generally provide the analyst with a considerable payoff early in the investigation.

Customers can also provide very useful information as to who competes currently, or who has competed previously, for their business. And, customers will frequently be a valuable source of information on the manner in which competition operates in the marketplace; for example, the extent to which sales are made through auctions or negotiations of one type or another. This, in turn, can inform the economist about which type of model it might be most appropriate to employ in conducting a competitive effects analysis. In addition, where particular types of competitive concerns are voiced by customers in the early phases of an investigation, competition authorities can use these complaints to guide their search for objective data or documents in the hands of the merging parties, or others. This "harder" evidence can, in turn, be used to help confirm or refute the customers' subjective concerns.

Individual customers, while not necessarily well-positioned to speak for customers in the aggregate, can at times provide information about past "natural experiments"–not only evidence

---

seldom provide adequate clarity. Even products that sound as if they are relatively homogeneous-- "coal" or "wheat"–often turn out upon closer investigation to be highly differentiated from the perspective of customers, and may not even be close substitutes for any of them.

on how they personally have reacted to them, but perhaps even more importantly, when and where they've occurred. This latter information can enable the investigator to follow-up by gathering the objective evidence needed to form a more complete and more reliable picture of the economic consequences of relevant past events.[5]

Finally, a better understanding of the biases that may be held by customers, and even more importantly, the underlying factors driving these biases, can prove helpful in interpreting what customers have to say.

As we shall see, in the case of intermediate goods, direct customers of merging firms will often be affected differentially by an anticompetitive merger, depending upon whether they themselves are relatively more reliant upon the input than are their rivals, or whether they already hold a stock of the good. Determining the extent to which such factors apply in any particular case, and therefore whether they may potentially bias the responses of customers, is certainly worth knowing. The views of, and information provided by, customers are likely to provide clearer guidance to competition authorities when they appear not to be influenced by such factors.

Other considerations suggest themselves as well. For example, to the extent that relevant markets are determined to be as narrow as individual customers–perhaps due to the ability of a merged firm profitably to price discriminate–concerns expressed by the potentially targeted customers would deserve greater weight. Here, of course, one factor bearing on the merged firm's ability profitably to price discriminate against any single intermediate customer would be the extent of "downstream" competition between the potential victim and *its* rivals.

More generally, to the extent that independently verifiable economic evidence can be brought to the attention of competition authorities by informed industry participants–customers among them–these sources can be relied upon; perhaps not so much for the objectivity of their views, as for the value of the objective information they are well-positioned to provide.

The second, very different type of information that a customer may provide, is the customer's preference for whether the competition authority should block the merger. There is intuitive appeal in the oft-cited aphorism "If customers support a proposed merger, the merger is economically beneficial and should be approved. If customers oppose a proposed merger, the merger is economically harmful and should be blocked." The attraction of this simple (indeed, as we shall see, simplistic) guide for whether competition authorities should challenge proposed mergers is easy to understand. "Let's go directly to customers" is an approach that seems to focus attention directly on those whose welfare the competition authorities are tasked with protecting.[6] In addition, it appears to satisfy the non-economist's quest for guidance that is not

---

[5]As discussed further below, examining the effects of past natural experiments can help shed light on the likely competitive consequences of a merger.

[6]Use of a "total" welfare standard, rather than this "consumer" welfare standard, would imply a somewhat broader focus than protecting simply the short-run interests of consumers in markets affected directly by a merger. See, for example, Heyer, "Welfare Standards and Merger

only easy to understand, but is far more efficient than the complex, and at-times mind-numbing technical machinery to which professional economists frequently resort. Unfortunately, the preferences of customers for whether a merger should be blocked will not map neatly into the merger's actual likely effects on consumer welfare.[7]

When and why ought the preferences expressed by customers be afforded significant weight in the competition authority's enforcement decision? To the extent that the preferences expressed by customers are highly correlated with the merger's likely effect on competition and economic welfare (the variables of interest to competition authorities) learning these preferences can be quite valuable. And it is clear that competition authorities do rely to some extent on the views of customers when making enforcement decisions.[8]

As U.S. competition authorities, at least, are well aware, there are a number of reasons why care must be taken before reaching enforcement decisions based primarily on the views of (some?) customers. One that deserves special mention at the outset is the fact that direct customers of the merging firms–the entities from whom investigators will most likely solicit information–will often not be the final consumers. Rather, they are intermediaries, or middlemen of one kind or

---

Analysis: Why not the Best?" **Competition Policy International** (forthcoming 2006), for one recent proposal to employ a total welfare standard in merger analysis.

[7] A second, similarly too-simplistic guide to merger enforcement, is the following: "If competitors support a proposed merger, the merger is anticompetitive and should be blocked. If competitors oppose a proposed merger, the merger is economically beneficial and should be approved." Though not discussed in this article, despite being suggestive of an intent to protect competitors at the expense of competition, there are certainly reasons why the interests of even competitors may be consistent with those of final consumers.

[8] In addition to statements to this effect in the public speeches and interviews with heads of the U.S. competition agencies, a recent empirical study by economists at the Federal Trade Commission's Bureau of Economics found that for the period 1996-2003, the FTC's merger enforcement decisions were significantly related to the presence or absence of customer complaints. The study found, for example, that "For a relatively substantial level of the Herfindahl (e.g. 3000 to 4000), the model predicts that staff highlighting a customer concern will almost guarantee an enforcement action. On the other hand, if no complaints exist, enforcement is not likely at these levels of concentration." The study went on to observe that "Even at lower levels of concentration (e.g., Herfindahl equal to 2000), the existence of complaints can have a very large impact on the likelihood of enforcement. For example, without the existence of complaints, the likelihood of enforcement is between two and 25 percent, for deltas between 200 and 800. This likelihood is between 29 and 86 percent for markets with complaints. Similarly...the existence of complaints can increase the likelihood of enforcement for matters having high concentration." "Transparency at the Federal Trade Commission: The Horizontal Merger Review Process 1996-2003," by Malcolm B. Coate and Shawn W. Ulrick. Bureau of Economics, Federal Trade Commission, February 2005.

another; for example, distributors, or manufacturers further downstream who combine products sold by the merging firms together with other inputs to produce what they themselves sell. This implies, as discussed in detail below, that one cannot readily equate the interests of customers with the welfare of consumers.

Often, intermediate customers compete downstream against one another, and a merger can prove beneficial to some of them *not* because the merger is good for final consumers, but rather because the merger harms the competitors of these customers (including, perhaps, potential entrants into these customers' line of business) by more than it harms them.[9] Worse still, even where an anticompetitive merger does not impact intermediate customers disproportionately, there are circumstances under which all of these customers will be better off, even where the effect on final consumers--and on economic welfare as a whole-- is negative.

Intermediate Customers and Final Consumers

In most merger investigations an important component is the interviewing of customers who purchase from the merging firms, or from these firms' competitors. Much is asked of the interviewees, and slowly inferences begin to be drawn. Although the competition authorities are primarily interested in determining the likely impact of the merger on final consumers, final consumers are not always the ones being interviewed.

Many, perhaps even most, of the mergers investigated by competition authorities involve products that are not sold by the merging firms directly to final consumers. Rather, the merging firms' products are either inputs, or are final products purchased in the first instance by distributors, who then market them to final consumers. Auto companies purchase steel. Tire manufacturers purchase rubber. Retail establishments such as Sears, K-Mart and Home Depot purchase all kinds of products and distribute them to the rest of us. The merging firms' "customers," that is, are not final consumers.

Were the interests of intermediate purchasers identical to those of the final consumers who buy their products, the fact that these entities occupy different steps in the chain from production to consumption wouldn't necessarily be relevant or important to our analysis here. Unfortunately, however, the difference between direct customer and final consumer can potentially be quite important. For reasons discussed below, there may often be circumstances where an anticompetitive increase in the price of an input will benefit some, or even all, direct customers, while at the same time harming final consumers *and* reducing economic welfare. This is one reason why, in order to determine whether a proposed merger is desirable, or whether it is anticompetitive, the analyst needs to know more than whether the merging firms' customers are happy with the merger.[10]

---

[9] Conversely, one direct customer may complain not because the merger promises to be harmful to final consumers, but instead because the merger promises efficiencies that for one reason or another benefit this firm's competitors disproportionately.

[10] Could one, in principle, get around this particular problem by soliciting information from final consumers rather than direct purchasers? Conceivably. However, it is often infeasible to speak

Mergers of Intermediate Goods (Inputs)

1. Differential reliance upon an input

The fact that intermediate customers of merging firms are themselves not homogeneous is hardly news. What is interesting, however, is what this may imply for their views about the desirability of proposed mergers. The simple fact that customers are not identical does not, by itself, imply that their views concerning a proposed merger will differ in ways relevant to competition authorities. How and why might they?

Consider two types of customer, both of whom purchase products manufactured by the merging firms. One of these customer types has very good alternatives to purchasing the merging firms' product, while the other does not. This may be because of the way the customers' facilities have been designed, or perhaps for some other combination of reasons. To the extent that a post-merger price increase would result in one customer type shifting relatively costlessly to its other alternatives and the other being forced to incur significantly higher costs, the price increase may make the former category better off. To the extent that its now relatively lower costs generate a cost advantage over, and a share shift away from, its now relatively higher cost rival, it benefits.[11]

Beyond this, however, certain types of customers stand to benefit considerably from an increase in the price of one of their inputs, even in cases where their demand for the input is no more elastic than that of their rivals. When might this be the case? Consider a situation where customers rely differentially on an input used in the production of their products, yet compete with one another in the downstream market. In such cases, those firms that rely relatively more on the input whose price is increased following a merger will have their costs increased by relatively more than their rivals. Stated differently, where customers compete against one another downstream, some may benefit on balance from the fact that their rivals are being harmed by more than they are.[12]

Such a circumstance is depicted in Figure 1. Here, an anticompetitive merger of steel producers threatens to raise the marginal costs of auto manufacturers–all of whom buy at least some steel.

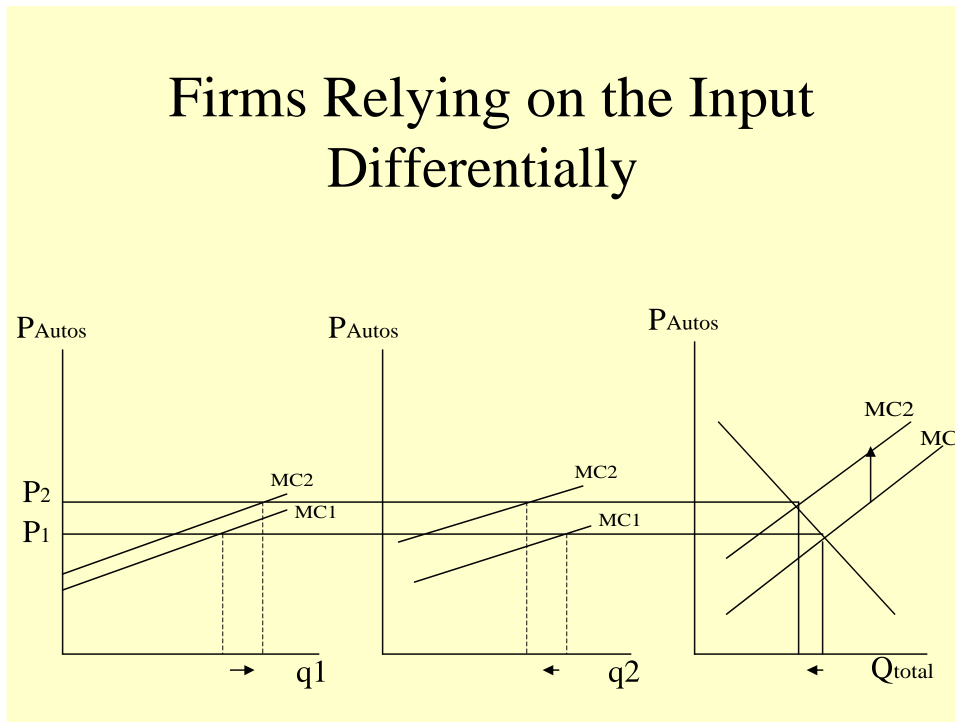
---

with a large or representative sample of what will typically be heterogeneous final consumers. In addition, as discussed below, there are good economic reasons for why individual customers may rationally elect to remain ignorant of a merger's likely effect on competition.

[11] To the extent that the share shift is not too dramatic, the merged firm may be able to raise price significantly despite this "downstream competition" effect.

[12] As pointed out by Joe Farrell, "a firm benefits not simply from having low costs and good products in absolute terms, but from having lower costs and better products than its rivals." This principle, what Farrell calls "relativity," can for reasons discussed in the text, lead customers to support anticompetitive mergers. See Joseph Farrell, "Listening to Interested Parties in Antitrust Investigations: Competitors, Customers, Complementors, and Relativity" Spring 2004, **ANTITRUST**. Farrell (2004).

The auto firms compete vigorously downstream, but their products are not "perfect" substitutes for one another. Importantly, although all of the auto companies use at least some steel to produce their cars, not all of them use steel equally intensively. In particular, those auto companies represented in the left hand portion of the figure use relatively less steel in their cars (perhaps they use more of other metals, or of plastics) than do those represented in the middle portion (the right hand portion aggregates the other two).



For this reason, a uniform post-merger increase in the price of steel will raise the cost of manufacturing an automobile by relatively less. So long as this increase in steel prices raises auto production costs more for the latter group than for the former, it is entirely possible that the former will benefit. They will do so as long as the shift in market share towards them, and away from their more adversely impacted competitors, is enough to compensate for the demand-reducing effect of higher auto prices and for the costs imposed upon them by higher-priced steel.[13] These customers will actually prefer that an anticompetitive steel merger take place,

[13] A closely related analysis is provided by Oliver Williamson, who demonstrates formally that, under the "right" conditions, large incumbent firms can benefit by conspiring with labor unions to raise wage rates and deter entry. See Williamson, "Wage Rates as a Barrier to Entry: The

even though a predictable result is a rise in the price of autos to final consumers, fewer total autos being produced, and an overall decline in both consumer and total welfare.[14]

For similar reasons, in cases where a merger promises efficiencies that will benefit one group of customers significantly more than another, the latter group may have an economic interest in seeing the merger blocked by competition authorities. This, despite the fact that both consumer and total welfare would be enhanced by having the merger take place.

2. Increasing the cost of (only) incremental sales: Customers with stocks of the relevant product

In many cases where a merger threatens to enhance manufacturer market power, direct customers already possess stocks of the relevant product. These need not be stocks of final products; indeed, one would not expect commonly to find direct purchasers of final products holding large quantities of the product in inventory. More likely, rather, are cases where the relevant product is a durable piece of capital equipment (including any durable input), and where customers are already using some quantity of it in the course of producing final goods or services or some customers have signed long-term supply contracts that locked in pre-merger prices. In such circumstances, and particularly to the degree that all competitors in the downstream (final product) market are reliant upon the input, these customers will benefit from the fact that a rise in the relevant product's price constitutes, in effect, a tax on incremental output.[15]

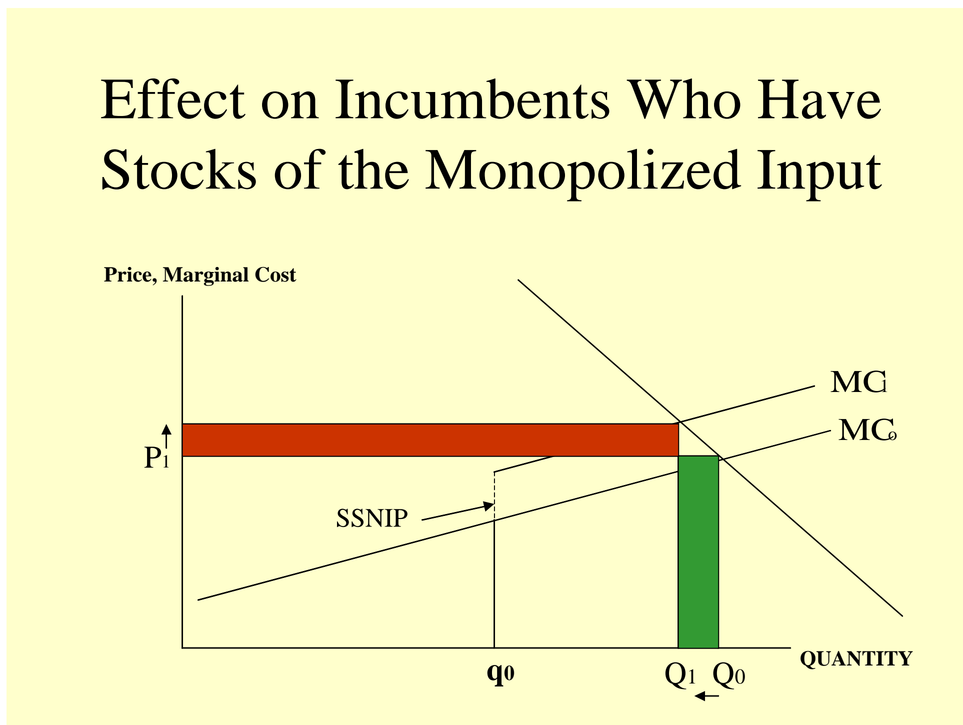
Why is this? Observe that an agreement by members of a cartel to tax incremental sales lowers total output and results in greater profit on inframarginal sales. In much the same way, a tax on incremental output imposed by the seller of an input can benefit those whose cost of producing inframarginal levels of output has remained unchanged. A price increase by the merged firm may prove profitable both to it, and to its customers, while at the same time lowering total output and harming final consumers.

Pennington Case in Perspective," *The Quarterly Journal of Economics,* Vol. 82, No. 1, (Feb., 1968), pp. 85-116. See also Howard P. Marvel, *Factory Regulation: A Reinterpretation of Early English Experience*, 20 J.L. & Econ. (1977). Marvel argues that the motivation behind the willingness of steam-powered cotton mill owners in nineteenth-century Great Britain to seek cost-increasing restrictions on the hours of child laborers was that mills dependent on less predictable water power were harmed far more by the restrictions.

[14] Alternatively, suppose one class of customers is particularly dependent on the product of acquiring firm A and the other is particularly dependent on the product of acquired firm B. If margins are much higher on firm B's product than on firm A's product, then the merged firm would, all else equal, find it profitable to raise price much more on product A than on product B. The customer who buys/distributes primarily product A will be harmed, and the firm that buys/distributes product B may be better off. Final consumers are unambiguously harmed.

[15] Potential entrants are particularly likely to be disadvantaged by increases in the price of capital equipment.

Such a circumstance is depicted in Figure 2. In the figure, qo is the quantity produced by intermediate customers from their current stocks of the merging firms' product. Qo is the total quantity produced pre-merger, and Q1 is the total quantity produced post-merger. The marginal cost of producing additional units of the customers' product rises from MCo to MC1, final product price increases, and yet customer producers benefit from the rents earned on higher prices for units produced with their existing stocks of the merged firm's product.



To make the discussion more concrete, consider a hypothetical scenario in which the relevant product in question is taxi meters that last for 20 years.[16] Higher prices generated by an anticompetitive merger of meter producers would not be an entirely bad thing for customers like Yellow or Checker–two major cab companies that already own a lot of meters and buy new ones only when existing ones wear out or economic growth leads them to expand. The main effect that the higher input cost has on the fleet run by incumbent cab companies is that it makes it a little more costly for them (or anyone else) to expand their fleet, so that as the equilibrium number of taxis grows, the input cost increase tends to lead each incumbent to raise its prices and profitability.

[16] I thank my colleague Sheldon Kimmel for suggesting this example.

To be sure, this effect on customers' incentives to support an anticompetitive merger will depend on a host of factors, including the extent to which downstream competitors are equally reliant upon the input in question and the share of total final product cost (small, perhaps, in our example of taxi meters) represented by the input whose price is being increased due to the merger. Nevertheless, the effect can at times be significant, and provides an additional reason for caution when interpreting the views of customers in the course of making enforcement decisions.

It is important to recognize that, in contrast to the previous example--which relies on a "my rival gets harmed more than I do" story--here customer support for an anticompetitive merger (or opposition to a procompetitive merger) can be unanimous.

3. Mergers affecting the cost of all sales: the case of oligopolistic competition[17]

The directional effect of a merger-generated price increase on the profits of input users is relatively easy to determine in certain extreme cases. For example, where the customer is a monopolist in selling downstream, he will always prefer lower input prices to higher ones. And, where customers do not possess stocks of the to-be-monopolized input and competition among them is "perfect," the customers may be indifferent to whether input costs are higher or lower–profits are zero in both cases.[18]

But what of the not uncommon case in which the customers are themselves oligopolists in selling to final consumers downstream? Here the analysis is far more complicated. As has been demonstrated formally for the case of constant returns to scale and Cournot competition, higher input prices can benefit some, or even all of these customers, depending upon factors such as the shape of the demand curve for their products. Kimmel shows, for example, that where constant returns-to-scale oligopolists are engaged in Cournot competition, an increase in marginal cost lowers every firm's profits if market demand is linear, but if market demand elasticity is constant, then every small firm benefits from the cost increase.[19] Despite what seem to be highly specialized assumptions, it is unclear whether the counter-intuitive implications of Kimmel's formal analysis apply only rarely.

A full explication of the logic underlying these results is somewhat complex, and the interested

---

[17] The following is based on Sheldon Kimmel, "Effects of Cost Changes on Oligopolists' Profits," *The Journal of Industrial Economics*, Vol. 40, No. 4. (Dec., 1992), pp. 441-449.

[18] Even this result fails to hold where returns to scale are not constant, since in the case where marginal cost curves slope upwards, firms earn rents. For a formal demonstration of how increases in each firm's marginal cost can increase each and every firm's profits, see Nelson, R.R., 1957, "Increased Rents from Increased Costs A Paradox of Value Theory," *Journal of Political Economy,* 65, pp. 387-393.

[19] Kimmel shows that with n firms and an elasticity of e, a firm benefits from a cost increase if and only if its share is less than 2/n(1-e). For example, if e = -1, a firm benefits from a cost increase if and only if its share is less than 1/n.

reader is referred to Kimmel's articles for a mathematical derivation. At least some of the intuition for how this might happen can, however, be seen from the fact that in certain commonly employed models of non-cooperative oligopoly behavior–the Cournot model foremost among them–each individual firm maximizes profits by setting price to be a constant percentage above marginal cost. This, in turn, implies, that if each firm is faced with a higher marginal cost–say, as the result of an anticompetitive merger among its suppliers–then each firm will maximize profit by raising price more than the increase in marginal cost.

The mere fact that a customer's price rises by more than its cost does not by itself tell us whether the customer's *profits* have gone up. For that, we'd need to know not simply how much more the customer earns on sales it continues to make, but also how much it loses as a result of total sales falling. Nevertheless, one can certainly see that higher marginal costs may under certain circumstances lead customer profits to increase. And where this is the case, we would expect to find these customers supporting anticompetitive mergers and opposing procompetitive ones.

4. Inelastic final demand

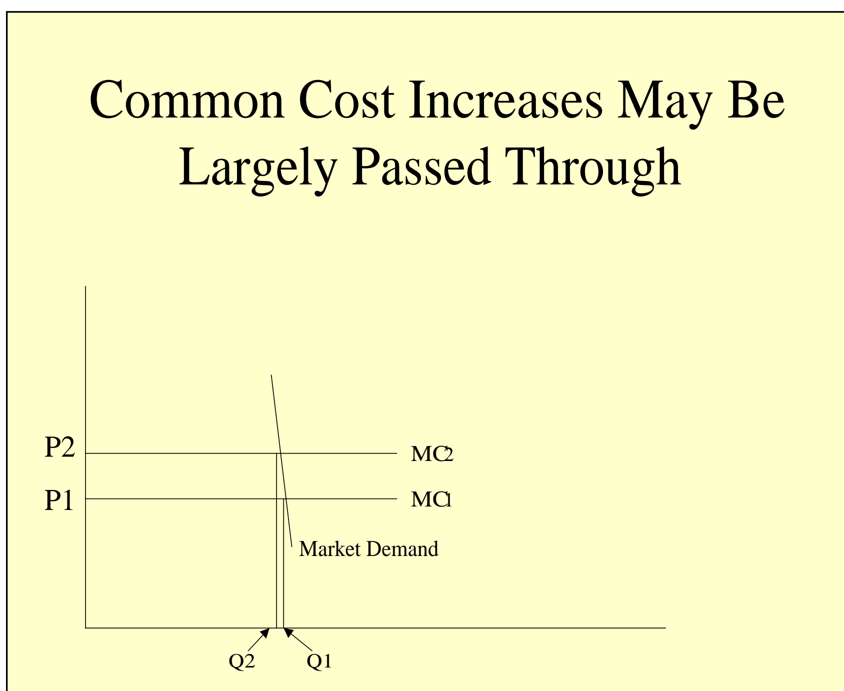
Raising a firm's marginal cost will harm the firm in either or all of the following ways. First, if the firm is unable profitably to raise the price of what it sells (for example, if there are available very good substitutes to which the firm's customers would switch in large numbers), the firm will earn a lower margin on its sales. Second, if it becomes profitable for the firm to raise price, the firm stands to lose sales (and profits) in either, or both, of the following ways. First, higher prices charged by this firm alone will lead to a loss in market share to competitors not faced with the cost increase. Second, higher prices charged by all firms in the market will lead to fewer total sales, so long as final product demand is not perfectly inelastic.

Regarding the "market demand-reducing" effect, its magnitude depends on the elasticity of demand by final consumers for the customers' product. In many cases, the share of a product's total cost represented by one input is fairly small. Where this is the case, even relatively elastic demand for the final product will not lead to very much of a reduction in total sales.[20]

As for the decline in market share resulting from lost sales to rivals, here it becomes relevant to ask whether there is any particular reason for the customer to believe that a price increase it faces will not be faced equally by its rivals. To the extent that a profitable (i.e., equilibrium) strategy for suppliers following an anticompetitive input merger is to raise price more or less uniformly to its customers, individual customers will not suffer from any significant loss in market share (unless they rely on the input differentially, as explained above).

This scenario is depicted in Figure 3, which shows a situation in which input customers pass through to final consumers the entire increase in their marginal cost. Because final demand is

[20] For example, if the input in question represents 10% of the cost of the final product and the elasticity of market demand for the final product is, say, 4, then fully passing on an increase in the price of the input of, say, ten percent, will reduce total quantity sold by less than one-half of 1% (.1 x .1 x 4 = .04).



highly inelastic, total sales by customers to final consumers decline by only Q1-Q2. However, final consumers may be harmed greatly (i.e., consumer welfare may decline dramatically), since they pay the entire increase in input price on all the units they continue to buy. In addition, they suffer a (modest) deadweight loss when purchasing fewer units.

In such circumstances, the input purchasers may be harmed only slightly, and perhaps not enough to worry or complain about. Final consumers, however, bear the full brunt of the price increase.

Merger-Relevant Information in Possession of Customers: What Can Affected Customers Realistically be Expected to Know?

As we have seen, there are reasons to believe, particularly in the case of intermediate customers, that the "views of customers" will not translate readily into the likely competitive effects on consumers.

There are, however, many circumstances in which the interests of customers–final consumers, certainly, and even intermediate customers–*do* coincide with those of the competition agency, the courts, and the law. Where such conditions hold, customers would like competition authorities and courts to make "the right" decision, and it becomes important to consider what it is that the customers themselves actually know. Information required for determining a merger's likely competitive effects may, but may not, be in the possession of customers.[21]

[21] All else equal, when the customers being questioned are currently, or were very recently, "in the market" to buy products implicated by the proposed merger, and especially where those products are very expensive (and/or the cost to the customer of making the wrong choice is very high–for example, where quality differences may be large and are difficult to determine ex ante)

In addition, the customers whose views the competition authorities solicit are quite heterogeneous. Tastes and other factors relevant to consumers' demands, even for final products, vary greatly. Some customers may be impacted more strongly than others, and the views of those who are willing to speak with authorities may not be representative of the universe as a whole.[22]

Rational Ignorance

Information is not costless to obtain. And customers, like all rational economic agents, weigh the costs of obtaining information against the benefits of having it.

For many of the goods and services that customers consume, it simply does not make economic sense for the customer to invest the time and effort required to become knowledgeable about all of the factors that determine whether a proposed merger will prove harmful.[23] For example, where the product in question represents only a relatively few dollars, even a very anticompetitive (or procompetitive) merger would raise (or lower) price just a modest absolute amount to any individual buyer. Given that there are costs of investigating issues such as the attractiveness of alternatives, their prices, the capacities of rival producers to turn out more product without facing increasing costs, the likelihood of post-merger coordination among suppliers, the prospect of merger-specific efficiencies, etc., it simply cannot be assumed that customers–even those with an economic self-interest in helping the competition authorities prevent anticompetitive mergers–will undertake the effort needed to become well-informed on these issues.

To be more concrete, consider a customer's calculus when faced with a potentially anticompetitive merger. Assume the product is one for which the customer pays, say, $100 per year and where the merger may potentially raise price by ten percent per year for ten years. The total cost to the customer if worse comes to worst will be at most $100 (and likely much less, after discounting for the time value of money). How much time will it pay the customer to spend studying the likely effect of the merger?

Though the inference appears highly dubious in light of the mission critical nature of the products in question, the amount of money at stake in the procurements, and how knowledgeable and sophisticated the customer witnesses were conceded by the Court to have been, the

---

the customer is more likely to be relatively well-informed about the alternatives in the marketplace.

[22] For example, where customers anticipate only small benefits or losses to themselves from a merger, those effects may be exceeded by the costs to them of talking to and working with investigators from competition authorities. In such cases, those willing to speak with, or devote the time and attention to working closely with, competition authorities would be those with extreme, rather than representative, views.

[23] Indeed, the positive externality from protecting competition provides an important justification for having a public competition authority in the first place.

skepticism expressed by the Court toward government customer witnesses in Oracle seems consistent with its having such concerns.

In Oracle, the Court agreed that the preferences of the government's customer witnesses for the functional features of PeopleSoft or Oracle products was evident, but went on to say that

> the issue is not what solutions the customers would <u>like</u> or <u>prefer</u>...but what they <u>could</u> do in the event of an anticompetitive price increase by a post-merger Oracle. Although these witnesses speculated on that subject, their speculation was not backed up by serious analysis that they had themselves performed or evidence they presented. There was little, if any, testimony by these witnesses about what they would or could do or not do to avoid a price increase from a post-merger Oracle...none gave testimony about the cost of alternatives to the hypothetical price increase a post-merger Oracle would charge: e.g., how much outsourcing would actually cost, or how much it would cost to adapt other vendors' products to the same functionality that the Oracle and PeopleSoft products afford. If backed by credible and convincing testimony of this kind or testimony presented by economic experts, customer testimony of the kind plaintiffs offered can put a human perspective or face on the injury to competition that plaintiffs allege. But unsubstantiated customer apprehensions do not substitute for hard evidence.[24]

It sounds patronizing, even arrogant, to suggest that government investigators may at times know more about what's good for customers than what the customers themselves say. And yet, it is beyond question that in many merger investigations there is a great deal of highly relevant information that customers simply cannot be expected to know very much about, and which government investigators may be able to learn a great deal about from other (i.e., non-customer) sources. Consider, for example, some of the critical components of the Horizontal Merger Guidelines.

<u>Relevant Product Market</u>

At a minimum, customers would certainly seem to be good sources of information about their own relative valuations of alternatives in the marketplace. And, obtaining this type of information can be of value in helping competition authorities delineate relevant product markets. For example, if all customers state that they simply have no close alternatives and would continue purchasing pretty much the same quantities of the candidate relevant product even following a small, but significant and nontransitory increase in its price, this sounds like pretty good evidence regarding the relevant product market.

Customers frequently have informed views on the antitrust-relevant question of product market, and yet, there are limits to how much competition authorities may be able legitimately to infer from what customers tell them. Competition authorities are typically able to obtain the views of

---

[24] *United States v. Oracle Corp.*, pp. 65-66.

only a fraction of customers potentially affected by the merger. This is almost certain to be the case with products sold directly to large numbers of final consumers, but is frequently true also in the case of products used as inputs by other firms.

If the sample obtained by investigators is unrepresentative, inferences drawn from the fact that most customers interviewed expressed one view or another may be unhelpful–if not for purposes of internal decision-making, then in a court of law.[25] Where the views of customers are, however, supported by objective evidence–including, perhaps, internal documents prepared by the customer in the ordinary course of business–the testimony will be more reliable, and may be found to apply more generally to the market as a whole. This is one reason why competition authorities typically seek to pair testimony of customer preferences with these other forms of evidence.

As importantly, and as discussed earlier, the cost to customers of becoming fully informed about their marketplace alternatives (and the terms on which these alternatives can be obtained) is nonzero. At some point, rational economic agents will likely find that the expected benefits of obtaining additional information exceeds the cost.

Such problems are avoided (others, admittedly, may arise to take their place) where sufficiently large quantities of data are available to permit the analyst to draw statistically reliable inferences based on what customers have actually done, rather than what they say they would do.

Efficiencies

Firms frequently merge in order to obtain efficiencies–for example, cost savings, that would not be achieved otherwise, or that would not be captured as quickly or as fully, absent the merger. To the extent that a merger is generating efficiencies, rather than, for example, greater market power, the merger will benefit not only the merging firms, but the overall economy.[26] Moreover, to the extent that the anticipated efficiencies are passed through to the merging firms' customers–either in the form of lower prices or better products–consumers will benefit as well. Finally, the more likely it is that efficiencies are merger-specific, the more appropriate it is for competition authorities to refrain from challenge. Thus, it is hardly surprising that merging firms will try to persuade competition authorities that their merger will produce such benefits.

Given the merging firms' understandable incentive to get their deals cleared by competition authorities, the latter are, understandably, reluctant simply to accept the merging firms' word that

[25] In particular, misleading inferences may be generated where care is not taken to distinguish between, and to estimate the number of, those customers whose demands for the product are invariant to price changes (so-called "inframarginal" customers) and those customers who will indeed buy less in response to, for example, a small, but significant and nontransitory increase in price.

[26] Even where a merger is likely to enhance the merged firms' market power, or facilitate market-wide collusion, efficiencies can potentially be large enough to make the merger beneficial on balance.

the merger will produce efficiencies. But what about the views of customers?

Consider the following not-so-hypothetical letter, written by a customer in support of a proposed merger between two of its large suppliers. The letter was forwarded by the merging parties to investigators at the Antitrust Division in an effort to persuade the Division to clear the merger.[27]

Dear Acquirer,

We were interested to hear about your firm's proposed acquisition of your large competitor. On behalf of my company, I am writing to express our support.

As you know, we are a Fortune 500 company that sells at retail a great many units from you and your large competitor. Strong competition among those in the industry have resulted in significant advances in product innovation, quality and ultimately the value we can provide to our customers.

We believe that your acquisition of your large competitor will be beneficial by making it profitable for you to make further investments in innovation and, ultimately, in providing consumers with better products.

We expect further that enhanced supply chain efficiencies will be generated by the merger, and will translate into lower distribution costs.

Sincerely,

A large retail customer of yours

What is one to make of such evidence? It may, of course, be true that the merger will enhance the merged firm's investments in innovation and/or result in lower distribution costs. Such benefits are plausible under some conditions, though they are hardly inevitable. The question, however, is whether or why a customer's view on this issue should be given significant weight.

Customers may know the extent to which the merging parties, or others, have in the past been responsible for valuable innovations. They may also know the extent to which one or another of the parties has become less innovative of late. It is hardly obvious, however, why one would expect a customer to know very much about the likelihood that a merger will enhance the likelihood of future innovation in the marketplace.

A similar question arises with respect to a customer's confident statement that the merger will translate into lower distribution costs. Maybe these desirable results will obtain. Maybe not. Our question, however, is whether a retailer's statement that this is likely provides informed, objective evidence for believing this to be the case.

---

[27] The names of the merging companies, as well as that of the customer, have been disguised in order to preserve confidentiality.

Indeed, one cannot help but suspect that when arguments of this sort are presented to competition authorities by customers, these efficiency justifications have earlier been presented by the merging parties to the customer as rationales/hopes /expectations, maybe even promises. Coming ultimately from the merging party, however, this hardly constitutes an independently informed determination on the part of the customer as to why these outcomes are likely. Even if the customer sincerely believes what the merging firms are telling it, this is quite different from the customer being an independent source of information on the subject.

Importantly, there will in many cases be better sources of information on the efficiencies issue to which competition authorities can turn in order to better inform their views.[28] These may include, for example, internal company documents prepared by the acquirer in the course of determining whether to bid for its rival (or how much to pay for its rival), as well as views of objective industry experts familiar with the potential for synergies–perhaps as a consequence of their having studied past consolidations of a similar type.[29]

Beyond all of this, even if both the merging firms and the customer are correct in expecting significant efficiencies post-merger, it is unclear why the customer would be especially knowledgeable about the merger-specificity of these benefits. Merger-specificity is, appropriately, a critical prong in the analysis of whether to credit efficiencies claims when evaluating the merger. However, even where synergies from a merger appear possible, customers are not necessarily well-positioned to help investigators determine the likelihood that complementary strengths will be combined, the costs of combining them, and the extent to which any such benefits will be achieved only, or most efficiently, through merger.

Entry

If a customer is capable of sponsoring entry itself (such as if its demands are very large and it can profitably integrate vertically), it would be especially well-positioned to know if entry will be likely and timely in the face of potential competitive harm.[30] Customers are unlikely otherwise to be very knowledgeable about the profitability to a would-be entrant of coming into the market in a timely and sufficient fashion following an otherwise anticompetitive merger.

[28] To be sure, customers may be able to confirm that the merging firms are each relatively strong in complementary areas, and if the claimed efficiencies relate to benefits of one-stop shopping, customers can at least provide some sense as to how much they would value this.

[29] Those knowledgeable about such issues might include, among others, management consultants or retired executives.

[30] Even if one large customer is capable of entering, or sponsoring entry, however, this is no guarantee that such entry will protect all customers. The merging firms might provide this customer alone with a special deal in order to forestall competition-protecting entry. Alternatively, if favorable side-deals to large customers cannot be restricted only to those capable of entering (or of sponsoring entry), the inability to price discriminate may end up protecting all customers. This is because an attempted price increase across-the-board might generate entry and ultimately lower the merged firm's profits.

Customers may, however, be able to confirm or refute possible demand-side concerns about "reputational" barriers to entry. For example, they may be able to explain why they are, or are not, very reluctant to take on the risk of using a new firm's product if it does not yet have a demonstrated history of success in the marketplace. They might do so by explaining the costs to them if things go wrong, and why mere contractual assurances—including, perhaps, insurance obtained by the entrant—wouldn't be feasible and/or wouldn't easily overcome this reluctance. In addition, customers may in some cases have performed technical evaluations of products being developed by potential entrants, and might in such cases be in a good position to know the likely competitive significance of those offerings.

Finally, customers may be knowledgeable of failed entry attempts into this, or related, markets in the past. Such information can help authorities draw inferences about the likelihood that future entry–actual or potential–will discipline the adverse competitive effects feared from the merger currently under investigation.

Competitive Effects

"Competitive Effects," as that term is used in the Horizontal Merger Guidelines,[31] refers to the mechanism(s) through which mergers may prove harmful.

Competitive effects play a particularly critical role in the economic analysis of a proposed merger. After all, predicting a merger's likely competitive effect can be thought of, in one sense, as the answer to what merger analysis is all about. Other elements of the process–determining the relevant markets, evaluating the size and merger-specificity of claimed efficiencies, determining whether entry will be "timely, likely and sufficient"–can all be viewed almost as inputs to the competition authority's ultimate determination of whether the merger is or is not likely to prove harmful–i.e., to whether, in light of all of the above, the merger is likely to produce an anticompetitive effect.

There are a number of key factors that enhance the likelihood a merger will produce an anticompetitive effect. One is the extent to which customers as a whole view the merging firms' products to be next-best alternatives. This, however, is not something that an individual customer will necessarily know and be able intelligently to opine about. Similarly as regards the capacities of non-merging incumbents to expand profitably in the face of a price increase by the merged firm, much less the type of competitive game being played by suppliers in the marketplace (including the potentially greater prospects for post-merger coordination).

Customers may, for example, think that their ability to avoid higher prices is assured by the fact that they can turn to the merged firms' rivals. While a customer might know to whom it would turn in the event that its current supplier raised price post-merger, that customer is less likely to know the ability of this alternative supplier profitably to produce and sell more output. And, if

[31] **Horizontal Merger Guidelines**, U.S. Department of Justice and the Federal Trade Commission. Issued: April 2, 1992; Revised: April 8, 1997.

rivals' capacities are very tight, what may work for a single customer will not work for customers in aggregate.[32] Moreover, rivals may find it more profitable to follow along with the merged firm's higher price than to keep price constant themselves. This, too, is something that a customer may not be able reliably to predict.[33]

Relying on the Views of Customers; *Which* Customers?

Merging firms' customers are many, and often quite heterogeneous. Partly as a consequence of this heterogeneity, they seldom express uniform views about a proposed merger. Many mergers that get a careful look from competition authorities have the awkward property that some customers come out in support of the merger, other customers indicate that they are opposed to the merger, and many customers appear to be wholly indifferent. Indeed, in far more cases than one might expect, customers who seem to be situated similarly are providing competition authorities and/or the merging parties with opposing views about a merger's likely consequences.[34] In cases where customers seem to be on both sides of the fence, it is not even obvious to whom one is supposed to be listening when crediting "the" views of customers.

In some cases, of course, it may be clear why customers are likely to be affected very differently. For example, where one customer has already secured a long-term fixed price contract from the merging firms but others remain highly vulnerable, we might well expect to see the former far less troubled than the latter. In many cases, however, the explanation for the disparate views is far from obvious. The point is, that "soliciting the views of customers" is not a complete substitute for detailed competitive analysis of factual evidence; evidence that may (or may) not be available from the customers themselves.

---

[32] Conversely, a customer may think, based on past experiences, that fringe firms are operating at capacity when, in fact, the fringe is in the process of expanding its ability to sell into the market at issue.

[33] Richard Cooke has pointed out to me that the rules of evidence attempt to cabin customer testimony, in part to help prevent some of its potential problems or abuses. For example, the Federal Rules of Evidence classify witnesses as falling into one of two categories–lay witnesses and expert witnesses. Lay witnesses must testify based on personal knowledge, and they can't give an opinion about matters that would constitute expert testimony. These limitations obviously have some play and slippage when a business executive testifies, however courts tend to require that a business executive restrict his or her testimony to the executive's own business, leaving broader pronouncements about the market to the expert witnesses. Courts tend to require also that the business executive testify only about things that the executive has herself been in some way personally involved.

[34] There are even instances where contradictory views have been expressed, under oath, by different individuals employed by the very same customer. See, for example, United States v. Long Island Jewish Med. Ctr., 983 F. Supp. 121. In that case, the testimony of the government's witness, a Vice President for Contracting and Network Development and Operations for Empire Blue Cross Blue Shield, was contradicted by the testimony of Empire's President and CEO.

Moving from the individual customer to the level of the market as a whole,[35] evaluating the likely effects of a merger generally involves some version of what is typically called "critical loss" analysis. That is, to determine the profitability of any given post-merger price increase, one must compare the benefits of that price increase–the added margins earned on sales that are retained–with the costs of the price increase–the lost margins on sales that, at the higher price, are no longer made.

As a general matter, there is no particular reason to expect individual customers to be well informed about either the critical loss, or the actual loss, that firms will experience in the event of a hypothetical market-wide SSNIP. Customers may know their own demands, but they are far less likely to know the demands of others. And without this information, a bottom-line assessment by an individual customer as to the profitability of a post-merger SSNIP can carry only limited weight.[36]

In addition, efficiencies can at times enhance overall consumer (not to mention total) welfare, despite the fact that achieving these benefits will predictably harm a subset of the merged firm's customers. For example, if achieving merger-specific efficiencies necessitates the merged firm focusing its research, development and marketing efforts on a single platform or standard, customers (even final ones!) of the to-be-phased-out platform may be harmed in the course of others being benefitted by more. Focusing attention too much on the views of customers in only one of these groups may lead to an inaccurate prediction of the merger's net effect.

Assume, counterfactually, that final consumers actually are in possession of information about everything that competition authorities would like to know in order to predict the likely competitive effects of a merger.[37] Will their views provide a reliable guide to competition authorities?

Not necessarily. If the merging firms feel that the competition authority's enforcement decision will be swayed by the fact that a customer is complaining, they may find it rational to use anticipated post-merger monopoly rents to "buy off" vocal opponents of the deal. While it is true that fully compensating *all* potential victims of an anticompetitive merger would imply that the net effect of the merger itself is benign, buying off *some* need not provide protection for all.

In addition, too great a reliance by competition authorities and courts on the mere fact of customer complaints can lead to abuse of the merger review process.[38] Even customers who do

---

[35] In cases of price discrimination markets, the two may be equivalent.

[36] Where relevant markets are as narrow as individual sales events–for example, where each firm's procurement takes the form of a separate auction and price discrimination is feasible – individual customers need not know the demands of others to assess their own vulnerability.

[37] Or alternatively, assume that antitrust authorities, after completing their own exhaustive investigation, share all of their findings with customers and then ask the customers whether they'd like to see the merger blocked.

[38] Efforts by customers to use the regulatory process as a vehicle more for obtaining more favorable treatment from regulated firms and by regulators is not unheard of. [Cites***]

not honestly believe they will be made any worse off by the merger may threaten publicly to voice objections if they feel that this will lead to their being offered better terms by the merging parties. They may, in other words, attempt to use the merger review process not as a way of preventing a reduction in competition, but rather as a way of "taxing" efficiency-enhancing mergers so as to make themselves better off than they are currently.

Finally, although customers are frequently firms rather than individuals, it is ultimately an individual that will be asked to opine on the merger's likely effects. That individual may be someone in the firm responsible for procurement, it may be an individual familiar with the product's technical capabilities, it may be a senior manager, or it may even be the company's CEO. These individuals not only have different perspectives about the proposed merger, they may also have conflicting self-interests. A purchasing agent, to give but one example, may have an easier job when there are fewer or less complicated alternatives to choose between; this, despite the fact that the firm's stockholders would perhaps benefit greatly from having more competition. Principal-agent problems of this sort may well contribute to the fact that competition authorities at times receive different opinions from individuals working for the same at-risk customer.[39]

Economic Evidence and the Views of Customers in Litigation

The notion that it makes economic sense for judges to consider not simply (or so much) the views of customers, but even more fundamentally other types of evidence, is neither a radical concept, nor one without precedent in antitrust jurisprudence.[40] Even prior to the recent rulings in Oracle and Arch Coal, courts had on many occasions evidenced considerable skepticism of customer testimony. A sampling of these is discussed below.

U.S. v. Ivaco [41]

One example of litigation in which the court discounted the supportive views of at-risk customers and found the merger likely to be anticompetitive on the basis of "other" economic theory and evidence was the case of United States of America v. Ivaco, Inc.

In late 1987, Jackson Jordan and Canron,[42] two of only three significant manufacturers of

---

[39] Even in seemingly simple cases where there is but one customer for the product in question, principal agent problems can potentially arise. Often, in single customer cases, the single customer happens to be the government. To the extent that government officials have interests at odds with those of the taxpayers who employ them (perhaps because the tenure of many government officials is temporary, and they may be disinclined to antagonize potential future private sector employees), their views may be suspect; independent support for their opinions would be helpful.

[40]Equally noncontroversial , of course, is the fact that courts are at times highly critical of expert testimony (frequently offsetting) that relies primarily on "non-customer" evidence.

[41] U.S. v. Ivaco, Inc. 704 F.Supp. 1409 (W.D. Mich. 1989).

[42] Canron was at the time 79% owned by Ivaco.

automatic tamping equipment, agreed to enter into a joint venture and combine their automatic tamper businesses.[43] The two firms would equally own the joint venture, and would refrain from competing with the joint venture in the maintenance of way industry. The court concluded that the joint venture arrangement could, for all intents and purposes, be evaluated as a merger.

Major customers for automatic tampers included the Class 1 railroads, a number of whom appeared strongly to support the joint venture. According to the court's opinion:

> The railroads believe that, if the joint venture is allowed, the new firm will develop a 'high technology' tamper...They believe that prices for tampers will not increase for several reasons: Plasser [the large other producer] would hold prices down; the railroads would defer new purchases and recondition or maintain their existing tampers; the railroads could finance entry by a competing firm through reverse engineering. In light of this consumer support, the defendants suggest that there is no reason to be suspicious of their joint venture.

Despite this testimony, the court concluded that the joint venture would violate the antitrust laws, and it found in the government's favor. In the course of explaining its unwillingness to accept uncritically the views of defendants' customers, the court reviewed briefly some earlier cases in which the views of customers appeared to have carried great weight. With respect to one such case, *FTC v. Great Lakes Chemical Corp.*[44], the court observed:

> The court in *Great Lakes* did not give weight to the customers' predictions simply because the predictions came from customers. Rather, it gave weight to the customers' predictions because those predictions were supported by the evidence. In this case I find that the customers opinions, while significant, are insufficient to offset the evidence of potential anticompetitive effects.

The court in Ivaco questioned the basis for each of the prongs underlying the customers' support for the merger. For example, it noted that the customers assumed the venture would, in fact, develop a new and improved tamper. Viewing the totality of the evidence, the judge found not only that this outcome was far from likely, but also that there existed alternatives short of a competitively worrisome joint venture that were as likely to achieve it. In modern antitrust terminology, he found that the promised efficiencies were neither likely, nor merger-specific.

The judge observed also that the railroads' ability to discipline a price increase by maintaining or rebuilding existing machines ignored the fact that "The defendants are the only individuals who can supply these parts, and...The customers would be forced to turn to the firm they are attempting to discipline in order to purchase replacement parts, and in doing so would be refueling one of the most profitable enterprises that firm has". As Dr. Pittman (the United

[43] Automatic tampers are equipment used by railroad to help maintain their track. A tamper is a machine designed to place ballast underneath a railroad track tie in order to level and shift the tie, correcting for deviations in the track caused by train travel.
[44] FTC v. Great Lakes Chemical Corp., 528 F. Supp. 84 (N.D. Ill. 1981).

States' expert economist in the case) testified, "this cannot be a particularly effective punishment for anticompetitive behavior."

Finally, the judge took issue both with the customers' belief that entry into the tamper market would prevent their being victimized ("even with the assistance of a major railroad," the judge concluded on the basis of evidence presented at trial, "the barriers to entry into the market are significant"), as well as with the customers' view that competition from the one other remaining competitor in a post-merger duopoly could be counted on to keep price from rising (Agreeing with the government's expert economist, he found that "Plasser has every incentive to join in a price increase and can be expected to do so.").

In short, the judge in this case appears to have relied more on other pieces of economic evidence, rather than on the views of customers about what they thought, what they hoped, or what they in any event were comfortable publicly saying.

Ivaco is hardly a unique instance of merger litigation in which customer testimony constituted a substantial element of at least one party's case, and yet that testimony failed to persuade the court. Other notable examples, beyond the celebrated Oracle and Arch Coal decisions, include United States v. SunGard Data Systems and United States v. Engelhard. In these two cases customer testimony was found by the court to be unpersuasive, yet for different reasons than in Ivaco.

U.S. v. SunGard and U.S. v. Engelhard[45]

In *SunGard* and *Engelhard* , the U.S. Department of Justice brought suit to enjoin mergers of major competitors in what the government claimed were highly concentrated markets. In both trials the government attempted to prove the existence of a relatively narrow product market, largely through the testimony of customers. And in both cases the court, for very similar reasons, found this evidence to be deficient.[46]

In SunGard the government sought to enjoin an attempt by SunGard Data Systems to acquire the disaster recovery solutions assets of Comdisco on grounds that the acquisition would substantially lessen competition in the market for shared hotsite disaster recovery services for mainframe and midrange computers. SunGard and Comdisco, along with IBM, were at the time of trial the only significant providers of this particular service.

Because of the essential role that computer applications play in the operation of most businesses, many companies have come to rely on a disaster recovery plan to reduce the potentially

---

[45] **United States v**. **SunGard** Data Systems, Inc., 172 F. Supp. 2d 172 (DDC 2001);
United States v. Englehard **Corp**., **970 F. Supp**. 1463 (MD Ga.)

[46] To be sure, in both cases the government introduced more than simply customer testimony to support its contentions. The views presented by customers, however, played a prominent role. The focus here is on the reasoning employed by the court in discounting the value of the government-sponsored customer testimony.

devastating impact of a disaster, natural or otherwise, on their computer system. Disaster recovery vendors such as the merging firms filled this demand by selling services that enable the restoration of computer applications and data at another location in the event that a disaster of some sort incapacitates the customer's primary data centers or makes them otherwise unavailable.

Shared hotsite services are one widely-used disaster recovery system employed by companies that depend on mainframes and other high-end platforms. Because these hotsites are shared by multiple clients, they provide a cost-effective option for many large companies. It was this cost-effectiveness that, according to the government's complaint placed the merging firms' offerings into a relatively narrow, and very highly concentrated, product market.[47] The case centered on whether the relevant product market was as narrow as claimed by the government, or whether, as the defendants contended, it included also a wide range of alternatives–including so-called "internal" solutions (i.e., hotsites, the services of which are not shared by multiple clients). Testimony from customers--on both sides–represented a major part of the trial.

The court found against the government on this critical issue. The government's economic expert, relying in no small part on the 50 statements submitted from hotsite customers indicating that cost considerations would preclude their switching away from shared hotsite services in response to a small, but significant and nontransitory increase in its price, stated that:

> Even if there were some customers who would substitute [] internal solutions in response to a small hotsite price increase, this would not change my conclusion that hotsite services are a relevant market. The evidence suggests strongly that too few customers would shift away from hotsite services to internal solutions to warrant their inclusion in the relevant market.[48]

The court found otherwise, on grounds that the government's sample of customers was neither large enough, nor sufficiently representative of an identifiable category of customer types to warrant a finding of likely harm to any of them. Pointing to the fact that defendants submitted their own flood of more than 90 statements from customers attesting to their intention to switch away from shared hotsite services if its price were to go up, it concluded that:

[47] Insert concentration numbers from DOJ Complaint.
[48] SunGard Decision, P. 32.

> The government has failed...to show whether this captive group is substantial enough that a hypothetical monopolist would find it profitable to impose such an increase in price. The sampling of customer statements before the Court is minuscule when compared with the entire universe of defendants' shared hotsite customers...In addition, the record does not indicate whether the customers cited by plaintiff are representative of the entire universe of shared hotsite clients...[Moreover] instead of fine-tuning its presentation to account for significant differences among defendants' customers, the government lumped all customers together. As a result, this Court is unable to determine with any degree of certainty whether those companies that claim they would not switch in response to a SSNIP are representative of shared hotsite customers in terms of their business structure...In the absence of such a determination, the government's definition of the relevant product market cannot be sustained.[49]

In U.S. v. Engelhard, the government challenged a merger of the two largest attapulgite clay companies in the United States.[50] Attapulgite clay is a mineral that is mined in the United States only in the southwestern part of Georgia and the northwestern part of Florida. There are two basic types of attapulgite clay–gellant quality and sorbent quality. Competition in the manufacture and sale of the former, so-called "gel clay," was the focus of the government's concern.

Gel clay is used as a thickener or suspension agent in a number of products, including asbestos-free asphalt coatings, ready-mix tape joint compounds, suspension fertilizers, and oil and gas well drilling fluids. The judge's decision in the case turned on the issue of whether the relevant product market was as narrow as gel clay, or whether, as the defendants claimed, it included also several alternative thickeners and suspension agents.

Reasoning along lines almost identical to that employed subsequently by the Court in SunGard, the Engelhard Court found that the relevant product market was broader than that alleged by the government. In particular, the Court found that the government had not established a prima facie case because its evidence did not permit the Court to determine whether the customers who testified at trial were representative of the entire product market that the government sought to define.
Acknowledging that the government had presented testimony from many customers claiming to be unable profitably to switch away from gel clay in response to a small, but significant and nontransitory increase in its price, the Court nevertheless found as follows:

> [I]t is possible for only a few customers who switch to alternatives to make the

[49] SunGard Decision, pp. 34-35. The Court also observed (fn. 23 of its Opinion) that the testimony of several customer witnesses was inherently unreliable. One, it noted had agreed to provide some financing for SunGard's acquisition of Comdisco, and thus, it may stand to gain substantial business if the transaction goes through. Another stood to win the auction for Comdisco if the SunGard purchase were successfully blocked. And "several customers submitted conflicting statements, telling the defendants one thing and the government another."
[50] Only one other firm, Milwhite, Inc., produced this same product.

> price increase unprofitable, thereby protecting a larger number of customers who would have acquiesced in higher [] prices. To evaluate such possibilities, the Government should have ascertained the size of the [product] market in its different end-use applications. However, the Government's expert...could not identify the number of companies using [the product] in many of its end-use applications. This undermines the Government's entire case. No matter how many customers in each end-use industry the Government may have interviewed, those results cannot be predictive of the entire market if those customers are not representative of the market.[51]

Customer Testimony: Will At-Risk Customers Publicly Oppose Anticompetitive Mergers?

What are the incentives of customers publicly to oppose a merger that they themselves believe will be anticompetitive, and which they also believe will be harmful to them personally? Unfortunately, even in these cases it is not at all clear that customers will find it in their self-interest to support the efforts of competition authorities to block the deal. Understanding why this may be so is important, at least partly because defendants are frequently able to obtain a stack of customer declarations in support of a proposed merger that is larger--both in number, and even weighted by volume of commerce--than is the stack of customer declarations opposing the deal. This, even where other economic evidence suggests strongly that customers will be harmed if the deal goes through. What might account for this?

As we have seen, customers will at times be basing their opinions on limited information, and so it is entirely plausible that customers will in some cases simply not have access to the type of relevant information that competition authorities are regularly able to obtain. Moreover, there are potentially important differences between what a customer may be willing to say publicly about a proposed merger, and what it would prefer privately that the competition authorities and the courts do.

There are at least three reasons why vulnerable customers may be very concerned about speaking out publicly: a fear of retaliation, a fear of providing the merging parties with valuable information as to just how, why, and by how much prices can be profitably raised to them post-merger, and a concern that in the course of litigation, sensitive business information will become public.

Fear of Retaliation

Not infrequently, customers express to competition authorities a concern that although they

[51] Engelhard 126 F. 3d at 1306 (internal citation omitted).

would prefer that the merger not take place, they are afraid that if their opposition to it becomes known, they will be retaliated against by the merged firm if the deal nevertheless goes through. A fear of retaliation seems, at first glance, to be irrational. "Retaliation," if it means anything at all, presumably means that the merged firm will decide to depart from simple post-merger profit-maximization; for example, charging the customer even more than the monopoly price. But why, one might ask, would the merged firm possibly wish to do this? Departing from short-run profit-maximization in order to harm a customer for opposing the merger would seem to lower the retaliator's profits, and is akin to "cutting off one's nose to spite one's face."

Similar arguments have been offered for why predation is seldom rational[52], and for why the incentives of individual firms to defect implies that cartels cannot hope to form successfully.[53] And yet, predation can at times be rational and cartels do occasionally form successfully. How and why can this happen? A common explanation for such conduct begins by making a distinction between what economists refer to as "one shot" or "one period" games, on the one hand, and "repeat" or "multi-period" games on the other. In the latter, punishment can be effective, history matters, and seeming departures from short-run profit-maximization can prove profitable over the long run.[54]

In the case of retaliation specifically, if the merged firm may be planning on engaging in other problematic mergers in the future, or if it has any number of other reasons for wanting to send customers a strong message that they'd be better off by "playing ball" than by crossing the firm, retaliation may well be a rational policy.[55]

Limiting a Powerful Supplier's Information About Your Vulnerability

An additional, and potentially even more serious problem for an at-risk customer, is not so much its fear that it will be retaliated against, but a concern that its testimony will itself provide the merged firm with valuable information as to just how vulnerable the customer will be if the merger goes through.

Note the distinction between this concern, and a fear of retaliation. The latter, but not the

---

[52] See, generally, Robert Bork, *The Antitrust Paradox: A Policy at War with Itself*, New York, Basic Books, 1978.
[53] For a demonstration of why, in a one- period game, "cheating" dominates cooperating even though cooperation would maximize joint profit, see Carlton & Perloff, **Modern Industrial Organization**, Pearson/Addison Wesley, Boston, 2005, pp. 180-183.
[54] Carlton & Perloff, pp. 183-191.
[55] To the extent that one or both of the firms attempting to merge have significant market power even without merging, concerns over possible retaliation may apply also to situations where the customer's testimony helps prevent the merger from taking place.

former, requires that the merged firm depart from strict short-run, profit-maximizing behavior; e.g., that it punish the customer by not trading with it at all, or by charging even more than the monopoly price.

Imagine that you are a customer who would be highly vulnerable to the increased market power of the merged firm, and who would therefore prefer that the merger not take place. Is it likely, even if there were no reason to fear retaliation, that you would want to explain publicly, and under oath, just how limited your alternatives post-merger are likely to be, just how vulnerable you would be, and perhaps even how and by how much a merged firm would be able profitably to raise your price? Providing the merging parties with this information is not obviously something that is in your self interest (i.e., such information may lead the merged firm to decide on a price increase whose profitability was uncertain before the customer testified). Indeed, quite the contrary.

Concern over laying out for the merged firm a roadmap for victimizing you will not always constitute a strong reason for keeping your thoughts to yourself. It is more likely to deter you from testifying the more incomplete the merged firm's information on your vulnerability, and the greater the ability of the merged firm to selectively target you–i.e., to engage in price discrimination.

There is, however, an offsetting factor. Customers do, from time to time, testify in opposition to anticompetitive mergers, and we therefore know that customers may decide publicly to oppose a merger despite the aforementioned risks. In particular, to the extent that the customer believes that its testimony in opposition to such a merger will prevent the merger from ever taking place, it will have a strong interest in speaking up.

A customer can hardly be certain, however, that its testimony will make a significant difference in a case's outcome. The (probabilistic) costs and benefits to a customer of testifying in opposition to a merger that will be harmful to it can be summarized in the following equation:

p (benefit to you from price not increasing) - [r (cost from being retaliated against) + v (price increase because merged firm learns your vulnerability)]

where:

p = the probability that your testimony alone will prove pivotal in preventing the merger

r = the probability that the customer will be retaliated against for opposing the merger (conditional upon the merger going through)

and v = the probability that the merged firm victimizes you more because it has learned more

about your degree of vulnerability (again, conditional upon the merger going through)

I suspect that in the majority of cases–excluding, perhaps, those where the merging firms serve only a single, or a small handful of customers–each individual customer will view the probability of its testimony making the difference between a win and a loss to be quite small.[56]

Concern that Confidential Business Information will become Public[57]

A final possible concern on the part of at-risk customers is that if they agree to testify, confidential business information of theirs may become public.[58] In addition to the types of information that may give the to-be-merged firms an ability to extract greater value from the customer in subsequent negotiations, customers may be concerned about revealing information that can be used to their disadvantage in other ways, and by other parties.

Some of what the customer may be required to reveal in the course of litigation is information that could help its rivals better compete against it; for example, business secrets, competitive strategies, or production cost information.[59] Certain types of information might also prove valuable to the customer's various suppliers, customers, or even unions, by enabling them to bargain more effectively with the customer.

Customers cannot be certain what they may be forced to reveal when they are subjected to cross-examination by the defendants. Nor can they be certain how much of that information they will be able to keep confidential. Some of what may come out in the course of trial could prove so damaging to the customer that its cost to them will outweigh the benefits to the customer of blocking an anticompetitive merger–even if, as seems unlikely, the customer's testimony is itself pivotal to the outcome of the litigation.

The foregoing analysis suggests a number of reasons for why, even if the customer does have a legitimate concern that the merger will prove anticompetitive, the customer will rationally decide that it is not in its interest to testify for the government. In cases where knowledgeable customers actually do step forward to incur the costs and risks associated with testifying against their major suppliers, this fact alone–with appropriate caveats for the various possible biases

[56] In addition, there is a public good problem. To the extent that there are costs to individual firms of testifying and the benefits of testifying accrue also to others, each firm may hold back, hoping to free-ride on the efforts of others.
[57] I thank Richard Cooke for suggesting this point.
[58] Cite some bitter litigation–including, I believe, Oracle–where this has been at issue.
[59] Indeed, in some instances the merging parties may themselves be competitors of the customer in other markets.

highlighted above--suggests that their concerns are deeply felt, and quite possibly meritorious.

How *Reliable* is the Information Provided by Customers to the Competition Authority

The competition authorities are charged with protecting the interests of consumers, and consumers will, one might think, have every incentive to tell their agent–the competition authority–what they would like done.[60] Given, however, that under some circumstances customers will have interests adverse to those of the antitrust laws (or other reasons for not coming forward with their concerns), competition authorities typically require also more objective support for the statements of customer witnesses.

Seldom do investigators take at face value the views expressed by other self-interested parties–in particular, the merging firms and their competitors. When customers' interests are not clearly aligned with the goals of the competition authorities, care is taken when interpreting their views. The same, it bears emphasizing, applies when interpreting customer testimony solicited and presented to competition authorities, or to the courts, by merging parties. Not only do customers at times have interests adverse to that of sound competition policy, they may also at times find it in their self-interest publicly to support a merger that is likely to harm them.

Use Of Economic Evidence Other than "The Views Of Customers"[61]

Soliciting the views of customers is seldom dispositive in determining the competitive consequences of proposed mergers. Indeed, we have seen that reliance solely on customer views will at times be useless–or worse. What, then, is the analyst to do? A complete discussion of economically sound merger analysis is well beyond the scope of this paper. Nevertheless, it is worth discussing briefly some of the ways in which economists try to answer relevant merger questions without relying primarily on the views of customers. Some of these techniques require the use of sophisticated econometrics and/or highly mathematical modeling. Often, however, much can be learned without resorting to such tools. Nevertheless, even the economist's best efforts at employing "non-customer testimony" will frequently be subject to legitimate criticism. Sadly, none of our tools are perfect.

Sound economic analysis relies, to the extent possible, on objective and verifiable factual

---

[60] I am abstracting here from the separate issue, just discussed, of whether customers will rationally fear that the merging firms will learn of their opposition to an anticompetitive merger.

[61] The "Commentary on the Horizontal Merger Guidelines" issued in March 2006 jointly by the U.S. Department of Justice and the Federal Trade Commission provides a wealth of information on the agencies' use of information in actual investigations to inform them about relevant markets, entry, efficiencies, and more generally, the likely competitive consequences of mergers.

evidence (e.g., data).[62] Interpreting these data, or more generally, this information, through the lens of an economic model, can enable the analyst to answer questions relevant to predicting the effects of the merger.[63] When employing and relying upon one or another of these models, the analyst will, where feasible, wish to check the degree to which competition in the marketplace conforms to the underlying assumptions of, or is reasonably consistent with the predictions of, that model.

As one example, let us say that the economist is trying to answer the commonly asked question: "Would a hypothetical monopolist of certain products find it profitable to raise price, say, 5% above current levels?" If data are available on the firms' prices and incremental costs of the merging firms, and if an estimate of demand can be obtained (or generated), these pieces of information can be used to perform a so-called "critical loss" exercise. Critical loss analysis answers the question, "Would the losses on sales sacrificed from the hypothesized price increase be greater than, or less than, the added profit on sales that continue to be made at the now higher price?"[64]

More formal techniques can at times be productively employed to obtain quantitative predictions

---

[62] Economic evidence may, at times, include information on the subjective preferences–the "tastes"--of consumers. Even here, evidence consisting of how consumers actually have behaved under particular conditions in the past can be more reliable, and hence more valuable, than consumer statements about how they are likely to behave if and when faced with such conditions in the future.

[63] The economist's tool kit includes bidding models in the case of certain procurement activities, as well as the commonly employed Bertrand (price setting) and Cournot (quantity setting) models of equilibrium noncooperative behavior. Economic theory provides insight also into when and where coordination may become significantly more likely as the result of a merger. For recent treatments of this issue, see **Jonathan Baker**, **Mavericks**, Mergers, and Exclusion: Proving Coordinated Competitive Effects Under the Antitrust Laws, 77 NYUL Rev. 135 (2002), and Andrew Dick, "Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects," *George Mason University Law Review*, Vol. 12, No. 1, Fall 2003; pp. 65-88.

[64] The exercise is called "critical loss" analysis because, given a price-cost margin, one can mathematically determine the amount of loss (the so-called "critical" amount), above which a price increase of X% would not be profitable. One important early contribution to this literature is Barry C. Harris & Joseph J. Simons, "Focusing Market Definition: How Much Substitution Is Enough, in 12 Research In Law and Economics 207 (Richard O. Zerbe, Jr. Ed., 1989). More recent publications that discuss and debate the proper economic application of critical loss analysis can be found in Michael G. Baumann & Paul E. Godek, *Could and Would Understood: Critical Elasticities and the Merger Guidelines*, 40 Antitrust Bulletin 885 (1995); Michael Katz and Carl Shapiro, 17 ANTITRUST 49 (Spring 2003); Dan O'Brien and Abe Wickelgren, 71 ANTITRUST L. J. 161 (2003); David Scheffman and Joseph Simons, ANTITRUST SOURCE (November 2003); Dan O'Brien and Abe Wickelgren ANTITRUST SOURCE (March 2004), and Michael Katz and Carl Shapiro ANTITRUST SOURCE (March 2004).

of a merger's competitive effects. For example, in the case of mergers involving differentiated consumer products for which detailed, high-frequency data is available for use in estimating demand, economists may be able to generate reliable predictions through the use of merger simulation.[65] Merger simulation is an attempt to predict the post-merger pricing equilibrium by taking the pre-merger equilibrium, fitting it to an oligopoly model of how firms compete with one another, and generating the equilibrium that would be produced by that oligopoly model following the proposed merger.[66]

Merger simulation incorporates very explicitly a number of assumptions. These include not only those required to produce elasticity estimates of a specified demand system, but also assumptions about the particular oligopoly game being played–typically Bertrand–and whether the game itself might change as a consequence of the merger. The technique also involves a sophisticated economic methodology for obtaining estimates of the various key parameters employed. Although the assumptions employed by merger simulation models are unlikely to be precisely satisfied in the case at hand, they may at times yield reasonably reliable estimates.[67]

Though it is easy to criticize an approach that lays out so transparently the many assumptions used to generate its results[68], the very fact that merger simulation is so explicit and transparent represents, in one very important sense, an advantage over other techniques for predicting competitive effects. The fact that merger simulation explicitly states the assumptions it employs--assumptions whose accuracy can at least be debated, and at times tested, is one of the technique's strengths, not a weakness.[69] Moreover, simulations can be run using alternative

---

[65] Merger simulations have been used increasingly, both internally by the competition agencies, and by outside experts. Several examples are reported in the Commentary on the Horizontal Merger Guidelines, jointly issued by the U.S. Department of Justice and Federal Trade Commission. See also Greg Werden and Luke Froeb "A Daubert Discipline Discipline for Merger Simulation." Greg Werden has prepared expert testimony, based largely on simulations, on the effects of proposed mergers involving white bread and cosmetics. The former resulted in significant divestitures, while the latter was not challenged. Roger Feldman used merger simulation to analyze the effects of a merger of HMOs; in "The Welfare Economics of a Health Plan Merger"*Journal of Regulatory Economics* 6: 67-86 (1994). More recently, merger simulation was used to evaluate the effects of mergers in the airline industry. See Craig Peters, *Evaluating the Performance of Merger Simulation from the U.S. Airline Industry*, EAG 03-1, January 2003.

[66] See "Simulating the Effects of Differentiated Products Mergers, Gregory J. Werden and "A Daubert Discipline for Merger Simulation" by Werden, Froeb and Scheffman.

[67] Werden, Froeb and Scheffman sensibly contend that "[although] A merger investigation or trial cannot determine all facts with complete clarity and precision...merger simulation should not be held to a higher standard of proof than is applied to other analysis." WF&S, p. 4.

[68] Find and cite some of the many criticisms.

[69] To take one example, merger simulation models often assume Bertrand competition by the oligopolists pre-merger. This assumption can, in principle, be tested. For example, the analyst

plausible assumptions to gauge the robustness of the predictions.

Other economic techniques require far less mathematical sophistication. They include, for example, analysis of so-called "natural experiments." Although it will seldom be the case that one is fortunate enough to have evidence from a precisely comparable event that took place at an earlier time or in a different location, the analyst may be able to make reasonable inferences about what might happen in the event of an attempted post-merger price increase by examining the reaction of market participants (including potential entrants) to past economic shocks–including, perhaps, past mergers in the market.

For example, in trying to determine the profitability to domestic producers of an attempted post-merger price by domestic producers alone, one may be able to obtain data on the quantity of imports during periods in the past when the price of the domestic product relative to the foreign product was higher than it is today. Or, in gauging the extent to which "fringe" domestic competitors might have the capacity to discipline a feared unilateral price increase by the merging firms, one could obtain historical data to see whether the fringe has in the past–such as during times when prices are higher than they are now--used its current capacity to produce and sell considerably more output than it is selling today.

In evaluating whether entry would be "likely, timely and sufficient" in the face of an actual or feared post-merger price increase, the economic analyst may obtain information on the costs of entry (together with an estimate of the degree to which these costs are sunk) and determine the share of the market that an entrant would need to obtain at current prices and margins in order to at least break even.[70] The analyst can also look at the experiences of past entrants–successful ones and unsuccessful ones–to develop estimates of how long entry might take, whether it would perhaps be facilitated by sponsorship from large potential customers, how difficult it can be to achieve substantial customer acceptance--and how likely it would be to occur.

Much of the foregoing discussion of economic evidence relates to techniques for determining whether a merger is likely to produce, in the terminology of the Merger Guidelines, a *unilateral* anticompetitive effect. Economic evidence can, at times, also help the analyst predict with some confidence the likelihood of a *coordinated* anticompetitive effect. Scheffman, Coleman and Baziliauskas (SCB), for example, discuss a number of non-technical statistical measures that can provide useful insights into whether conditions seem propitious for coordination pre-merger, and

---

can examine pre-merger conditions in the marketplace–such as the shares of the individual firms and their price-cost margins–to see whether these are consistent with the predictions of the Bertrand model.

[70] The DOJ/FTC Horizontal Merger Guidelines describes an analytical paradigm involving calculation of the "minimum viable scale" an entrant would need to achieve in order for entry to be profitable.

in particular, whether coordination may already be occurring pre-merger.[71]

SCB claim that the current state of competition in a market is itself one important piece of evidence that can be used to assess the potential for anticompetitive coordinated effects from a merger. Among the types of evidence they recommend examining are; the extent of pricing variability across customers cross sectionally and over time, the extent to which competitors follow list price announcements, the degree to which customers switch suppliers and the stability of output and capacity shares, among other factors. They suggest that if market concentration is very high and there exists persuasive evidence that coordination may already be occurring, a merger that further concentrates the market warrants particular concern.

Jonathan Baker discusses the role played by so-called "mavericks" in preventing firms from coordinating pre-merger, and describes the kind of objective evidence that would help determine whether one of the merging firms has been serving as a maverick and, consequently, whether its elimination through merger would likely result in anticompetitive coordinated effects.[72] Baker points out that this outcome may arise, for example, where one firm in a concentrated market appears to have a unique economic incentive to cheat on an attempted market-wide price increase because it alone has both a fairly low share of current sales and a significant amount of unutilized capacity. Merging this firm with one of its larger rivals could be expected, all else equal, to weaken pre-merger constraints on anticompetitive coordination.

These, and other techniques commonly employed in the course of analyzing a proposed merger need not, and generally do not, rely predominantly on information or opinions solicited directly from customers. They are therefore not subject to the criticisms levied above against use of customer testimony. They are, however, at times subject to other serious and legitimate criticisms. Data, while in some sense "objective," is seldom complete or fully accurate. Models, including estimation techniques, all contain simplifying assumptions. These assumptions are ones that the analyst hopes will enable tractable analysis that generates accurate predictions, but economic models and econometric techniques admittedly fail to capture perfectly the complicated operation of the real world to which we apply them.[73]

Even though our tools are imperfect, decisions need to be made. The better we understand the

---

[71] "Empirical Tools for the Analysis of Likely Coordinated Interaction Effects from Mergers and Acquisitions," David Scheffman, Mary Coleman, Andrew Baziliauskas, Working Draft April 4, 2002 (Get Final Cite).

[72] See **Jonathan Baker**, **Mavericks**, Mergers, and Exclusion: Proving Coordinated Competitive Effects Under the Antitrust Laws, 77 NYUL Rev. 135 (2002). See also Andrew Dick (**).

[73] How else, one might ask, are we to explain the remarkable fact that many, if not most, merger trials feature competent economic experts on opposite sides of the same case; each reaching very different conclusions on the basis of his or her honest, independent, analysis of the very same evidence?

strengths and the limitations of the tools we have available, the better our judgements ultimately will be.

VII. Conclusions

Views of consumers, and effects on consumers, are two very different things. Taken by itself, the former need not enable one to form strong inferences about the latter. And it is the latter with which the antitrust laws are ultimately concerned.

Customers will not always know how a proposed merger is likely to affect them. As importantly, even customers in a position to know the likely competitive effect of a merger will not always have the proper incentives to provide that information fully and accurately. Techniques for predicting a merger's likely effect that rely less on the subjective views of customers, and more on objective economic evidence, provide a highly useful complement to customer testimony.

Unfortunately, however, no single type of evidence is likely to provide indisputable proof. In evaluating the likely competitive consequences of proposed mergers, competition authorities and courts properly weigh the totality of the evidence, refusing to take the views expressed by customers at face value, insisting that customer testimony be combined with economic evidence providing objective support for those views, while cognizant of the fact that there are limitations on the latter as well.