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1 Introduction

For some years, "vertical restraint" issues have been front and center in antitrust lawsuits. In the Department of Justice case against Microsoft, for example, one of the central issues was whether Microsoft's inclusion of Internet Explorer in the Windows operating system was an illegal tie, preventing personal computer manufacturers (and consumers) from choosing Netscape Navigator.[1] In another high profile case, Wal-Mart and other retailers accused Visa and MasterCard of illegally tying debit cards to the acceptance of credit cards, preventing retailers from defining their own payment policies. In a more recent case, Apple is being sued over allegedly tying its iTunes to its iPod players.[2] The company's iTunes music store, which offers individual songs for around one dollar each, puts those songs in a format that only works on its own iPod—not on much cheaper MP3 players.

Vertical restraints can be defined as any arrangement between firms operating at different levels of the manufacturing or distribution chain (the *vertical* part) that restricts the conditions under which such firms may purchase, sell, or resell (the *restraint* part).[3] For example, when manufacturers define

1. *United States* v. *Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999) (setting forth findings of fact).
2. *Slattery* v. *Apple Computer, Inc.*, No. C 05-00037 JW, 2005 WL 2204981 (N.D. Cal. Sept. 9, 2005).
3. For a standard definition and discussion of vertical restraints, see Tirole (1997, chap. 4).

sales territories for their distributors so that each dealer has an exclusive area, or when contracts with distributors dictate that a dealer must sell one brand exclusively, those arrangements are considered vertical restraints. Both of these forms of exclusivity have pro-competitive as well as anticompetitive explanations. Limiting where and what products a dealer can sell can hinder competition by carving up a geographic market or by foreclosing competing product brands from a key distribution route. At the same time, guaranteeing a dealer that other dealers will not compete within a certain area provides the dealer with an incentive to promote the product, which can increase competition between products. Likewise, requiring brand exclusivity, so that dealers cannot sell competing brands, prevents rivals from free riding on a company's promotional and educational efforts. Such exclusivity is relatively common for products that require some degree of product knowledge on the part of the sales staff, such as with electronics and car parts.

Another common example of a vertical restraint is tying and bundling. With tying, a company only offers product A with the purchase of product B. Bundling is a similar but looser concept, where a company offers goods together in a bundle but also offers at least some of the goods separately as well. (So-called pure bundling is equivalent to tying.) Carmakers, for instance, bundle air conditioners, radios, tires, and more with the cars they sell. Nicer restaurants typically offer bread and water along with the items ordered, and word processing software includes a spell checker and a thesaurus.

Another vertical restraint is resale price maintenance. Under this arrangement a supplier sets a minimum or maximum price that limits the prices resellers distributing their goods may offer.[4] Suppliers may set prices in this fashion to maintain a reseller's profits and thus its incentives to distribute the good. A supplier may also set a maximum resale price in order to keep output at an optimal level to maximize its own profits.

Certain of these unilateral business practices, such as exclusive territories and tying and bundling, are quite prevalent in the economy. Given their widespread use, an understanding of their effects on rivals, competition, consumers, and the economy as a whole is important.

4. See Pepall, Richards, and Norman (1999).

The current focus on vertical restraints derives in part from changes in how the economics profession and the court view them. A few decades ago, legal opinion was almost uniformly hostile to all vertical restraints. The courts at the time argued that the only plausible goal for such restraints was to shut out competition.

Today, the courts are inclined to give such restraints the benefit of the doubt. The current view is that practices such as tying and exclusive contracts sometimes make markets more efficient, on balance benefiting consumers through lower prices and more rapid innovation. For example, as noted earlier, exclusive dealing, where a distributor is prevented from offering rivals' brands, can provide distributors with strong incentives to promote the manufacturer's brand and can prevent free riding on manufacturer advertising and support. Exclusive deals can also unduly deter competition, however, by preventing rivals from succeeding. The challenge lies in achieving a balance between the positive efficiency gains and the negative anticompetitive aspects of vertical restraints.

The purpose of antitrust laws is to protect consumer welfare and foster competition.[5] To achieve that end, policymakers should try to limit those practices that are likely to do more harm than good while leaving other more beneficial practices untouched. The question facing antitrust authorities is how to decide whether or not particular types of vertical restraints are likely to promote economic efficiency. This is not a simple task, and the government's record in this area is the subject of heated debate.[6]

Thus far, the academic literature has offered little guidance for achieving balance in the assessment of vertical restraints in practice. One line of thought, typically referred to as the Chicago School, maintains that abuse of monopoly power is not the reason for vertical restraints. According to this argument, a monopolist can exhaust its market power simply by raising prices to consumers, and thus any vertical restraints in place must be efficient and could not lower welfare.[7] This conclusion is based on stylized assumptions, however, including that the monopoly good is essential for the use of complementary goods and that the goods are consumed in fixed proportions. If you always need to use one unit of good A whenever you use one unit of

5. See Bork (1978).
6. See, for example, Crandall and Winston (2003); Baker (2003).
7. Hylton (2003, pp. 280–81).

good B, the firm selling A and B can collect monopoly rents either by charging more for good A *or* for good B—this is frequently referred to as the "single monopoly profit" theorem.

Challengers to the Chicago School have based their attacks on the underlying assumptions and conditions. For example, Salop and Scheffman find that vertical restraints can provide a means for firms to raise their rivals' costs and profitably reduce market output.[8] Whinston demonstrates that when the monopoly good is not essential for the consumption of complementary goods, then tying can indeed be profitable for a monopolist since it enables the firm to capture revenues from the sale of the complementary good when that good is used without the monopoly good.[9] While these theoretical models suggest that the conclusions of the Chicago School are open to question, they do not establish clear-cut rules for determining when vertical restraints are anticompetitive. Moreover, even when monopolists use vertical restraints for anticompetitive reasons, the welfare implications of the models are ambiguous.[10]

The empirical literature on vertical restraints can be useful for both informing theory and providing guidance for policymakers. Cooper and others observe that "there is a paucity of support for the proposition that vertical restraints/vertical integration are likely to harm consumers."[11] They review over twenty quantitative studies and find only one that claims to find clear evidence of harm to consumers, albeit at an extremely low level (specifically, a $0.60 per year loss for each consumer).[12] The majority of these empirical papers find positive effects from vertical restraints, primarily in the form of lower retail prices to consumers. Despite the general findings, though, it is difficult to apply the specific circumstances of one quantitative study to the particulars of a new court case.

The theoretical ambiguity over the benefits and costs of vertical restraints thus leaves antitrust policy in limbo. Two recent landmark cases, *United States* v. *Microsoft* and the decision by the European Court of First Instance to ban the GE-Honeywell merger, point to the urgency of coming to terms

8. Salop and Scheffman (1983, 1987).

9. Whinston (1990).

10. See Cooper and others (2005).

11. Cooper and others (2005, p. 648).

12. See the work of Ford and Jackson (1997), which studies vertical integration between cable television franchises and cable programmers.

with business practices that are widely used, especially in the ever-expanding high-tech industries. In the *Microsoft* case, the courts grappled with the distinction between anticompetitive tying and simple product design decisions, which firms should have the freedom to decide on their own. Adding Internet Explorer to Windows could have been a tie or it could have been a feature addition; the debate was heated over which interpretation was correct.[13] In the case of the GE-Honeywell merger, European competition authorities were concerned that the merged entity would be able to tie GE's jet engines with Honeywell's aerospace products to the detriment of rival companies and competition in aeronautics.

This volume presents three different perspectives on how policymakers ought to come to terms with vertical restraint practices. These perspectives are informed by both theory and practice.

The next chapter, by Bruce Kobayashi, a professor at George Mason University, helps explain why policymakers are still in need of guidance—even after decades of thought on vertical restraints. Kobayashi surveys the literature on one key vertical restraint practice: bundling. He finds that "the academic literature has focused on theoretically interesting uses of bundling that are likely to be of little empirical relevance. Little attention has been paid to the many well-known and obvious efficiency explanations for bundling."

Kobayashi pays particular attention to the literature on using bundling as a tool for exclusion. Combining goods into a single product can be helpful to consumers: in the car example mentioned earlier, carmakers add items that the majority of customers want anyway, and buying the goods together in a single package is more convenient. But bundling can also be used anticompetitively. In the early days of software, for instance, spell checkers were sold as stand-alone products. By incorporating a spell checker into a word processor, a word processor developer could foreclose a spell checker developer from the market. Of course, even when a competitor is excluded, the practice might still be viewed as efficiency enhancing if customers are better off. But Kobayashi argues that academic articles on tying typically start with an assumption of monopoly and market power and thus never explore the beneficial aspects of bundling when there is substantial competition.

13. *United States* v. *Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000).

He concludes that until the literature gains a more nuanced understanding of the effects of bundling, “simple bright-line rules may dominate more complex tests that attempt to differentiate procompetitive from anticompetitive behavior.” Kobayashi therefore encourages broadening the literature to study bundling practices among firms in competitive industries without any market power to provide a counterpoint to the studies emphasizing monopolies.

The third chapter assesses the issue from a different perspective. Dennis Carlton, a professor at the University of Chicago, and Michael Waldman, a professor at Cornell University, argue that one influential strand of the theoretical literature assumes too much in assigning pro-competitive motives to tying and bundling and thus misses important anticompetitive motives. In their chapter Carlton and Waldman explore a puzzle raised by the Chicago School. As explained above, the Chicago School maintains that a monopolist can only earn one monopoly profit (the single-monopoly profit theorem). Thus, under the conditions noted earlier, even if the firm produces other goods for competitive markets, it has no incentive to tie those goods to its monopoly profit since it cannot increase its profits.

What Carlton and Waldman ask is, if a monopolist does not need to tie an essential good in order to extract monopoly profits, why do we see real world monopolists tying essential goods to complementary goods? Here the authors have in mind the IBM antitrust cases of the 1970s and 1980s and the Microsoft trials of the 1990s and 2000s. These cases are examples of monopolists linking the purchase of an essential good (mainframe computers for IBM, the Windows operating system for Microsoft) to the purchase of a complementary good (peripheral equipment and Internet browsers, respectively).

After reviewing the antitrust cases, Carlton and Waldman conclude that the Chicago School theory is incomplete. They argue that monopolists do in fact have exclusionary reasons to tie essential goods. One such reason is to maintain a product as essential over time. Monopolists do not merely think of profit maximization today, but tomorrow as well. Thus IBM wanted its mainframe computers to remain dominant for multiple years, and Microsoft wanted its Windows operating system to keep its ubiquitous position in the market. The authors show that under certain conditions if rival firms face barriers to entry or if network effects are present (so that the number of people using a product today will influence how many want to use it tomorrow), then "the monopolist may tie in the first period in order to preserve its monopoly position in the second." In other words, tying two goods today is really a strategy aimed at tying purchases today with purchases in the future.

Other reasons Carlton and Waldman propose for monopolists to tie anticompetitively include instances where the good is durable (such as a car or a mainframe), where the good involves continuing revenue streams from upgrades (such as software), or when consumers find it difficult to switch from one brand of the good to another (think of software here as well). Again, the key point is that monopolists think about long-term profits as opposed to what they might simply receive in the short term. Profits can be increased if upgrade revenue streams can be captured or if consumers can be "locked in" to a good over time. Tying in these cases can also prevent rivals from expanding into a monopolist's core market, thereby maintaining the monopoly over time.

Despite the potential for anticompetitive motives, however, Carlton and Waldman do not advocate an interventionist policy. Acknowledging the many efficiency-based reasons for tying, along with the ambiguous social welfare implications even in the face of anticompetitive motives, the authors support high evidentiary rules for tying cases.

David Evans, a managing director at LECG, agrees that the evidentiary rules for tying cases should meet a high standard. In the fourth chapter, he argues that the antitrust rules on tying are in desperate need of modernization. Evans constructs four arguments in support of dropping tying as a per se violation—that is, of dropping the automatic assumption of illegality, regardless of the individual circumstances or the level of harm. First, he observes that "tying is an utterly common business practice in competitive markets." Since there can be no anticompetitive harm when firms have no market power, this observation implies that tying can be implemented for efficiency motives. In particular, tying can reduce company costs, save consumers money, and stimulate innovation.

Second, Evans argues that modern economics provides no support for per se illegality for tying. Tying is but one unilateral business practice, and it can be motivated by efficiencies *or* by anticompetitive goals. The only way to distinguish between the two is to evaluate each case, under a rule of reason. Following on this logic, Evans notes that the only thing holding the courts back from moving to a more lenient standard, such as a "rule of reason," is precedent. Under rule of reason, a practice is viewed with an open mind until proven anticompetitive, with the details of the case at hand determining whether the specific actions taken were on balance more harmful than beneficial. Some judges have been reluctant to abandon such a long court history of per se illegality, although others appear ready to make the jump. Finally, tying is only one of two unilateral practices by businesses (the other is minimum resale price maintenance) that is subject to a per se prohibition under the Sherman Antitrust Act. Other practices—even price fixing, thanks to the ruling in the BMI case that allowed some forms of price fixing as procompetitive—have already moved to rule of reason.[14] These reasons, in Evans's opinion, stack up in favor of abandoning the per se violation status of tying.

While the authors represented in this volume differ in their opinions on how frequently vertical restraints are likely to result in competitive harm, they all agree on certain core issues. Most important, they agree that a move away from per se illegality toward a rule of reason standard for tying would allow for more careful analysis to inform decisions, increasing the chances that the courts could preserve welfare-enhancing business practices while extinguishing the more harmful ones. As part of that rule of reason approach, the authors all note that antitrust authorities should exercise good judgment, recognizing that economic theory leaves much to be desired in the real world of vertical restraints. Instead, the emphasis should be on the particular facts at hand, studied carefully through empirical analysis. These conclusions may not provide a simple handbook for policymakers, but they do provide sound advice on how antitrust authorities should proceed on bringing cases and on how courts should proceed in hearing them: slowly, carefully, and with an open mind.

14. *Broadcast Music, Inc.* v. *Columbia Broadcasting System*, 441 U.S. 1 (1979).

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