

TYING

The Poster Child for Antitrust Modernization

David S. Evans^{*}

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^{*} The author is Managing Director, Global Competition Policy Practice, LECG LLC and Visiting Professor, Faculty of Laws, University College London. This article builds on research the author has done with Christian Ahlborn, Jorge Padilla and Michael Salinger. He appreciates comments and suggestions from Christian Ahlborn, Howard Chang, Robert Hahn and Anne Layne-Farrar and excellent research support from Nadia Hussaini and Sannu Shrestha. He thanks Microsoft for funding his research and writing on tying. The views expressed in this paper are the authors own and do not necessarily reflect those of any of the people or institutions with whom he is affiliated.

I. INTRODUCTION

Tying is an area of antitrust in desperate need of modernization.

First, tying is an utterly common business practice in competitive markets. That distinguishes this practice from all other practices subject to *per se* prohibitions¹ and to many other practices, such as pricing below cost, that are considered suspect under a rule of reason analysis.

Second, there is no support in modern economics for either a general *per se* prohibition against tying or the particular test adopted by the Supreme Court in its 1984 *Jefferson Parish* decision. Economists recognize that tying results in efficiencies that benefit consumers although tying could be used, in particular situations, for anticompetitive purposes. There is no basis for singling tying out for *per se* condemnation from among the range of possible unilateral practices.

Third, only deference to precedence stopped the Supreme Court from subjecting tying to a rule of reason inquiry in *Jefferson Parish*. Four judges wanted to go to with the rule of reason. The five-judge majority recognized that tying was often pro-competitive, but they could not bring themselves to break with many decades of hostility towards tying.

Fourth, it is the only unilateral practice by businesses other than minimum resale price maintenance that is the subject of a *per se* prohibition under the Sherman Act.² In the last quarter century the courts have gradually subjected all other unilateral practices to a rule of reason inquiry that considers, among other matters, whether the practice harms consumers on the one hand and whether the practice generates efficiencies on the other hand.

¹ We do not have much empirical evidence about whether minimum resale price maintenance would be common in competitive markets, as it is subject to *per se* condemnation.

² I use "unilateral" to refer to single-firm practices such as tying, predation, and vertical restraints, whose potential for anticompetitive effects comes from eliminating competition from other firms. In contrast, the potential anticompetitive effects from collusive practices such as price fixing come from lessening the vitality of competition from the firms party to the agreement. I do not mean unilateral in the sense of an absence of an agreement that is subject to Section 1 of the Sherman Act.

The archaic *per se* rule against tying is a remnant of a now distant past in which economic analysis had little role in antitrust laws.

This article establishes the four points above. Section II documents the pervasiveness of tying in competitive markets. Section III examines the modern economic understanding of the pro-competitive and possibly anti-competitive explanations for tying. Section IV reviews the *Jefferson Parish* decision and some of the prior and subsequent case law. Section V compares the evolution of tying doctrine to that of other unilateral practices. It argues that the courts should abandon *Jefferson Parish* in favor of the rule of reason or that Congress should mandate this result as part of its ongoing consideration of modernizing the antitrust laws.

II. TYING IS A COMMON BUSINESS PRACTICE

Most products are bundles of features that could be and sometimes are provided separately.³ Consider a morning in the life of a typical consumer. Her alarm clock goes off—this might be a radio alarm clock or the one on her mobile phone. From her doorstep she gets the Washington Post, which includes national and international news, sports, perhaps local Virginia news, and arts. For breakfast she has a bowl of Apple Cinnamon Cheerios, though she has to add the milk herself. She turns her television on to watch CNN; she skips past House and Garden TV, which she must take as part of her cable package but never watches. Then she steps into her SUV and turns on the radio, which came with the car, and, if she does not know where she is going, perhaps even uses the built-in GPS navigation system. Bundling does not cease when she gets to her office. The building probably includes security services, cleaning, and other amenities. She boots up her computer, which is a bundle of an operating system, applications software, a computer chip, and perhaps a DVD

³ Paul Seabright, *Tying and Bundling: From Economics to Competition Policy*, Presented at CNE Market Insights Event (Sept. 19, 2002) (transcript available at http://www.cne.org/pub_pdf/2002_09_19_tying_bundling.htm); Michael A. Salinger, *Challenges in Identifying Anticompetitive Dominant Firm Behavior*, Speech before The National Economic Research Associates 2005 Antitrust And Trade Regulation Seminar, (July 7, 2005) (transcript available at <http://www.ftc.gov/speeches/salinger/050711santcfe.pdf>); William J. Adams & Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Q.J. ECON. 475 (1976); Yannis Bakos & Eric Brynjolfsson, *Bundling Information Goods: Pricing, Profits, and Efficiency*, 45 MGMT. SCI. 1613 (1999).

player. As a surgeon, her patients get a bundle of services from the hospital including nursing, anesthesiologists, and meals.

In all these cases firms are making two related decisions. The first concerns how they design their products. What should be included and how should the parts interrelate? The second concerns which products to offer. Should the firm offer only one product or should it offer several with different combinations of features? The answers to these questions depend on the demand for different product configurations and the cost of providing these to consumers.

A. Product Design and Offers

To illustrate the decisions that firms make about how to design their products and what products to offer to consumers consider a simple case in which there are two components **A** and **B**. Each is valuable to consumers in its own right.⁴ The possible products are listed in Table 1. Three cases are particularly important.

(a). *Components-selling* occurs when the firm offers **A** and **B** separately (cars and bicycle racks).

(b). *Pure bundling* is when the firm only offers **A** and **B** together as the bundled product **AB** (men's laced shoes).

(c). *Mixed bundling* refers to when the firm offers the bundle **AB** and either or both of its components **A** and **B** (The Sunday *New York Times* and the *New York Times Book Review*).

With two components, there are three possible "products" and seven possible product configurations, as shown in Table 1. The number of products and configurations increases exponentially with the number of components. Thus with three components there are seven possible products and 127 possible product configurations.

It is useful to introduce a legal concept of bundling called a "tie" at this point—we will return to this when we discuss the possible anticompetitive uses of

⁴ For more detail on this model, see David S. Evans & Michael Salinger, *Why Do Firms Bundle And Tie? Evidence From Competitive Markets And Implications For Tying Law*, 22 YALE J. ON REG. 37 (2005).

bundling. A product configuration is said to involve a “tie” when it is possible to get one component only as part of a bundle. That is the case with product configurations 4–6 in Table 1. Pure bundling necessarily involves a tie. Mixed bundling involves a tie when it is not possible to get one of the components. Generally, antitrust policy concerns itself only in those situations when buyers can get a tied component only by taking another component for which the firm has market power.

Table 1: Products that can be sold based on two components

	A	B	AB
1. Components selling	X	X	
2. Components selling	X		
3. Components selling		X	
4. Pure bundling/Tie			X
5. Tied Mixed bundling	X		X
6. Tied Mixed bundling		X	X
7. Full Mixed bundling	X	X	X

Firms make different decisions on product designs and offers within the same industries. Some may offer only components while others may offer only bundles and still others may engage in mixed bundling. Consider the most popular mid-sized automobiles sold in the United States: Ford Taurus, Honda Accord, and Toyota Camry. The Accord comes in six models that have between none and two options. The Camry has three models with between nine and 12 options. And the Taurus has four models with between three and 13 options. Across car segments there is even greater variation. Porsche is famous for having an enormous number of options that allow purchasers to customize their cars. All of these automobile makers, however,

include tires on their cars. They purchase these from tire manufacturers and none sells tires separately.⁵

The framework above can also be used to think about another form of bundling—selling multiple units of a product or other volume-based arrangements. The components are the individual units of the product. A pure bundle would be a fixed number of units—say a package containing 100 units. And mixed bundling would entail different package sizes: say 25, 100, and 500 units.

B. Reducing Producer and Consumer Costs

Bundling decisions affect costs for both producers and consumers.⁶ In both cases it is useful to divide these into costs that vary with each unit (marginal costs) and costs that are lumpy over a range of units (fixed costs).

1. Producers

For producers, multiple offerings can raise the fixed costs of production and sales in several ways. There may be diseconomies of scope of producing multiple separate products. For example, studies of automobile manufacturing have found that making many options available increases what are called “complexity costs.” Maintaining and managing different SKUs (Stock Keeping Units) also costs money. Separate products require separate packaging and shelf space, each of which raises costs.⁷ Marginal costs also vary for some products. It is cheaper to produce one pill that contains headache and pain reliever medicine than to produce two.

It is also possible that there are diseconomies in both fixed and marginal costs of offering components together. Combining features may increase costs directly by making these products more complex and much harder to make. And complexity

⁵ Evans & Salinger, *supra* note 4.

⁶ Patrick Rey, Paul Seabright, & Jean Tirole, *The Activities of a Monopoly Firm in Adjacent Competitive Markets: Economic Consequences and Implications for Competition Policy*, (2002) (IDEI Working paper); David S. Evans & Michael A. Salinger, *The Role of Cost in Determining When Firms Offer Bundles and Ties*, available at <http://ssrn.com/abstract=555818> (2004) (Working paper).

⁷ David S. Evans & Michael A. Salinger, *The Role of Cost in Determining When Firms Offer Bundles and Ties*, available at <http://ssrn.com/abstract=555818> (2004) (Working paper).

may have indirect effects as well, such as raising the likelihood of products breaking down, raising support costs for customers, and increasing the costs of repair. The marriage of computers and automobiles is an example. Owners of Dodge 2001 minivans have, according to the New York Times, “posted anguished cries ... about electronic gremlins that stop windows from rolling all the way up, that unexpectedly dim the interior lights, that drain batteries or that make engines sputter.”⁸

2. Consumers

Consumers may realize savings when getting products together, assuming they value them at all. If you like to read about sports and arts every day it is cheaper to get a newspaper with both. And if you have a cold and a headache it is more convenient to get a single package of pills. Letting the producer make choices for you saves you time as well. When we go to the hospital for surgery most of us would prefer to leave most of the choices of the components to the experts rather than do it ourselves. Downloadable music lets us pick individual songs for our collections. But many might prefer the bundles the artists and publishers put together themselves. Choice is costly because it takes time and effort to make informed decisions, ones that others may be able to do more efficiently. More generally, bundling reduces transaction and search costs for consumers.

Bundling may have disadvantages as well in some cases. Consumers may prefer to mix and match components—a common strategy in building home entertainment systems and increasingly popular for music collections. For example, while most consumers are happy to have air conditioning as standard equipment in most automobiles today, perhaps some in colder climates preferred the days when it was an option.⁹

3. Implications for Product Design

The costs for consumers and firms help explain the products that businesses actually offer from among the many they could offer. Firms have to weigh the

⁸ Tim Moran, *What's Bugging the High-Tech Car?*, N.Y. TIMES, Feb. 6, 2005, at 14.

⁹ For a discussion of bundling in automobile packages, see Evans & Salinger, *supra* note 4, at 79.

demand for a particular product offering against the costs of making it available as a stand-alone product or as part of another product. Many products are not offered at all because there is not enough demand to warrant businesses incurring the costs of producing and distributing them. Some men would no doubt prefer to get their shoes without shoelaces because they have a favorite shoelace they like to use. But the number is probably so few that it would not pay to offer this option at shoe stores. Other products are offered only separately because few people want them as a system. Although this is changing, many families buy their own ingredients for dinner rather than prepackaged meals. In other cases there is enough demand for the components and the bundle for producers to offer it both ways.

Consider a simple example. 100 consumers would pay \$10 for **A**; 50 would pay \$6 for **B** and 10 would pay \$20 for **AB**. It costs \$1 to produce each unit of **A** and **B** and \$2 to produce each unit of **AB**. Fixed costs are \$200 for each of these three products. In this case the unit cost, for meeting all demand, of **A** is \$3, the unit cost of **B** is \$5, and the unit cost of **AB** is \$22. Each component could be provided separately for a profit—since the consumer willingness to pay for each unit is greater than the cost of producing each unit (\$10 vs. \$3 for **A** and \$6 vs. \$5 for **B**). However, the bundle cannot be provided profitably because the unit costs exceed what people will pay (it costs \$22 to make **AB** and consumers will only pay \$20). The problem here is lack of demand. Not enough people want the bundle to make it profitable to provide.

Firms sometimes offer pure bundles because, even though some consumers do not want portions of the bundle, it is cheaper to sell the components together. To see the intuition consider the extreme case in which each of several types of consumers want one component but none of the others. If the fixed costs of providing each of the components is high enough, it pays to combine these together. It is cheaper to give consumers a component they do not want than to provide the component they do want separately. The manufacturer saves money and the consumer often gets a lower price than she would otherwise.

A simple example illustrates this. There are two consumers. Person 1 is willing to pay \$5 for **A** and nothing for **B**; person 2 is willing to pay \$5 for **B** but nothing for **A**. It costs the manufacturer \$2 for **A** and **B** separately. The fixed cost of offering a product at all is \$1. The manufacturer could sell a unit of **A** and **B** separately for \$5 each, collect \$10 in revenue, incur \$4 in manufacturing cost and \$2 in product-offering cost, and make a profit of \$4. Or it could sell a bundle **AB** for \$5, collect \$10 in revenue, incur \$4 in manufacturing cost and \$1 in product-offering cost, and make a profit of \$5. Bundling is the best strategy. In this case the manufacturer pockets the difference but with competition some of the cost savings would get passed on to the consumer. Moreover, if the fixed cost of offering a product was \$5 it would not be profitable to offer **A** or **B** (the additional \$4 in fixed cost wipes out the profit of \$4)—but it would be profitable to offer **AB** (the manufacturer would earn \$1 of profit). We will see later that being able to segment consumers is one of the explanations for this phenomenon. But the other one—and the one we emphasize here—is that the manufacturer can avoid the multiple fixed costs of offering separate products.

It is easy to see from these considerations why firms offer only a fraction of the products—defined by the combination of components—they could. The examples above involve just two components for which there are three possible products. With three components there would be seven possible products (**ABC**, **AB**, **AC**, **BC**, **A**, **B**, **C**); with ten there would be 1023. Even minimal fixed costs of offering these configurations to manufacturers or consumers would encourage producers to reduce the number of offerings to those for which there is significant demand. If you think about the products you buy, while you may have a great deal of choice you have infinitely less than you could have if firms did not bundle components—and things that could in principle be sold separately—together.

C. Exploiting Demand

Firms bundle components because it enables them to sell more and usually make more profits. That can be true for three demand-related reasons.¹⁰

1. Complementary Components

The “give away the razor to sell the blades” strategy is famous in business and economics. This approach is profitable because the razor and the blades are complements—a decrease in the price of one increases the demand for the other. In some cases decreasing the price of one component to nothing makes sense. The firm loses money on that component. But it stimulates the demand for the other component on which it does make money. With products that are strong complements, the profits from the positively priced component makes up for losses on the zero-priced component.

So far this does not say anything about bundling. But it often saves distribution and packaging costs to sell two goods together. If the firm is giving one away for free anyway it might as well avail itself of these cost savings. Not surprisingly, razors and blades are usually included in the same package. Consumers benefit from this.

2. Aggregating across Consumers

Firms may also find that it pays to bundle even if demands are not complementary. We already saw an example of this above. Bundling persuaded two consumers to buy a product even though each wanted only a single component. This saved the manufacturer costs.

More generally, businesses can exploit the law of large numbers when they are producing products that have many components.¹¹ Consumers place different valuations on the various features available to them. You value the arts section of the

¹⁰ William J. Adams & Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Q.J. ECON. 475 (1976); Yannis Bakos & Eric Brynjolfsson, *Bundling Information Goods: Pricing, Profits, and Efficiency*, 45 MGMT. SCI. 1613 (1999).

¹¹ See Richard Schmalensee, *Commodity Bundling By Single-Product Monopolies*, 25 J.L. & ECON. 67 (1982); Yannis Bakos & Erik Brynjolfsson, *Bundling Information Goods: Pricing, Profits, and Efficiency*, 45 MGMT. SCI. 1613 (1999).

newspaper highly while your spouse does not care much for it; your spouse values the sports section highly while you do not care much for that section. The valuations for any component can be quite dispersed across consumers with different tastes. If you combine all these components into a single product the variations tend to cancel each other out. At any given price there will be more people who will buy the bundle than would buy any component or subset of components.

This of course means that many people are getting components that they do not care for. But if it does not cost much to provide these components and if it is expensive to offer multiple product versions, bundling components together into a single product typically expands demand. These assumptions are especially likely to hold for information goods for which the marginal cost of providing the product (and any component of it) is low and the costs of developing and distributing the product is high. Newspapers are a good example. They provide many features from crossword puzzles, to astrology tables, to business, to dance that only a portion of their readers care about. But relative to the cost of producing the newspaper these features are not that expensive to add. By including them the newspaper brings in more readers at its typical price, sells more copies, and therefore covers more of the fixed costs of producing the paper.

Generally, consumers are better off as a result of such bundling.¹²

3. Price Discrimination

Despite its name, economists generally view price discrimination as benign or welfare enhancing since it enables firms to increase output and recover fixed costs.¹³ Different product combinations also enable firms to charge different prices to different consumer segments in order to extract more of their willingness to pay. A few of the examples above can be characterized this way although their key feature

¹² Yannis Bakos & Erik Brynjolfsson, *Bundling Information Goods: Pricing, Profits, and Efficiency*, 45 MGMT. SCI. 1613 (1999).

¹³ See the discussion of price discrimination in JEFFREY M. PERLOFF & DENNIS CARLTON, MODERN INDUSTRIAL ORGANIZATION 301-308 (2005).

was that the bundling strategy was driven by the need to cover costs and attract enough consumers.

The idea that bundling can be used to price discriminate dates back to a paper by Nobel-prize winning economist George Stigler. Stigler tried to explain why movie distributors required movie houses to take bundles of pictures. Suppose for Movie A exhibitor 1 is willing to pay \$8,000 and exhibitor 2 \$7,000; for Movie B exhibitor 1 is willing to pay \$2,500 and exhibitor 2 \$3,000. If the movie distributor charges a single price to the two distributors, it would charge \$7,000 and \$2,500 to attract both exhibitors; the distributor collects \$9,500 from each for a total of \$19,000. But consider how much the exhibitors would pay for both movies: A would pay \$10,500 and B would pay \$10,000. Thus if the distributor charged \$10,000 for the bundle it would collect \$20,000. It therefore makes more money.

Bundling can be used in a different way. Different groups of consumers place varying values on groups of components. It is possible to design packages that segment these consumers. Some will want the car with the sports package, while others will want the basic package. The firm can then charge a premium to groups that have a particularly high demand for a particular package, and offer an especially aggressive price to consumers that are very sensitive to price but are also willing to take the no frills deal. For this to work there must be a predictable correlation between combinations of components and demand (e.g. elastic demand, low demand for frills). A number of studies have found, for example, that automobile companies have much higher markups on luxury models than base models.¹⁴

D. Summary Optimal Product Design and Product Offerings

There is no single explanation as to why businesses offer pure components, mixed bundling, or pure bundling. The most profitable strategy depends on the

¹⁴ Steven Berry, James Levinsohn, & Ariel Pakes, *Automobile Prices in Market Equilibrium*, 63 *ECONOMETRICA* 841 (1995).

particular cost and demand situation faced by the firm as well as what the competition is doing. But there are some general tendencies.

Firms offer pure bundles of components when:

- There is little demand for other combinations of these components relative to the cost of offering them.
- The marginal cost of including components is very low relative to the additional customers that are pulled in.
- Pure bundling is an effective method for appealing to different customer segments.

Firms offer mixed bundles when:

- There is sufficient demand for a product configuration relative to the cost of offering it.
- Different bundled offerings facilitate segmenting customers.

Firms offer components without any bundles when:

- There is little demand for combining components or consumers can do this themselves very easily.
- The fixed or marginal costs of combining components are prohibitive relative to demand.

Economists have identified circumstances in which firms may not offer the product configurations that are identical to what an all-knowing planner, seeking to maximize social welfare, would do. For example, under certain assumptions firms offer too much product variety and offer bundles that are socially inefficient. Under other assumptions, they might not offer bundles that would benefit consumers. But there is no theoretical basis for concluding that there are systematic biases or biases

that can be identified, much less corrected, through regulatory intervention.¹⁵ Moreover, these possibilities should not make us lose sight of the fact that bundling of features saves producers and consumers money, provides consumers with products they want, and is often a source of product innovation.

III. ANTITCOMPETITIVE TYING CAN OCCUR ONLY UNDER SPECIAL CONDITIONS

Despite its pervasiveness, antitrust courts and regulators have fretted over the anticompetitive use of bundling for many years. Economists have found that there are, at least in theory, situations in which firms could use bundling strategically to harm competition and consumers. But, by and large, we seem to agree that most concerns about tying are misplaced.

A. Single Monopoly Profit Theorem

The famous Chicago single-monopoly profit theorem shows that, under certain assumptions, firms with monopoly power in one market do not have the incentive to attempt to extend their monopoly power to other competitive markets. Either price discrimination, which few economists find objectionable, or efficiencies, which of course we applaud, would seem to be more plausible explanations for tying.

Take the case in which a firm has a monopoly in A and consumers use the monopoly product A and another product B in fixed proportions. Examples include cars and radios, computers and microprocessors, and shoes and shoe laces. The marginal cost of supplying B is c , which equals its price under competitive supply, p_c . Consumers have a final demand for the combined product $A+B$. The monopolist maximizes profit by determining the profit-maximizing price for this combination.

¹⁵ See Evans & Salinger, *supra* note 4. See also, Bakos & Brynjolfsson, *supra* note 12.

That gives the monopolist the most profit it could possibly obtain. The monopolist can achieve this profit in several ways.

- Offer the bundle at a combined price p_c .
- Offer A only at a price $p_c - c$ and have consumers purchase B from competitive suppliers.
- Offer A at a price of $p_c - c$ and B at a price of c along with the other competitive suppliers.

From the monopolist's standpoint, it has nothing to gain by getting a monopoly in B . It would still collect the same monopoly profit based on the combined price of p_c .

Interestingly, the only incentive for the monopolist in this example is to make sure that some firm is selling B competitively. It wants to avoid what economists call the "double monopoly markup" problem.¹⁶ If another firm had a monopoly in B that firm would restrict the output of B and raise its price above c . That would tend to reduce the sales of A and hurt the A monopoly's profits. So in this case monopoly A has an incentive to create competition in B . It might do that, perhaps, by producing B itself.

Many products that might be provided as bundles, however, are not used in fixed proportions. For example, fax machines use varying amounts of ink cartridges over time and people eat varying amounts of bread when they dine. The single-monopoly profit theorem does not necessarily hold when A and B are used in variable proportions. With varying proportions, the monopolist still has incentives to want competitive supply and has limited interest in monopolizing the other product.¹⁷ However, there are possibilities for increasing monopoly profit through bundling with variable proportions that would need to be considered. In many of these cases, however, profits can be increased because bundling facilitates price discrimination.

¹⁶ See the discussion of "double monopoly markup" in PERLOFF & CARLTON, *supra* note 13, at 415.

¹⁷ With variable proportions, tying can become a means to facilitate price discrimination, although it should be noted that price discrimination can increase social welfare. See PERLOFF & CARLTON, *supra* note 13, at 321-322, 306-307.

Generally, economists do not look on such price discrimination with disapproval since it can increase social welfare (although it may not).

B. Acquiring or Maintaining Monopoly Through Tying

Not much that economists say is airtight and the Chicago-inspired view that tying was benign or efficient is no exception. Economists have identified two scenarios in which monopoly firms have the incentive and the ability to tie their monopoly product *A* to a product *B* that is not a monopoly product. Both cases only apply when *A* and *B* are not used in fixed proportions. The crux of both scenarios is that there are scale economies in the production of *B*. By foreclosing enough demand to competing producers of *B*, the monopolist denies them scale economies and captures the *B* market.¹⁸

In these cases it is possible to identify situations in which (1) the monopolist finds that it is profitable to tie *B* to *A* to foreclose the market to competing *B* suppliers and (2) raise the price of *B* higher than it would be in the absence of this foreclosure and (3) thereby reduce consumer welfare. Carlton and Perloff give the example of a hotel on an island whose guests like to play tennis.¹⁹ By tying the use of the hotel to the use of a tennis club the hotel can deny enough volume to other tennis clubs and end up with a tennis club monopoly. It will then be able to charge guests and non-guests a higher price for playing tennis.

It is also possible to find situations in which the monopolist finds it beneficial to monopolize the *B* market because it is possible that the *B* producers will evolve over time into competitors. Therefore, the monopolist engages in foreclosure to prevent an erosion of its profits in *A* rather than to obtain profits in *B*.²⁰ That was the theory behind the antitrust case against Microsoft involving an internet browser. Microsoft, the argument went, saw Netscape as a potential software platform rival to

¹⁸ Jean Tirole, *The Analysis of Tying Cases: A Primer*, 1 COMPETITION POL'Y INT'L 1 (2005).

¹⁹ PERLOFF & CARLTON, *supra* note 13, at 389.

²⁰ Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, 33 RAND J. ECON. 194 (2002).

Windows. Rather than risk the Netscape browser evolving into a competitive threat to Windows, Microsoft tried to eliminate Netscape through tying.²¹

Economists who have authored papers identifying these possible anticompetitive uses of tying have been careful to note that they are special cases and that one would need to determine whether the conditions under which they could occur apply in the particular case in question.²²

Three observations about these theories on the anti-competitive use of tying are worth keeping in mind:

- The tying strategies used by the would-be monopolist in these theories are costly. The monopolist provides a suboptimal package to consumers (it denies them choices they would like to have) and therefore sacrifices profits. It must weigh these losses against future gains resulting from foreclosure.
- These tying strategies only work if the monopolist can completely foreclose competition in the tied-good market, or at least substantially reduce it. The success of the strategy, therefore, depends on the existence of barriers to entry into the tied good market.
- Foreclosure of competition in the tied good market does not necessarily lead to lower consumer welfare.

C. Loyalty rebates and other complex pricing strategies

It is also possible to cause competitive harm through the use of sophisticated pricing strategies. First, it is possible for a firm to offer a mixed bundle but at prices that effectively force consumers to take the tied product. That would be the case if the bundle were substantially cheaper than the sum of the components, so that

²¹ This is not the place to debate this. However, my views on this can be found in David Evans, Albert Nichols & Richard Schmalensee, *An Analysis of the Government's Economic Case in U.S. v. Microsoft*, ANTITRUST BULLETIN (Summer 2001); David Evans, Albert Nichols & Richard Schmalensee, *U.S. v. Microsoft: Did Consumers Win?*, available at <http://www.nber.org/papers/w11727> (Oct. 2005) (Working paper).

²² See Carlton & Waldman, *supra* note 20. See also, Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990).

consumers pay less than the competitive price to obtain the tied product. This situation has the same economic effects as the tying case that we discussed above.

Second, it is possible for a firm to engage in “loyalty rebates” that make it prohibitively expensive for a consumer to buy any component of a bundle from a competitor. For example, suppose a “monopoly” seller gave consumers a 20 percent discount if it purchased 90 percent of its requirements for products A, B, and C from the company. In this case, a competing supplier would have difficulty competing for a significant (more than 10 percent) portion of the buyer’s business. The buyer would lose the entire 20 percent discount on all of its purchases as a result of falling below the 90 percent threshold.

Whether and under what circumstances loyalty discounts are anti-competitive is a subject of much debate among economists and in the antitrust case law.²³ On the one hand, loyalty and other volume-related discounts lead to lower prices that we do not want to discourage. On the other hand, it is possible that such discounts could preclude entry and sustain a monopoly. Whether the loyalty discounts actually do foreclose competitors is an empirical question that depends on the magnitude of the discounts and the extent to which firms can compete for the entire contract.²⁴

So what do we take from the economics literature on tying? It is possible to identify situations in which tying may be anticompetitive. These situations occur only under particular circumstances and one would have to verify that those circumstances applied, or were plausible, in a particular case. In the economics literature, though, there is no support for the view that tying is presumptively bad. In fact the literature finds that tying is presumptively good, and the authors of the paper

²³ See David Spector, *Loyalty Rebates: An Assessment of Competition Concerns and a Proposed Structured Rule of Reason*, 1 COMPETITION POL’Y INT’L 89 (2005); Bruce H. Kobayashi, *The Economics of Loyalty Discounts and Antitrust Law in the United States*, 1 COMPETITION POL’Y INT’L 115 (2005). Alberto Heimler, *Below-Cost Pricing and Loyalty-Inducing Discounts: Are They Restrictive and, If So, When?*, 1 COMPETITION POL’Y INT’L 149 (2005).

²⁴ David Spector, *Loyalty Rebates and Related Pricing Practices: When Should Competition Authorities Worry?*, in GLOBAL COMPETITION POLICY: ECONOMIC ISSUES AND IMPACTS (David S. Evans & Jorge Padilla eds. 2004); Jorge Padilla, *Rebates: Efficiency v. Foreclosure*. An economic commentary. Presented at the UCL Antitrust and Regulation Series (Apr. 26 2005).

that suggests tying might be bad are careful to point out that they have identified special cases.

IV. JEFFERSON PARISH AND AMERICAN TYING LAW

Like many unilateral practices tying has a long and convoluted history in antitrust jurisprudence.

One must go back to 1922 to find the first tying violation under U.S. antitrust law. In *United Shoe Machinery Corp. v. United States* the defendant's leases were found to contain tying restrictions that lessened competition.²⁵ Although the clauses did not explicitly prohibit the use of a competitor's shoe machine, the practical effect of such clauses effectively restricted using a competitor's shoe-machinery in combination with United Shoe's machines. United Shoe was found to be in violation of Section 3 of the Clayton Act.²⁶

A number of significant antitrust cases over the next 62 years found that companies had engaged in *per se* tying violations. The most extreme view of tying expressed on the record was by Justice Frankfurter. He thought that "tying arrangements serve hardly any purpose beyond the suppression of competition."²⁷

It was against this backdrop of hostility towards tying that the Supreme Court looked at tying in the 1984 *Jefferson Parish* case.

²⁵ *United Shoe Mach. Corp. v. United States*, 258 U.S. 451 (1922); Prior to *United Shoe*, the first tying violation was discussed in *Motion Picture Patents Co. v. Universal Film Manufacturing Co.* in 1917, which overruled *Henry v. A.B. Dick Co.* However, both cases were tried under patent infringement law and not antitrust law. In *Motion Picture Patents*, the patent holder on a movie projector sold projectors to theaters with the agreement that the theaters would only project movies supplied by the plaintiff or its designees. After a theater did not abide by the agreement to only exhibit authorized movies, the plaintiff sued for patent infringement, but the Supreme Court held that movie films were not part of the patented movie projector, and thus, no patent infringement had occurred. See *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*, 243 U.S. 502 (1917); *Henry v. A.B. Dick Co.*, 224 U.S. 1 (1912).

²⁶ Tying was first found to be a violation of Section 1 of the Sherman Act in *International Salt Co. v. United States*, 332 U.S. 392 (1947). The *International Salt Case* focused on a salt company, which was the largest U.S. producer of industrial salt. The salt company owned patents on two salt machines and conditioned the lease of these machines on the requirement that the lessee purchase all salt used in the leased machines from the appellant salt company. The Court held that such a requirement violated Section 1 of the Sherman Act and Section 3 of the Clayton Act because the agreements tended to create a monopoly and because it is *per se* unreasonable to exclude competition from a substantial market.

²⁷ *Standard Oil Co. v. United States*, 337 U.S. 293, 305 (1949).

The historical context of the *Jefferson Parish* decision is worth noting. This 1984 decision occurred seven years after the *Sylvania* decision opened the floodgates of Chicago-influenced reasoning in evaluating antitrust cases.²⁸ The *Sylvania* decision reversed the long-standing precedent that vertical territorial restraints were a *per se* violation of the antitrust laws. A few years later the scope of the *per se* rule was curtailed even further when in *BMI* the Supreme Court ruled that even some price fixing arrangements may have efficiency justifications which would warrant their analysis under the rule of reason.²⁹ Then, in *Matsushita* (1986) and *Brooke Group* (1993) the Supreme Court adopted Chicago reasoning in raising the hurdles that plaintiffs faced in bringing, under the rule of reason, predatory pricing cases.³⁰

After *Sylvania* the Supreme Court shifted almost all practices except hard-core cartel behavior into the rule of reason category and infused economic analysis into the rule of reason inquiries for virtually all practices. In *Jefferson Parish*, however, the Supreme Court left tying in a peculiar *per se* box in which tying would be automatically condemned if it flunked a new test. Let's take a look at the case.

Jefferson Parish Hospital, outside New Orleans, entered into an exclusive agreement with a group of anesthesiologists to provide anesthesiology services at the hospital. When a doctor scheduled his patient for surgery at the hospital he had to pick—or recommend to the patient—an anesthesiologist from one of these anesthesiologists. A competing group of anesthesiologists claimed that Jefferson Parish Hospital was engaging in an anticompetitive tie in violation of Section 1 of the Sherman Act.

The District Court rejected the *per se* approach in favor of a rule of reason analysis of this case. The lower court ruled the plaintiff could not prevail on a *per se* analysis because he had not made the necessary demonstration that the hospital “dominated” the market for its services. Then, under a rule of reason analysis, the court found that defendant hospital did not violate Section 1 of the Sherman Act by

²⁸ *Continental T.V. v. GTE Sylvania*, 433 U.S. 36 (1977).

²⁹ *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979).

³⁰ *Matsushita Elec. Industrial Co. v. Zenith Radio*, 475 U.S. 574 (1986); *Brooke Group v. Brown & Williamson Tobacco Co.* 509 U.S. 209 (1993).

excluding Dr. Edwin G. Hyde (plaintiff) from its medical staff because the anticompetitive effects of its closed group policy were few and far outweighed by the many benefits to patient care.³¹

The Court of Appeals for the Fifth Circuit Court reversed the District Court's judgment. It found that a *per se* approach was appropriate for the case. In particular it rejected the hospital's explanation for why the tie led to efficiencies.³² The Supreme Court agreed to hear an appeal.

The Supreme Court wrestled with what to do about tying. A five-judge majority³³ was troubled by the sweeping condemnation of tying in the previous case law. But the Court was hesitant to overturn such a long-standing body of jurisprudence. Justice Brennan noted in a separate concurring opinion that

It may, for example, be entirely innocuous that the seller exploits its control over the tying product to 'force' the buyer to purchase the tied product. For when the seller exerts market power only in the tying-product market, it makes no difference to him or his customers whether he exploits that power by raising the price of the tying product or by 'forcing' customers to buy a tied product. On the other hand, tying may make the provision of packages of goods and services more efficient. A tie-in should be condemned only when its anticompetitive impact outweighs its contribution to efficiency.³⁴

The majority also noted that, "It is clear, however, that not every refusal to sell two products separately can be said to restrain competition."³⁵ But "[i]t is far too late in the history of our antitrust jurisprudence to question the proposition that certain tying arrangements pose an unacceptable risk of stifling competition and therefore are unreasonable '*per se*.'"³⁶

The Court came up with a new test that we describe below. Applying this test if found that there was no anticompetitive tie. Justice O'Connor, along with Chief

³¹ Dr. Edwin G. Hyde v. Jefferson Parish Hospital District No. 2, 513 F. Supp. 532 (E.D. La. 1981).

³² Dr. Edwin G. Hyde v. Jefferson Parish Hospital District No. 2, 686 F.2d 286 (5th Circuit, 1982).

³³ Stevens, J., delivered the opinion of the court, in which Brennan, White, Marshall, and Blackmun, JJ., joined. Brennan, J., filed a concurring opinion, in which Marshall, J., joined.

³⁴ Jefferson Parish Hospital Dist. No. 2 v. Hyde, 466 U.S. 2, 41 (1984).

³⁵ *Id.* at 11.

³⁶ Jefferson Parish Hospital Dist. No. 2 v. Hyde, 466 U.S. 2, 9 (1984).

Justice Burger and Justices Powell and Rehnquist, agreed with the Court's decision to reverse the Appeals Court. But O'Connor argued that the case was properly analyzed under the rule of reason. She noted that "the *per se* label in the tying context has generated more confusion than coherent law because it appears to invite lower courts to omit the analysis of economic circumstances of the tie that has always been a necessary element of tying analysis. The time has therefore come to abandon the 'per se' label and refocus the inquiry on the adverse economic effects, and the potential economic benefits, that the tie may have."³⁷

The majority came up with what they saw as a compromise between the draconian view of tying taken by their predecessors and their desire to keep some semblance of a *per se* rule.³⁸ They found that tying was *per se* illegal if there were two separate products, for which the firm had market power in the tying product, and for which the tie affected a not insubstantial portion of interstate commerce. To determine whether products were separate, the majority decision said that one should look at whether the two products could exist in separate product markets with their own sufficient demand. Specifically, the court stated

The answer to the question whether petitioners have utilized a tying arrangement must be based on whether there is a possibility that the economic effect of the arrangement is that condemned by the rule against tying – that petitioners have foreclosed competition on the merits in a product market distinct from the market for the tying item. Thus, in this case no tying arrangement can exist unless there is a sufficient demand for the purchase of anesthesiological services separate from hospital services to identify a distinct product market in which it is efficient to offer anesthesiological services separately from hospital services.³⁹

Moreover, whether two products are considered separate products is not a function of whether the two products are complements or not. Specifically, the court stated, "Our cases indicate, however, that the answer to the question whether one or two products

³⁷ *Id.* at 34-36.

³⁸ See PHILIP E. AREEDA ET AL., ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION 29-33 (Vol. 5, 1996).

³⁹ *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 222 (1984).

are involved turns not on the functional relation between them, but rather on the character of the demand for the two items.”⁴⁰

Applying this test to the facts at hand, the majority decision found that anesthesiology and surgical services were separate products and that there was sufficient demand to offer anesthesiology services separately. But they also found that Jefferson-Parish Hospital lacked market power.

This denouement highlights the peculiarity of the test. On the one hand the majority, following the Appeals Court, seemed to reject various explanations the hospital gave as to why it wanted a dedicated team of anesthesiologists. On the other hand the majority found that the hospital did not have significant market power, which implies that tying could not have been an anticompetitive strategy. Thus the majority was left with no plausible explanation for why the hospital engaged in tying.

V. TYING: POSTER CHILD FOR ANTITRUST MODERNIZATION

As of 2005, very few practices really fall under *per se* condemnation. These include hard-core cartels that fix minimum prices. Since *BMI* it has been possible for groups of firms to persuade the courts to evaluate price fixing under the rule of reason if there is a plausible efficiency explanation. Among unilateral practices, only minimum resale price maintenance is *per se* illegal. In *Sylvania* in 1977 and *Khan* in 1997, the Court reversed earlier decisions in that had treated non-price vertical restraints and maximum resale price maintenance as *per se* illegal.⁴¹

Jefferson Parish left tying as a rather incompletely evolved species of unilateral practices. The decision made it easier for the defendant to request dismissal of a tying claim than the previous case law. The percentage of tying claims that were dismissed by federal district courts increased significantly in the two decades after *Jefferson Parish* compared to the preceding two decades. So the Supreme Court

⁴⁰ *Id.* at 19.

⁴¹ *Id.*; *Continental T.V. v. GTE Sylvania*, 433 U.S. 36 (1977).

imparted its increasingly skeptical view of the anticompetitive nature of unilateral practices to tying.

Table 2: Outcome of Summary Judgment Motions to Dismiss Tying Claim, 1964 - 2005

	Granted	Denied	% Granted
1964 – 1984 (Pre-Jefferson Parish)	184	46	68.66 %
1984 (Post-Jefferson Parish) - 2005	246	36	80.92%

Note: Ideally we would have liked to examine outcomes of all tying cases in the U.S. Federal District Courts. However, the Lexis database contains only cases in which the court issued an opinion. It does not contain comprehensive information on cases that went to jury trials. The majority of the court opinions we obtained were issued when a party moved for summary judgment. Therefore, we narrowed the cases to those that focused on a motion for summary judgment filed by the defendant.

Tying cases, however, continue apace. Between 2000 and 2005 more than 60 cases involving an antitrust tying claim were filed in federal courts. Indeed, the largest settlement in antitrust history—in the retailers’ case against MasterCard and Visa⁴²—came on the heels of a District Court decision that found that *Jefferson Parish* was the proper standard. The lower court ruled, as a matter of law, that the card associations failed all of the prongs of the test. It left open the possibility that the plaintiffs had to prove competitive harm to a jury.⁴³

U.S. antitrust law has made enormous strides in the last twenty years towards becoming intellectually coherent and based on sound economic analysis. In many ways it has become boring in part because there are relatively few disagreements among economists on the right approach (as distinct from the application to a particular set of facts). Economic analysis now has a preeminent place in evaluating and bringing cases, among enforcement agencies and in the courts. To the extent there is disagreement it surrounds unilateral practices.

⁴² In re Visa Check/Mastermoney Antitrust Litigation, 2003 US Dist LEXIS 4965 (ED NY).

⁴³ Dr. Edwin G. Hyde v. Jefferson Parish Hospital District No. 2, 513 F. Supp. 532 (E.D. La. 1981).

The debate, however, concerning unilateral practices concerns mainly how to conduct the rule of reason analysis. Should the profit-sacrifice test be used to distinguish predatory from non-predatory actions?⁴⁴ To what extent should the courts insist on evidence of consumer harm or infer consumer harm from the nature of the practice?⁴⁵ Should bundled rebates be subject to a full-blown rule of reason analysis or subjected to something like the *Brooke Group* test?

There is no serious debate that unilateral practices should be subjected to a *per se* test rather than a rule of reason analysis. Likewise, there is no debate among economists or legal scholars that tying should be removed from the genus of unilateral practices and placed in its own leper colony. In the last decade we have identified roughly 100 articles concerning tying in peer-reviewed economics journals and law reviews in the United States. Only one advocated the *per se* treatment of tying.⁴⁶ Moreover, not a single economist or antitrust scholar has offered a serious defense of the *Jefferson Parish* test.

More than a quarter century ago Justice O'Connor said

The time has therefore come to abandon the “per se” label and refocus the inquiry on the adverse economic effects, and the potential economic benefits, that the tie may have. The law of tie-ins will thus be brought into accord with the law applicable to all other allegedly anticompetitive economic arrangements, except those few horizontal or quasi-horizontal restraints that can be said to have no economic justification whatsoever. This change will rationalize rather than abandon tie-in doctrine as it is already applied.⁴⁷

Modern antitrust analysis does not support the *per se* condemnation of tying or the *Jefferson Parish* test. Neither should modern antitrust law. Ending the *per se*

⁴⁴ Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004); Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253 (2003); Barbara Ann White, *Evolving Antitrust Treatment of Dominant Firms: Choosing Among Antitrust Liability Standards Under Incomplete Information: Assessments and Aversions to the Risk of Being Wrong*, 20 BERKELEY TECH. L.J. 1173 (2005). Douglas Melamed, *Exclusionary Conduct Under the Antitrust Laws: Balancing, Sacrifice, and Refusals to Deal*, 20 BERKELEY TECH. L.J. 1247 (2005); Steven Salop, Section 2, Consumer Welfare Effects, and the Flawed Profit-Sacrifice Standard (May 11, 2005) (unpublished manuscript, on file with author).

⁴⁵ Howard Chang, David Evans, & Richard Schmalensee, *Has the Consumer Harm Standard Lost Its Teeth?*, in HIGH STAKES ANTITRUST - THE LAST HURRAH?, (Robert W. Hahn, ed. 2003); Timothy Muris, *Principles for a Successful Competition Agency*, 72 U. CHI. L. REV. 165 (2005).

⁴⁶ See Christopher P. Campbell, *Fit To Be Tied: How United States v. Microsoft Corp. Incorrectly Changed the Standard for Sherman Act Tying Violations Concerning Software*, 22 LOYOLA L.A. ENT. L. REV. 583 (2002).

⁴⁷ *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 2, 34-35 (1984).

treatment of tying, and the *Jefferson Parish* compromise, would be a fitting and deserving tribute to Justice O'Connor.