White paper on Vertical Restraints

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I. Introduction

A "vertical[1] restraint" is a condition on a sale other than the obligation of the purchaser to pay the price and the seller to deliver the good.When one purchases petrol for 15 pesos/liter or coffee for 100 pesos/kg, there is no vertical restraint.But virtually any deviation from such "plain vanilla" terms of sale is a vertical restraint.[2]

Because the restraints are often with respect to behavior that, *all else equal*, would be a form of competition, they often appear to be (and indeed can be) restraintson competition.However, all else is not necessarily equal.Vertical restraints are one component of a multi-faceted contract; and an assessment of likely competitive effects of vertical restraints requires an analysis of the entire vertical relationship as well as the market setting under which it occurs.

This paper seeks to distill the insights from the academic literature and the experience in other jurisdictions, both to suggest what constitutes current best practices with respect to vertical restraints and to explain areas of disagreements where controversy remains about what constitutes best practices.

In contrast to, for example, horizontal price fixing, vertical restraints are one of the difficult areas of antitrust law.Theories exist for how vertical restraints can be either procompetitive or anticompetitive.Ideally, policy makers would like a set of empirical methods to distinguish between the competing hypotheses on a case-by-case basis, but the empirical tools to apply on a case-by-case basis are not as well developed with respect to vertical restraints as they are, say, for market definition in merger analysis.Absent such tools, policy-makers would like a reliable body of evidence about the relative frequency of procompetitive and anticompetitive uses of different vertical restraints.While, as we discuss, some evidence is available, it is highly imperfect.But policy makers have to make decisions in real time.Recognizing the limitations of our current knowledge is an important step in formulating a rational policy toward vertical restraints.

Notwithstanding imperfections in our current knowledge of the competitive effect of vertical restraints, consensus exists on some basic principles.Most notably, when interbrand competition is vigorous, there are likely no anticompetitive effects from vertical restraints that restrict only intrabrand competition.As a result, vertical restraints

[1] The term "vertical" refers to the relationship between a buyer and seller. The economic relationship between firms selling complementary products is similar to the relationship between firms in a vertical buyer-seller relationship, so many of the arguments below apply as well to agreements between firms engaged in complementary activities.

[2] Arguably one exception is licensing terms for intellectual property. It is common to license intellectual property for particular uses. Such restrictions are restraints, but they are not generally included under the rubric "vertical restraint," perhaps because the use restrictions are simply a definition of precisely what the seller is selling. However, as we discuss below, licensing of intellectual property does raise issues similar to those surrounding vertical restraints.

can only substantially lessen competition when they might restrict interbrand competition and/or interbrand competition is not vigorous.The debates over what policy should be is on these latter hard cases.

> *"[…] an assessment of likely competitive effects of vertical restraints requires an analysis of the entire vertical relationship as well as the market setting under which it occurs."*

In focusing on these harder cases (or even in deciding which cases fall into the subset of hard cases), it is useful to keep in mind the proper use and potential abuse of competition statutes.Ultimately, harm to competition is the result of either collusion or the exclusion of rivals through means other than simply offering a better product and/or price.In considering an action against a vertical restraint, it is important for a competition authority to be clear on which of these effects it is alleging.Doing so can help avoid the fallacy of using the competition statutes to address what are more properly understood as contract disputes.When conflicts arise in franchise systems, franchisees sometimes complain that vertical restraints imposed by franchisors are antitrust violations.While protecting franchisees may be a legitimate objective for other aspects of public policy, vertical restraints in franchise systems that operate in competitive markets (such as fast food) are unlikely to be harmful to competition.

The remainder of this paper is organized as follows.Section II discusses different types of vertical restraints.Section III describes the evolution of academic analysis of vertical restraints, starting with the Chicago School critique of early legal hostility to vertical restraints and the Post-Chicago response.This historical development brings out the fundamental economic dilemma in vertical restraint policy of preventing uses that harm competition while not standing in the way of those that promote competition.Section IV covers a general framework based on decision theory for formulating policy.Section V reviews the empirical evidence about the competitive effects of different vertical restraints.Sections VI and VIIdescribe the continuing evolution of vertical restraints policy in the US and the EU.Section VIII discusses the different approaches in Latin America.Section IX contains conclusions.

II. Types of Vertical Restraints

1. Resale Price Maintenance (RPM)

It is common to distinguish between "price" and "non-price" vertical restraints.When a manufacturer sells a product to a retailer and restricts the price that the retailer can charge, the practice is referred to as "resale price maintenance" (RPM).RPM can be either

maximum or minimum.Maximum RPM is a ceiling on the price the retailer can charge.Minimum RPM is a floor.

> *“[…] when interbrand competition is vigorous, there are likely no anticompetitive effects from vertical restraints that restrict only intrabrand competition.”*

An arguably weaker form of a price restraint is “minimum advertised prices” (MAP).Such a policy does not literally restrict the price a retailer can charge.However, by stopping the retailer from advertising a low price, it prevents the retailer from using the item as an advertised loss-leader to attract traffic.

RPM and MAP are restrictions on the purchaser.A “most favored nation” (MFN) clauseis an example of a price vertical restraint on a seller.An MFN is a price guarantee for the buyer.It does not place any absolute restrictions on what price the manufacturer can charge another buyer.However, it requires the manufacturer to give the firm with an MFN the best price it offers any other purchaser.For example, suppose a manufacturer agrees to sell its product to a purchaser for 100 pesos per unit and also grants an MFN.If it subsequently grants a price of 80 pesos per unit to another purchaser, it must lower the price to the firm with MFN protection to 80 pesos per unit as well.

2. Exclusive Dealing and Exclusive Territories

An example of a non-price vertical restraint is “exclusive dealing.”A manufacturer might sell to a retailer on the condition that the retailer does not sell competing products.Exclusive dealing is a restraint on the purchaser.The comparable restraint on the seller is to grant to the purchaser exclusive distribution rights.If it does so, the seller cannot sell its output to any other purchaser.

In some cases, exclusive rights are limited to a particular geographic areaor use.For example, a manufacturer might grant a retailer an “exclusive territory,” which means that the retailer has the exclusive right to sell the good within the specified geographic area.If a manufacturer grants territorial exclusivity to one retailer, it necessarily imposes “territorial restrictions” on its other customers (assuming it has any).Of course, a single customer of a manufacturer might both have exclusive territorial rights and face territorial restrictions.

3. Tying and Bundling

Another class of behavior often included in vertical restraints is “tying,” which occurs when a seller conditions the purchase of one good (the “tying good”) on the purchase of another good (the “tied good”).There are two distinct forms of tying.One entails tying a “consumable” to a “durable.”An example would be printers and ink cartridges.Another would be razor handles and razor blades.The other class of tying is “package tying” or

“bundling,” in which the seller offers two or more goods in bundled form and does not offer all the individual goods separately.A common example is cable television service (as long as the cable operator does not offer each individual channel “à la carte”).

The distinction between price and non-price restraints can become blurry either when the price charged depends on conditions or when pricing is used to bring about the same effect as a non-price restriction.One example is product bundling, which is related but not identical to tying.When a firm sells a package of two or more goods together, it engages in bundling.If, however, it also sells the individual goods separately, it is not tying.Indeed, if the price of the package is merely the sum of the prices of the individual goods, then no bundling occurs in any economically meaningful sense of the term.Often, however, the price for a bundle reflects a discount to the sum of the prices of the individual goods.And if the discount is steep enough relative to the sum of the prices of the individual goods, bundling can be a “virtual tie.”[3]

Another pricing practice that can be a vertical restraint is “bundled discounts,” which are distinct from bundling (although they are often confounded).Under a bundled discount, the seller offers two separate goods to the buyer, and the price for one depends on whether the buyer also purchases the other.A well-known example in the United States is LePage’s Inc.vs.3M Co.[4] In that case, 3M sold both its brand-name “Scotch” adhesive tape and a discounted “generic” adhesive tape to retailers.The price it charged for its brand-name tape depended on whether the retailer also purchased generic adhesive tape from it.This practice is different from bundling because the brand-name and generic adhesive tape were not sold together as a package (either to the retailer or to final customers).The bundled discount was simply a pricing practice.

4. Quantity Discounts

“Quantity discounts” on a single product can also be similar to vertical restraints.One simple form of a quantity discount is a “two-part tariff,” in which the price entails an initial fee and then a price per unit.If the initial fee is high enough and the price per unit is low enough, a two-part tariff might have an effect that is similar to an exclusive dealing arrangement.A related practice is “all-units discounts,” in which the seller nominally charges a constant price per unit, but the price per unit drops *for all units* once the volume of purchases reaches a threshold.

[3] Suppose, for example, a firm sells Good A for 100 Pesos, Good B for 100 Pesos, and an A-B bundle for 101 Pesos. Technically, the seller offers Goods A and B separately, but the terms are such that it is possible that no one would choose the separate offering.
[4] 124 S. Ct. 2932 (2004),

III. The Challenge for Competition Policy toward Vertical Restraints

One can view the analysis of vertical restraints as having progressed through three stages.At first, vertical restraints were taken at face value.Under this view, a restriction on price necessarily limited price competition.An exclusive territory prevented another seller from competing in that territory.From a narrow perspective, such provisions restrict competition, and this narrow perspective was the basis for early legal hostility to vertical restraints in some jurisdictions.

In the second stage, which is sometimes associated with the "Chicago School" of law and economics, scholars questioned the underlying logic of the earlier superficial view.In their starkest form, Chicago School arguments appeared to justify *per se*legality of vertical restraints.

In the third stage, sometimes called the Post-Chicago stage, scholars formulated arguments about why vertical restraints *could* be anticompetitive notwithstanding Chicago School arguments.This third stage should not be viewed as a culmination of thinking on the subject of vertical restraints, as controversy remains over how to strike the right balance.There is little dispute that the view of vertical restraints that prevailed in the first stage was superficial and that the Chicago school arguments had some merit.Post-Chicago analysis suggested however that the stark versions of Chicago school arguments that seemed to justify *per se*legality of vertical restraints were oversimplifications.Post-Chicago arguments did not, however, imply a return to the extreme hostility of the earlier era.The challenge for antitrust policy toward vertical restraints is to find the appropriate middle ground between *per se* legality and near *per se* illegality.

1. The Chicago Critique

The Chicago School critique of the legal hostility toward vertical restraints rested on four major insights: double marginalization, the single-monopoly-profit principle, the comparative transactions cost approach, and the free-riding problem.We explain these in turn.

1.1. Double Marginalization

The double marginalization phenomenon states that when two firms have a monopoly in successive stages of a "value chain," the resulting price might be higher than would result if they were vertically integrated.Moreover, this price results in *lower* industry profits than would arise under vertically integrated monopoly.This result is counterintuitive to many because it might seem that a higher price necessarily implies higher profits.But prices can be too high from an industry perspective if they reduce demand too much (Spengler, 1950).

While we will generally avoid algebra and numerical examples in this paper, a simple numerical example illustrates the point.Suppose there is an industry with two stages (raw materials and manufacturing, say) and that a single firm operates at each stage.Demand for the final (manufactured) product is given by:

$$Q = 100 - P,$$

where Q is the quantity demanded and P is the price charged.This demand curve captures the phenomenon that the quantity demanded is a decreasing function of the price.For example, if the price is 75, the quantity demanded is 25.If the price drops to 50, the quantity demanded goes up to 50.If it drops further to 25, the quantity demand increases further to 75.[5]

For simplicity, assume that there are no production costs (at either stage).One possible outcome[6] is that the upstream firm charges a price of 50, which induces the downstream firm to charge 75.Thus the quantity (of both the raw material and the final good) demanded (and sold) is 25.The upstream firm earns 50 x 25 = 1,250 and the downstream firm earns (75 – 50) x 25 = 625.(If the downstream firm takes the upstream price of 50 as a given, then a price of 75 maximizes *the downstream firm's* profits.)Combined profits are therefore 1,875.

Note, however, that a downstream price of 50 would result in a quantity of 50 being purchased, in which case industry profits would be 2,500.That is, a lower price, which would benefit consumers, would also increase industry profits.This result is referred to as "double marginalization" because the downstream firm takes a margin over what it perceives to be its marginal cost, which includes the margin taken by the upstream firm.

Figure 1 is a graphical representation of this point. If the quantity sold is 25 and the price charged is 75, the upstream firm would earn the area IEFG, while the downstream firm would earn the area BIGH, where the area BEFH represents the combined profits. If the quantity sold is 50 and the price charged is 50, the industry profits would be represented by the area of CDFG, which is larger than BEFH. Notice that the additional profits the downstream firm earns by charging 75 rather than 50 (represented by the area BIGH) is always smaller than the additional profits the upstream firm would earn if the final price of the good were 50 rather than 75 (represented by the area CDEI).

[5]There is no independent demand curve for the intermediate input. Rather, the demand for the input is a "derived demand," i.e., it is derived from the demand for the final good.
[6] There is a range of possibilities that depend on the precise set of assumptions made. For this case we consider that the marginal cost for the industry is equal to zero.

1.2. The Single Monopoly Profit Principle

One general concern about vertical restraints is that they are ways of *leveraging market power* at one stage of production to another.The single monopoly profit principle casts doubt on the generality of that incentive.

Returning to the numerical example, suppose that the downstream stage, rather than being served by a monopoly, is “perfectly competitive.”In other words, the number of downstream firms is so large that competition drives the price per unit down to the cost per unit.

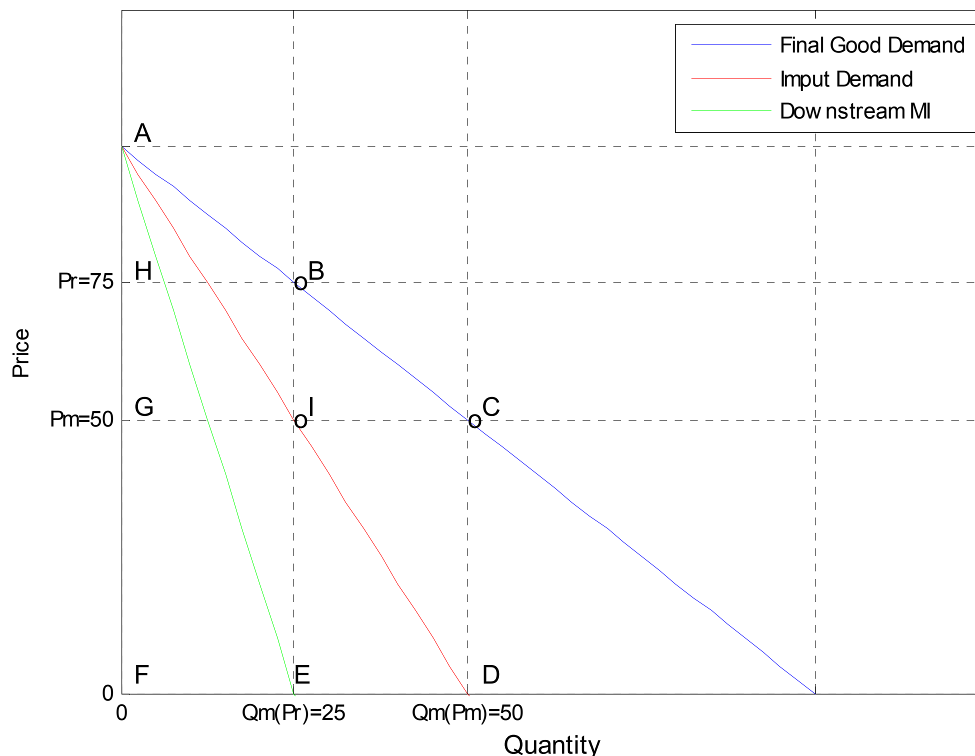

Figure 1

Given the above assumptions, the only cost the downstream firms incur is the need to purchase the input from the upstream monopolist.Suppose the monopolist charges 50, which would in turn imply that the price of the final good would also be 50.The quantity demanded would be 50.Total industry profits would be 50 x 50 = 2,500, and these profits would accrue entirely to the upstream monopolist (represented by the area CDFG in Figure 1).

Now consider whether the upstream monopolist has an incentive to integrate downstream, thereby monopolizing the downstream stage.Since it is the only source of the upstream input, nothing would stop it from doing so.But integrating downstream

would not allow it to earn higher profits.As a vertically integrated monopolist, it would also charge 50, sell 50, and earn profits of 2,500.

The single monopoly profit principle is that a monopoly over one stage of an industry is just as good as a monopoly over the entire industry provided that the remaining stages of the industry are competitive.It does not imply that a monopolist at one stage is incapable of monopolizing adjacent stages, but it casts at least some doubt on monopoly leveraging as an explanation either for integrating into or imposing contractual restraints on adjacent stages.

1.3. Transactions/Organization Costs

Vertical restraints arise because more than one firm operates along the value chain from raw materials to final consumer.That is, the process is not completely vertically integrated.In evaluating vertical restraints, it is useful to consider why we do not routinely observe complete vertical integration.

The answer to the question is not nearly as obvious as it might initially seem.In his seminal article, “The Nature of the Firm,” Ronald Coase(1937) provided a key insight that has guided much subsequent thinking about the issue.Coase observed that vertical integration and arms-length contracts are alternative forms of organizing successive stages of activityand that both entailed costs.Coase asserted that the choice between vertical integration and arms-length contracts depended on which was the lower-cost form of organization.By itself, Coase’s assertion was no more than a hypothesis, but it gave rise to a focus on the cost of writing and enforcing contracts and on organizational costs (as distinct from the direct production, transportation, and distribution costs that play prominently in most economic analysis).

Coase’s article, with a substantial boost from the work of Oliver Williamson (1975), has given rise to the burgeoning field of transaction cost economics.Arguably the most central idea in this field is that what matters about contracts and organizations is what incentives are built into them.Consider, for example, why franchise systems exist.Franchising entails vertical separation between a franchisor and its franchisees.There is virtually unanimous agreement that franchise systems have been successful in part because franchisees who own their businesses may work harder and make better decisions than they would if they were salaried managers for a vertically integrated company.But efficient operation of a franchise system requires giving franchisees the appropriate incentives, and “plain vanilla” contracts may not be sufficient for doing so (Matthewson and Winter, 1984,Blair and Lafontaine, 2005).

1.4. The Free Riding Problem

In the context of the literature on vertical restraints, “free riding” refers to efforts by one firm (“A”) to reap the benefits of expenses (such as marketing) incurred by another (“B”).“A’s” free riding can create economic inefficiency because it reduces “B’s”incentives

to incur these expenses.One class of explanations for the efficiency created by vertical restraints entails eliminating free riding.

One class of free-riding that a vertical restraint might address is the provision of pre-sale service such as having sales people to demonstrate how to use a device (Telser, 1960).If a retailer cannot charge directly for pre-sale service, its incentive to provide it comes from the margin it expects when it does make a sale.If "A" is a nearby store that does not provide (and therefore does not incur the expense of) pre-sale service, it might be able to undercut "B" on price.Customers might then go to "B" for pre-sale service and then go to "A" to get the better price.If so, "A" is free-riding on "B."Granting "B" an exclusive territory is one way to prevent such free riding.Minimum RPM might be as well, as preventing discounting can eliminate the incentive consumers have to buy from a store other than the one that offers pre-sale service.

Another class of free riding can arise in franchise systems that promote an image of quality.A good example is fast-food restaurants that are independently-owned businesses that appear to consumers to be part of a single company.The success of the brand can depend on its reputation for cleanliness, speed of service, and food freshness, all of which are expensive to maintain.Each individual franchisee might have an incentive to cut corners on these expenses, which can in turn damage the reputation of the entire franchise system.Vertical restraints on the behavior of franchisees (such as requirements to buy supplies from approved suppliers) can eliminate the incentive for individual franchisees to free ride on the reputation created by expenses incurred by other franchisees.

2. Chicago Perspectives on Specific Vertical Restraints

These four ideas are the basis for a more tolerant treatment of vertical restraints than that suggested by the narrow perspective.In this section, we discuss the implications of these fourideas for the major classes of vertical restraints.

2.1. Resale Price Maintenance

Recall that there are two distinct forms of RPM:maximum and minimum.The concept of double marginalization is key to understanding both why companies might wish to impose maximum RPM and why there should be no presumption that the practice is harmful.

To see this, return to the numerical example above with the assumption that a monopolist serves each of the two stages.Recall the possible outcome when the upstream firm charges 50 for the intermediate input, the downstream firm charges 75, for the final good, the quantity sold is 25, and industry profits are 1,875, with 1,250 going to the upstream firm and 625 to the downstream firm.Recall also that a price of 50 for the final good maximizes industry profits at 2,500.

The upstream firm can induce the downstream firm to cut its price (*i.e.*, the retail price) by lowering the upstream (or wholesale) price.Doing so will increase industry profits.However, the upstream firm has no incentive to do so without a vertical restraint because its profits will drop.For example, if it lowered its price to 40, the downstream firm would maximize its profits by charging 70.The quantity sold would be (100 – 70) = 30, resulting in downstream profits of (70 – 40) x 30 = 900 and upstream profits of 40 x 30 = 1,200.Combined industry profits are higher at 900 + 1,200 = 2,100, but the upstream firm's profits drop from 1,250 to 1,200.

Suppose, however, the downstream firm combines its price reduction to 40 with a maximum RPM policy that the downstream firm can charge no more than 60.If so, the quantity sold will be 100 – 60 = 40, resulting in downstream profits of (60 – 40) x 40 = 800 and upstream profits of 40 x 40 = 1,600.If we compare the outcome with maximum RPM to the outcome without a vertical restraint, consumers are better off (because the price is 60 rather than 75) and the profits of both firms are higher (1,600 compared to 1,250 for the upstream firm and 800 compared to 625 for the downstream firm).Everyone wins.

Minimum RPM is a more puzzling case.The question one wants to ask is why a manufacturer has an incentive to impose minimum RPM.Initially, it might seem that the higher retail price secures a higher price for the manufacturer.But the manufacturer gets the wholesale price, not the retail price.Thus, the retail price only affects the quantity the manufacturer sells, not the margin per unit.For a given wholesale price that a manufacturer charges a retailer,the manufacturer would seem to benefit from the increased sales that would likely result from a reduction in the retail price.To the extent that it makes sense that a manufacturer would sometimes impose maximum RPM to eliminate double marginalization, it might seem paradoxical that other manufacturers seek to mandate double marginalization by imposing minimum RPM.

But manufacturers presumably impose minimum RPM because it is in their economic interest to do so.Thus, the simple assertion that minimum RPM must harm consumers because it raises prices is problematic since, without more, the theory also implies that it harms the manufacturer that imposes it.Without ascertaining any additional effects of minimum RPM that make manufacturers want to impose it, we cannot be confident in an assessment of the effect on consumers.

Because, all else equal, manufacturers would seem to benefit from lower retail prices, antitrust practitioners – both lawyers and economists – have considered alternative explanations for why a manufacturer might impose RPM or grant territorial exclusivity.The leading explanation is that manufacturers rely on retailers for services that are difficult to contract for directly and that can give rise to the "freerider" problem mentioned above.

For example, manufacturers might want retailers to engage in pre-sale service such as displaying and demonstrating a product.Any retailer who provides this sort of service must recover the cost.The free rider problem can occur if customers go to a store that provides pre-sale service to learn about a product and decide on what to purchase, and then go to

another store that can afford to offer a lower price because it does not offer or, therefore, incur the cost of that service.Minimum resale price maintenance can eliminate the incentive for consumers to seek out a better price from a retailer other than the one that provides pre-sale service

Originally, it was believed that this explanation was most plausible for technically complex products (like electronics).In many cases, however, RPM (if legal) arises for items such as clothes or leather goods, products that consumers can easily understand without the technical help of sales staff.However, as Marvel and McCafferty (1984) argued,pre-sale service can entail creating an appropriate image for a product by displaying it in an attractive manner or in an expensive location.Some retailers have a reputation for offering high quality goods.Consumers might consider carriage of a good by such stores to be a signal of quality.Maintaining this image – perhaps through store locations or perhaps by providing an attractive retail environment –can be expensive.Absent RPM, customers might visit high quality retailers to see what they offer and then look to buy the same items at discount retailers with less expensive displays or locations.Minimum RPM can prevent off-price retailers from freeriding on the reputation of retailers that give the items they carry an implicit endorsement of quality.

To the extent that manufacturers impose minimum RPM to secure services from retailers, one might argue that it has alternative, less anticompetitive means for doing so.For example, one might argue that it should simply contract for such services directly.In assessing such arguments, however, one must give due consideration to the insights of the comparative transactions cost literature.Solving the problem through direct contracting requires specifying terms, enforcement activities (through costly monitoring), and the costs associated with resolving disputes (including the risk that a court might fail to enforce contractual terms).

2.2. Most Favored Nations Clauses

MFNs are in some ways an anomaly among vertical restraints.The narrowest possible perspective on vertical restraints such as minimum RPM suggests that they restrict competition and harm consumers.A broader perspective is then needed to understand why they mighton balance benefit consumers.From a narrow perspective, an MFN appears to benefit consumers as it creates circumstances under which a retailer might secure a discount from a manufacturer which it might then pass on to consumers.It is the (somewhat) broader perspective on MFNs that suggests why they might be harmful.The need to share a discount given to one customer with other customers can discourage a seller from providing discounts to any seller at all and thus can serve as a commitment not to offer discounts at all.

The arguments for tolerating MFNs lay in transactions costs.For a variety of reasons, firms might want to enter into long run contracts.One reason is simply that writing contracts entails costs.Long term contracts can reduce the frequency with which firms incur these costs.In addition, the economic relationship between firms operating at

successive stages might require one or both to make long run investments.One or both might be reluctant to do so without contractual assurances that cover all or at least a substantial portion of the life of an investment.One of the challenges in writing long term contracts is, however, that it is hard to anticipate all contingencies that might be relevant for deciding on terms.Pricing is typically one of the key provisions in any long term contract.There are many reasons, however, why the prices parties would agree to would change over the life of a contract.One obvious reason is that the supplier's costs might change because of either changes in input prices or technological improvements.Firms do sometimes include price adjustment clauses that depend on easily observable factors (such as a price index), but this approach might not always be practical.An MFN can be a relatively simple way for a seller to commit to charging a buyer prevailing market rates.

2.3. Exclusive Dealing

Holding constant all other terms of a contract between a seller (i.e.a manufacturer) and a buyer (i.e.a retailer), exclusive dealing restricts competition.It prevents other manufacturers from competing in the intermediate market to make sales through the retailer and it prevents the retailer from competing in the final market by selling other goods.

The perspective of holding all other aspects of the arrangement constant is, however, too narrow.First of all, because exclusivity imposes a cost on the retailer, a manufacturer cannot generally impose it without giving up something in return.A coherent theory of anticompetitive harm from exclusive dealing must therefore explain why the benefit the manufacturer gets from exclusivity exceeds the cost imposed on the retailer.Otherwise, the cost to the manufacturer would likely exceed the benefit.Put another way, one cannot explain exclusive dealing just by arguing that it benefits the seller.Rather, for mutually agreeable terms to include exclusive dealing, exclusivity must be in the joint interest of the buyer and seller.Second, the mere fact that the seller has market power is not sufficient to establish that exclusivity is in their mutual interest.At least in an informal way, the single monopoly profit principle is relevant.Market power might give the seller the ability to impose exclusivity.However, it only has an incentive to do so if it can earn higher profits with exclusivity than it could by charging the simple monopoly price for its product and not requiring exclusivity.

The answer to why exclusive dealing can be in the mutual interest of the buyer and seller can lie in transactions costs.As with minimum RPM, it is necessary to evaluate the entire economic relationship between the buyer and seller.To the extent that the manufacturer relies on (or wants to rely on) the retailer for services and it is difficult to write and enforce contracts that stipulate the appropriate level and nature of services, then exclusivity might provide the retailer with stronger incentives to promote the manufacturer's product than would be the case without exclusivity.

2.4. Exclusive Distribution Rights

Exclusive distribution rights are the counterpart to exclusive dealing.Rather than being a constraint on the retailer, they constrain the manufacturer.When the firm with exclusive distribution rights does a poor job, the exclusivity can impose a high cost on the manufacturer.An important example is carbonated soft drink industry in the United States.In its earliest days, Coca-Cola was primarily a “fountain drink” consumed from a glass at the time of purchase.Largely as an afterthought, Coca-Cola granted exclusive territorial bottling rights (virtually for free) to promote packaging for home consumption.In later years, Coca-Cola was dissatisfied with some of its bottlers and might have preferred to allow other bottlers to sell Coca-Cola in their territories, but was contractually bound not to do so.This example and others like it beg the question of why a manufacturer would ever commit itself not to sell to competing retailers.

The standard explanation is that exclusive distribution rights are necessary to provide adequate incentives for brand promotion.To continue with the soft drink bottling example, the local bottler might get involved in a wide variety of promotional activities, such as taking out newspaper, radio, and television advertisements and sponsoring community activities.To the extent that these activities promote the brand throughout the bottler’s service territory, maintaining adequate incentives to the bottler to undertake promotions requires that it benefit from the incremental sales.

2.5. Tying

As described above, there are two distinct forms of tying – tying for metering (i.e., consumable-to-durable tying) and packaged tying.The rationales for these are different.

The Chicago critique never challenged the notion that tying a consumable to a durable could be a strategy for usage was sensitive pricing.There is some debate as to whether this should be viewed as a problem from the standpoint of the antitrust laws.If, in the absence of tying, the market for the consumable would be perfectly competitive, then the predictable consequence of tying is that the consumable becomes more expensive.However, if the durable seller ties the consumable to the durable, the opportunity to sell the more expensive consumable to users will generally induce it to charge a lower price for the durable.This is why, for example, computer printers are sometimes so cheap.The sellers are willing virtually to give them away in order to be able to sell toner cartridges.

Putting aside the pricing implications of usage-basedpricing, a potential efficiency argument concerns the fact that the durable and consumable are part of a system.When the system fails, there can be ambiguity as to whether the cause lies in the durable or the consumable.If there is to be legal action to assess liability, additional litigation costs can arise in assessing blame.Even without litigation, a durable manufacturer might want to tie to prevent damage to its reputation when consumers use inferior supplies and blame the durable producer.

Package tying, i.e., the practice of selling two goods in a package and not making at least one of the goods available separately, is an entirely different phenomenon from metering tying.On the surface, it appears to be a way for a firm with monopoly power over one good to extend its monopoly to another good.For such an explanation to be compelling, however, one needs to explain why the single monopoly profit theorem does not apply.For example, suppose a firm has a monopoly over good A and that the monopoly price (when it sells A separately) is 10.The fact that 10 is the monopoly price means that charging 11 would yield lower profits than charging 10.As discussed above with respect to double marginalization, it might initially seem counterintuitive that a higher price can yield lower profits, but it can precisely because a price that is too high chokes off demand.Now suppose there is a second good, B, that has a marginal production cost of 5 and that B is available in a competitive market (which implies that the price is 5).Consider whether the A monopolist can increase its profits by tying B to A, which means selling A only in a package with B.If it charges 15 for the package, the higher price just compensates the monopolist for the marginal cost of B, so its profits would only increase if demand increased.But it is not clear why anyone would buy the A-B package at 15 who would not have purchased A separately at 10.Indeed, suppose some customers have placed no value on B.For them, the effect of the tying is simply to increase the price of buying A (which they do want) to 15.But if 10 is the profit-maximizing price for A, then an effective price increase is likely to cause a reduction in demand.

The literature has for many years contained explanations for tying other than monopoly leveraging, but these explanations were not persuasive explanations for *tying* as distinct from *bundling*.One explanation is that placing two goods into a single package saves costs.This is the standard explanation for why shoes are typically sold in pairs.A related explanation is that the bundling of goods that many people want to purchase together provides convenience.A third, apparently more sophisticated explanation, was provided by the Nobel-prize winning economist George Stigler(1964) in the context of the block-booking of movies - the practice by movie distributors of offering movies to movie theaters in packages rather than on a movie-by-movie basis.Stigler hypothesized two movies, C and D, and two movie theaters, I and II.Perhaps because of different demographics, Theater I is willing to pay 10 to display movie C and 1 to display movie D.In contrast, Theater II is willing to pay 2 for Movie C and 10 for Movie D.For simplicity, assume that the marginal cost of displayinga movie is 0.With à la carte pricing, the distributor charges 10 for Movie A and sells it just to Theater I to get a profit of 10.To induce Theater II to buy Movie C as well, it would have to lower its price to 2, which would yield a profit of 2 x 2 = 4.The price reduction to induce Theater II to buy Movie C is too great to make it worthwhile.By similar reasoning, a price of 10 also maximizes the distributor's profits from selling Movie D on an à la carte basis.Stigler argued that by tying the two movies together and selling them only as a package, the distributor could get both to buy at a price of 11.The standard interpretation of the Stigler argument is that tying can be a tactic to practice price discrimination.There is no general presumption that price discrimination is harmful to economic welfare, and it is not even necessarily harmful to consumers.

Each of these explanations suffers from the same flaw, however.They are explanations for bundling, not tying.The first two explain why a firm would package two goods together for people who want to buy both (which is bundling), but it does not explain why it would refuse to sell each good on a stand-alone basis to any customer who did not want the other component of the package.(One might suspect that in some cases, everyone wants both parts of the package, but this turns out not even to be entirely true of shoes.)With respect to Stigler's explanation, "mixed bundling" is in general an even more effective price discrimination strategy than "pure bundling," and mixed bundling is not tying.

To come up with a Chicago-type explanation for package tying, the challenge is not to explain why firms sell packages.It is to explain why they do not sell the separate goods as well.To understand this behavior, which is completely commonplace, one needs to recognize that virtually all firms sell only a small subset of the distinct products that they could conceivably sell.The most likely explanation is that having too complex a set of product offerings imposes additional costs.As a result, firms need to decide what to sell and what not to sell, and the decision can be quite complex.In some cases, firms will bundle the combinations of goods that substantial numbers of consumers want.In other cases, though, companies might sell packages of goods where virtually no one wants the entire package, but everyone (or at least a substantial number of people) find enough components of the package attractive to be willing to buy it.With this strategy, firms can, with a single package, satisfy the demand of a diverse set of consumers.The phenomenon is not rare.Any newspaper that contains multiple sections that the newspaper does not sell separately is a tied product.Virtually no one wants all the sections (or at least all the articles) in a newspaper, but the cost of customizing versions to give each customer only the newspaper content he wants would be prohibitively expensive.

2.6. Complex Pricing Strategies

Suppose that Manufacturer A is the only possible supplier of widgets to Retailer B, that A'sprofit-maximizing price of a widget is 10 pesos, and that B would buy 1 million widgets from A at a price of 10 pesos per unit.A also sells gadgets for 5 pesos per unit.Competing suppliers of gadgets charge 4 pesos/gadget.B would typically buy 100,000 gadgets per year at a price of 4 pesos/gadget.

From these facts alone, B would not buy gadgets from A.However, suppose Aprices its products as follows.Its undiscounted prices are 11 pesos for widgets and 5 pesos for gadgets.However, if B buys its gadgets from A, then A gives B a discounted price of 10 pesos for widgets.This strategy is called a bundled discount because A links its discount on widgets to the purchase of another product, gadgets.For completeness, suppose that at a price of 11 pesos per widget, B would have purchased 900,000 widgets.[7]

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[7] Again, to simplify the exposition, suppose that A incurs no costs of producing and selling widgets. Then, its revenues and therefore profits at a price of 11 pesos per widget is 900,000 widgets x 11 pesos/widget = 9.9 million pesos. At a price of 10 pesos per widget, its profits are 10 pesos x 1,000,000 widgets = 10 million

Given this pricing scheme, one option for B is to buy just widgets from A at a price of 11 pesos and gadgets from another seller at 4 pesos per gadget.If so, its total expenditure would be11 pesos/widget x 900,000 widgets + 4 pesos/gadget x 100,000 gadgets = 10.3 million pesos.Alternatively, suppose it buys 900,000 widgets and 100,000 gadgets from A.As a stand-alone decision, buying the 100,000 gadgets from A instead from a competitor costs B 100,000 pesos, but the savings from the widget price reduction of 900,000 pesos more than makes up for the higher gadget price.In effect, with this pricing scheme, A appears to pay B 800,000 pesos to take 100,000 gadgets from it.Given that incentive, no stand-alone gadget producer can compete.(In fact, the incentives to B are even greater because it can increase its profits by increasing its purchases of widgets to 1 million and reducing its purchase of gadgets below 100,000.[8])Note, however, that in this example, the *discounted* price is the monopoly price.Thus, A does not sacrifice any widget profits to induce B to buy gadgets from it.

To be sure, a variant of the single monopoly profit critique theoretically applies to this example.Suppose that A could charge B 11 pesos/widget for the first 900,000 widgets and 10 pesos/widget for all widgets above 900,000.When such a "non-linear" pricing scheme is available, then reducing the price of the first 900,000 widgets from 11 pesos/widget to 10 pesos/widget reduces A's profits by 900,000 pesos.This is far more expensive to A than just cutting its price of gadgets to the market price.Bundled discounts cannot help A increase its profits if it has complete flexibility in charging non-linear prices for widgets.However, this is a much weaker critique than the conventional single-monopoly profit argument since, as a practical matter, firms typically cannot charge optimal non-linear prices.

Other complex pricing schemes raise issues similar to bundled discounts.One is "all-units" or "cliff" discounts.As an example, in the previous paragraph, we hypothesized a pricing scheme of 11 pesos per widget for the first 900,000 widgets and 10 pesos per widget for all subsequent widgets.Now consider the alternative pricing schedule of 11 pesos per widget if total purchases are 900,000 or less and 10 pesos per widget *for all widgets* if total purchases are 900,001 or more.The difference is that once the buyer meets the threshold level of purchases to receive the discount, the threshold applies to all units rather than just the incremental units.The difference is crucial.With the all units discount 900,000 widgets cost the buyer 11 pesos/widget x 900,000 widgets = 9,900,000 pesos.In contrast, 900,001 widgets cost the buyer 10 pesos/widget x 900,001 widgets = 9,000,010 pesos.The seller in effect pays the buyer nearly 900,000 pesos to take the additional unit.From an alternative perspective, the cost of 990,000 widgets is identical to the cost of buying 900,000, so the buyer in effect gets 90,000 for free.

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pesos. Thus, this is consistent with the assumption that 10 pesos/widget is the price that maximizes A's widget profits.

[8] The assumption that B would buy 1 million widgets at a price of 10 pesos per widget implies that 1 million widgets is B's profit-maximizing level of purchases at that price.

When a cliff discount is steep enough, it is a form of “quantity forcing.”The literature does contain articles that try to justify such contracts as ways to provide incentives to retailers for otherwise unobservable aspects of selling effort.See Kolay, Shaffer, and Ordover (2004).But the theoretical justification in that paper probably is not persuasive enough to overcome the consensus that, as the authors put it, “it is difficult to understand why a manufacturer would ever charge less for a larger order if its intentions were benign.”[9]

In short, there is not really a compelling Chicago-school argument for why practices like bundled discounts, cliff discounts, and quantity forcing are efficient or promote competition.

> *“A coherent theory of anticompetitive harm from exclusive dealing must therefore explain why the benefit the manufacturer gets from exclusivity exceeds the cost imposed on the retailer.”*

3. Why does antitrust law question the use of vertical restraints?

On one level, the Chicago School critique posed penetrating questions about vertical restraints policy.It brought to the forefront the fundamental distinction between vertical and horizontal agreements and posed the question of why vertically related firms had an incentive to coordinate in ways that harm consumers.On another level, the Chicago School critique rested on a set of formal models, and the assumptions underlying these models were themselves quite limited.An apparently (although not merely) technical assumption was that the underlying technology of production “downstream” was “fixed proportions,” which ruled out the possibility that, absent vertical restraints or vertical integration, downstream firms would respond to upstream monopoly prices by substituting away from a monopolized input.An early set of critiques of the Chicago School view of vertical integration explored the sensitivity of models to changes in this assumption.More fundamentally, though, they assumed either perfect competition or monopoly at successive stages.As the difficult antitrust issues tend to arise in oligopolistic settings or in settings when a dominant firm faces actual or potential small challengers, the Chicago School models did not necessarily capture the cases that antitrust enforcers had to deal with.

Not all the challenges to the Chicago critique rest on formal economic models.Minimum RPM is probably the leading example.While models exist of how RPM

[9] Kolay, Shaffer, and Ordover (2004), p. 30.

can be exclusionary, the main reason to question whether minimum RPM is necessarily pro-competitive is that it can facilitate collusion.The conventional framework for thinking about collusion is Stigler's seminal article, "A Theory of Oligopoly"(1964).The Stigler framework starts with the observation that oligopolists have an incentive to collude, but it goes on to argue that collusion can only be successful if oligopolists can detect and then punish "cheating."The Stigler framework for analyzing collusive effects therefore focuses on how easy it is to detect and punish cheating on (possibly tacit) collusion.In general, prices in intermediate markets are not publicly available, which makes it harder to detect secret price cuts.The incentive to cut prices is to get more business.When a company imposes minimum RPM, it reduces (and possibly eliminates) the incentive to cut wholesale prices because the resulting retail price reduction is generally not enough to increase the quantity sold.When competing upstream firms in an oligopoly all impose RPM (or the related but weaker alternative, MAP), one plausible explanation is that they are doing so to facilitate collusion.This argument rests at least informally on the model underlying the Stigler framework, but the argument is less formal than those in what is generally labeled as the "Post-Chicago" literature.

The Post-Chicago literature is a series of models of vertical restraints (and vertical mergers/integration) under assumptions about asymmetric information and market structure other than perfect competition or pure monopoly without the threat of entry.In general, these models established that one can formulate an economically rigorous model in which vertical restraints might be anticompetitive.There is substantial debate over what to make of these models.The underlying assumptions tend to be very *stylized*.They are what Franklin Fisher (1989) referred to as "exemplifying theory" and not what John Sutton (1991) referred to as "robust theory."We describe some of these models below to give the reader a basis for judging their relevance for policy.

In evaluating these models, it is important to distinguish between what might be labeled as anticompetitive from the standpoint of academic economics and what counts as being anticompetitive from the standpoint of antitrust enforcement.One relevant distinction is whether the underlying objective is assumed to be the maximization of total welfare or consumer welfare.[10]Many economists favor a total welfare standard, but maximization of consumer surplus might better characterize the objective of antitrust in many jurisdictions.

Whatever the underlying objective, one needs to be clear on the reason harm arises in models of vertical restraints.Is it a coordinated or unilateral effect?And, to the extent it is

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[10]If the objective is maximizing consumer surplus, another relevant distinction is whether the objective is what former EC Competition Commissioner Neely Kroes labeled "dynamic consumer surplus" (as distinct, presumably, from "static consumer surplus). While the qualifier dynamic seems to add a level of sophistication, it is code for protecting competitors in the name of protecting competition (on the theory that doing so will increase consumer surplus in the future despite lowering it at present). The word "dynamic" when applied to antitrust is analogous to the word "fair" when applied to international trade.

unilateral, does the effect arise because a firm excludes rivals or because it simply exploits its market power effectively?In Europe, abuse of dominance can be either "exclusionary" or "exploitive."While both in principle violate Article 101, exploitive abuse cases are rare.In the United States, more effective exploitation of monopoly does not violate the Sherman Act(Crane andMirralles, 2010).Given this distinction, most of the analysis we consider in this paper is related to the exclusionary and collusive effects of the vertical restraints.

Before getting into the Post-Chicago arguments, let us consider the Chicago School arguments for why vertical restraints, and exclusive dealing in particular, are not necessarily exclusionary practices.The argument rests on a model in which an incumbent firm has the possibility of offering an exclusive contract to its distributors in order to block the entrance of a potential competitor that can supplant it entirely.A key issue in the model is whether the potential competitor is more or less efficient than the incumbent.

Suppose that the demand of the distributor is D(p)=100-p and the marginal cost of the incumbent isc_I = 10. If the incumbent enjoys a monopoly, its profit would be $\pi^m=(100-c_I)^2/4=2,025$ (represented by the area BDEF in Figure 2) and the distributor would get a surplus equal to $CS^m= (100-p_m)^2/2 = (100-c_I)^2/8$ (represented by the area ABF in Figure 2). Now suppose that the marginal cost of the entrant is$c_E = 0$ ($<c_I$) such that the entrant can set a price below c_I and get all the market. Then, if the entry occurs, the distributor would get a surplus equal to $CS^e= (100-c_I)^2/2$ (represented by the area ACE in Figure 2). In order for the distributor to be persuaded to stay with the incumbent, it would ask for a minimum transfer of $t_{min} = CS^e- CS^m = 3(100-c_I)^2/8$ (represented by the area FBCDE in Figure 2). However, the maximal compensation that the incumbent would be willing to pay for the exclusivity contract,$t_{max} = \pi^m$ (represented by the area FBDE in Figure 2) is lower than the minimal amount, t_{min}, that the distributor would be willing to receive (i.e., $t_{min}= (100-c_I)^2/8=3,037>t_{max}=(100-c_I)^2/4=2,025$).

The reasoning of this example can be explained as follows: In order to get the distributor to accept an exclusive contract, the incumbent should offer a profit plus a transfer that is at least as generous as the profit that the distributor would obtain without the exclusivity contract after the entrance of the more efficient entrant.The transfer that the distributor desires (represented by the area FBCDE) is, however, greater than what the incumbent could obtain from the monopoly power that it would attain by preventing the competitor's entrance (represented by the area FBDE).

With respect to vertical restraints that are exclusionary, two general ideas have emerged from the Post-Chicago literature.The first relates to a fundamental issue in antitrust enforcement, which is how to distinguish conceptually between anticompetitive exclusion and what might be termed "procompetitive exclusion."The latter occurs when one or more firms must exit (or are able to enter) a market because a firm in the market offers a better value.For example, to the extent that maximum RPM lowers prices for a good and thereby prevents less efficient rivals from entering, exclusion occurs but as a result of competition.A conceptually clean way of distinguishing anticompetitive from

procompetitive exclusion is whether it increases rivals costs(Salop and Scheffman, 1983 &Krattenmaker and Salop, 1986).Put simply, if a manufacturer imposes a vertical restraint on a retailer simply to induce the retailer to provide it with better services, and it is the superior offering that excludes rivals by making them unable to compete successfully, the exclusion is pro-competitive, not anticompetitive.On the other hand, suppose a manufacturer offered to pay a higher price for an input in return for the input supplier not supplying the manufacturer's rivals.To the extent that competing manufacturers did not have alternative suppliers, then the effect of the exclusive dealing contract would be to raise rivals' costs rather than lower the cost of the firm engaged in the vertical restraint.

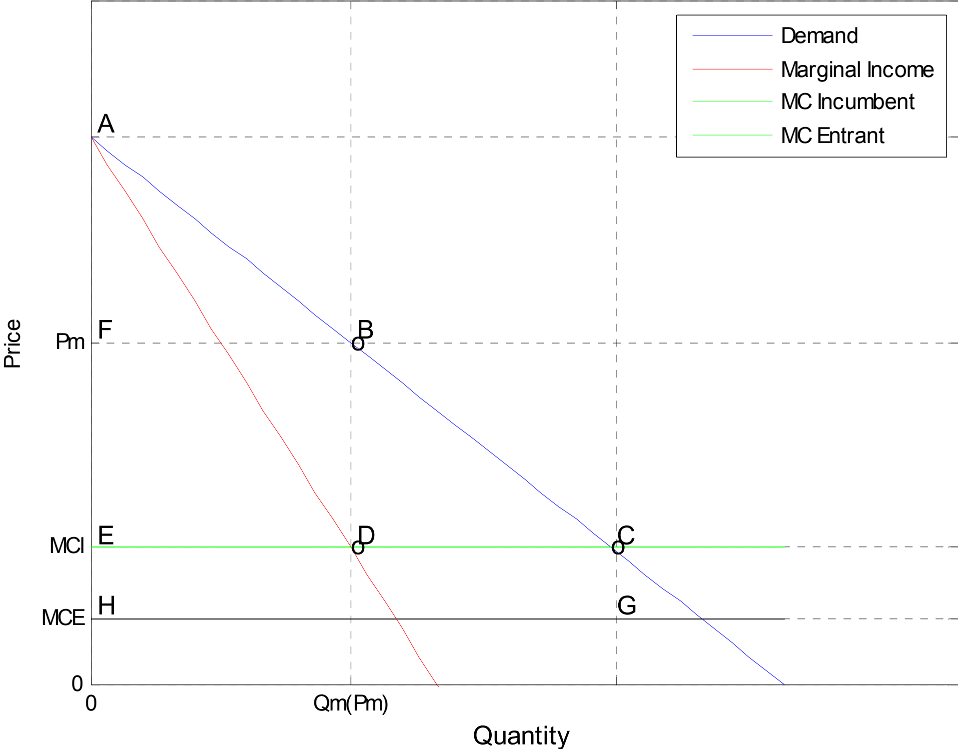

Figure 2

Another theme of the Post-Chicago literature is that vertical restraints can be exclusionary by denying entrants adequate scale to survive.Applying these models can be problematic, however, since measuring minimum efficient scale is often quite difficult and because the models tend to assume away alternative forms of exclusion like limit pricing.

3.1. Raising rivals' (both existing and potential) costs

One way to model the idea of raising the rivals' cost(Salop and Scheffman, 1987) is by the introduction of penalties for breaching the contract (Aghion and Bolton, 1987).Consider, for example, the case when the distributor must pay a penalty for

liquidating a contract signed with the incumbent, which allows the incumbent to extract the profit that the potential entrant would obtain should it decide to enter.In other words, the incumbent could use part of its extra profits to guarantee (ex-ante) the distributors a minimum profit level to cover the risk that an exclusive contract entails, and, at the same time, to increase the new producer's entrance costs by transferring the externality of the penalty that a distributor would pay for breaching the contract.

This idea is expressed in the following example.Suppose that the marginal cost of an incumbent, c_I, is a value between zero and one.Let´s say for instance, c_I = ½.Suppose additionally that the marginal cost of the entrant, c_E, is a random variable that is uniformly distributed between zero and one; that the final demand is inelastic and equal to one unit, v=1; and that r is the price that the distributor charges to the final consumer, such that $r>c_I$.Let´s say for instance, r = 1.Then, there exists a contract (p,p_0) under which the distributor would obtain the product for a price $p=r-c_I(r-c_I)=3/4$ and would pay a penalty of $p_0=(1-c_I)(r-c_I)+c_I/2=1/2$ in case of liquidating the contract.As a result, the expected profits of the incumbent and the distributor would be better with an exclusive contract than without it.

The reasoning of this proposition could be represented in Figure 2 and operates in the following way: The incumbent offers an exclusive contract that guarantees that the distributor would obtain a surplus equivalent to the expected profits that it would obtain whatever the decision of the potential entrant.This would be the minimum amount that, according to Posner (1976), the distributor would aspire to.

Even though the entrant could be more efficient than the incumbent, its entrance could be partially blocked through the imposition of a penalty that the distributor would pay to the incumbent in the case of breaching the exclusive contract, which would be represented by the area EDCGH in Figure 2.

In case the entrant decided to enter the market, it would have to compensate the distributor the amount of the penalty.Note, however, that there still exists the possibility that a rival enters, as long as its marginal cost is sufficiently lower than the incumbent's marginal cost (i.e., $c_E \leq c_I/2$).

In other words, the contingent entrance costs for the new producer would be higher because it would have to incorporate the penalty that the distributor would have to pay for a liquidated deal.So, the damages for liquidated deals generated by the entrant would be beneficial to both the incumbent and the distributor because they increase the sum of their surpluses derived from higher prices.In summary, the damages for liquidated deals create an externality that is transferred to the entrant in terms of a potential surplus.[11]

[11] As an extension, Spiegel (1994) shows that even though the introduction of liquidating damages prevents entrance, as established by Aghion and Bolton, the introduction of legal restraints on liquidating damages can generate a higher total surplus.

Comanor and Rey (2000) show that exclusive deals could still be supported without rent extraction.The reasoning is as follows: The incumbent producer and the distributor have joint interests of limiting the competition in both levels of the chain given that a higher competition in one of the stages has a competitive impact on the other, reducing joint profits.The use of these practices would favor collusion and the exclusion of competitors at all levels of the value chain, increasing prices and reducing quantities along the whole chain.

Rasmusen, Ramseyer and Wiley Jr.(1991) show how exclusive deals facilitate the possibility that an incumbent excludes its rivals without the introduction of penalties.They use a model that does not require much more than a minimum efficient scale in the provision of goods to at least two clients.The incumbent can exclude its rivals exploiting the inability of its distributor clients to coordinate their actions.The following example summarizes this idea.Suppose that the marginal cost of the incumbent, c_I, is greater than the marginal cost of the entrant, c_E (i.e., $c_I>c_E$); that the demand of each of the two distributors is equal to $D(p)=100-p$, and that at least one of the distributors accepts the exclusive contract with the incumbent at the monopoly price, $p^m=(100+c_I)/2$; and that it is profitable for the entrant to enter the market as long as the two distributors buy its product (i.e., $2(100-c_I)(c_I-c_E)-f>0$, where f is the fixed cost of entrance), but it is not profitable for the entrant ifonly one of the distributors buys its product (i.e., $(100-c_I)(c_I-c_E)-f<0$).[12] Then, there isa sub game perfect Nash equilibrium in which the two distributors sign a contract with the incumbent, excluding the more efficient entrant.

The reasoning behind this exampleis as follows.Entering the market will not be profitable for the entrant if the incumbent is able to convince at least one of the two distributors to sign a contract.Generalized exclusive contracts produce additional rents to the incumbent.In this way, the incumbent can offer to share with the two distributors, and all the concerned parts, the gains derived from those deals.There exists at least one sub game perfect Nash equilibrium in which all the distributors accept the exclusive contracts.Given that no distributor on its own can buy enough quantity to make the entrance of a new producerviable, no individual distributor will have incentives to deviate and to refuse the exclusive contract.Another sub game perfect Nash equilibrium is possible, however,where no distributor will sign the contract, allowing the entrant to enter.

In order to have a graphical perspective of this proposition, let us consider that the incumbent offers exclusive contracts to two distributors.Each of those distributors has a demand similar to that depicted in Figure 2.For the proposition to be true, it would be enough that the maximal offer that the incumbent can make (i.e., twice the area of the incumbent's surplus (BDEF)) be greater than the minimum payment that at least one of the distributor is willing to accept to sign the contract (i.e., the distributor's surplus in case

[12] This can happen, for example, if there are decreasing average costs.

the rival enters (ACE) minus what the distributor would receive in case that only the incumbent is in the market (ABF)).

Segal and Whinston (2000), on the other hand, show that the equilibrium proposed by Rasmusen *et al.*is not sub-coalition proof if the offers are not discriminatory.In particular, the effectiveness of exclusion is based on the externality generated by the agents that accept the exclusive contract above the rest of the distributors.Hence, Segal and Whinston suggest a series of discriminatory contracts that would induce the first distributors to immediately accept the brand exclusive contracts, ensuring the exclusion of rivals for not being able to obtain the minimum scale needed to operate.The authors label this strategy "divide and win," in which the distributors are offered decreasing incentives over a predetermined order of distributors.

It must be remarked that an implicit assumption in the last two models is that the distributors behave as monopolists in the final market.In the case that there exists enough competition among the distributors in the final market, Fumagalli and Motta (2006) demonstrate that acceptance of the exclusive contracts does not happen at equilibrium.Brand exclusive contracts are profitable for sellers in the final market only if intra-brand competition is limited.In other words, a higher level of intra-brand competition would favor price reduction at the level of the sellers in the final market and a higher volume of sales.

IV. Weighing the Competing Explanations

Antitrust enforcers must weigh competing explanations for any practice they consider challenging.There is a temptation to approach this problem by comparing the facts of the case to the assumptions underlying the competing explanations and see which assumptions more closelymatch the facts of the case.While there may be no way to avoid this approach altogether, it has important limitations.Enforcers can rarely if ever be sure of which explanation for a vertical restraint is the true explanation.As a result, rational policy must rely on the insights of decision theory, i.e., the theory of making rational decisions under uncertainty.

1. The Insights of Decision Theory

When someone is accused of murder, the jury (in a jury system) must decide whether the defendant is innocent or guilty.Decision theory applies to the problem because, from the evidence before the jury, they typically cannot know with absolute certainty.As a result, there are two types of mistakes the jury might make.It can acquit a guilty defendant or convict an innocent one.The prevailing legal standard affects the relative probabilities of the different types of errors.For example, a "beyond a reasonable doubt standard" entails a lower risk of a false conviction and a higher risk of a false acquittal than does a "preponderance of the evidence" standard.It is widely accepted that legal

standards in general embody judgments about how to weigh the cost and risk of different types of errors.This general point applies to antitrust enforcement.

According to decision theory, there are several factors that reflect the proper trade-off between false acquittals and false convictions.One, not surprisingly, is the relative cost of the two.On the one hand, if the procompetitive benefit from a vertical restraint is present but small, then the cost of banning it despite the efficiency it generates is also small.If, at the same time, the cost of exclusion should it occur is to preserve a monopoly price that substantially exceeds the competitive price that would prevail absent any exclusionary effect, then the cost of a false acquittal is high.All else equal, a low cost of a false conviction and a high cost of a false acquittal would suggest a legal standard that is relatively hostile to the practice in question.

But the relative costs of false convictions and false acquittals are not the only factors to consider.The probabilities of each also matter, and decision theory reveals that the relative frequencies of the pro-competitive and anti-competitive explanations are an important factor to consider.A famous example from medical testing is often used to illustrate the point.Suppose a fatal disease affects 0.1% of the population.(That is, it is very rare.)Suppose a medical test for the disease is perfectly accurate for people with the disease but has a 1% error rate for people who do not have the disease.(In standard testing terminology, it has a 0% rate of “false negatives” and a 1% rate of “false positives.”)A powerful drug can cure the disease, but is itself fatal to half the people who take it.The example raises the question of whether to give the drug to someone who tests positive.

At first, the test appears highly accurate – a 0% rate of false negatives and only a 1% rate of false positives, which might seem to imply that the test is more than 99% accurate and, therefore, that anyone who tests positive has a 99% chance of having the disease.If that were so, taking the drug would give the patient a coin toss’ chance of survival.But the problem is famous precisely because this intuition is wrong.Because nearly 1% of the population is healthy and gets a false positive whereas only 0.1% of the population has the disease (and tests positive appropriately), a false positive is about 10 times as likely an explanation for a positive test result than actually having the disease.Thus, fewer than 10% of the people who test positive have the disease.Given those odds, taking the drug would (substantially) increase the risk of death.

The failure to take prior probabilities into account is one of the major ways identified by Kahneman andTversky (1972) that decisions under uncertainty tend to be biased.The term they use is “representativeness” bias.This sort of bias can easily arise in the analysis of which explanation to give to vertical restraints.For example, consider the case the United States Department of Justice (DOJ) (and various individual states) brought against Microsoft alleging that the integration of Internet Explorer into Windows was anticompetitive tying.The allegation concerned what we labeled “package tying” above.Models of anticompetitive foreclosure from package tying typically begin with the assumption of an incumbent monopolist and a potential entrant(Whinston, 2001, and

Carlton and Waldman, 2002).The incumbent monopolist assumption seems to fit the facts of the case.In contrast, Microsoft's explanation that it believed that many consumers would want an integrated product may have seemed generic and potentially pretextual because of the low probability that consumers wanted an integrated product.Thus, based on representativeness, the anticompetitive explanation might seem compelling.

However, in evaluating the allegation, it is important to recognize that tying is a completely common phenomenon that is frequently observed in competitive markets.As we argued above in the section on tying, virtually all companies sell only a small subset of the distinct items that they could conceivably sell.(Not only does this apply to competitive firms, but it also applies to Microsoft.The browser was hardly the only feature of Microsoft's operating system that could theoretically have been separated out.)Given how common tying is in competitive markets and given that even a monopolist must engage in a substantial amount of tying, anticompetitive tying is arguably like the very rare medical condition.Without a nearly perfect test of what makes a tie anticompetitive – and the literature does not provide near perfection in pinpointing anticompetitive tying –one must be extremely cautious about allegations of illegal ties.

2. Applying the Insights

Ideally, policy toward vertical restraints would be based on empirical measures of the benefits of these practices when they are pro-competitive, their costs when they are anticompetitive, the relative frequency of each, and the ability of the available tests to distinguish between competitive and anticompetitive explanations.The literature is nowhere near providing this sort of evidence.However, legal standards must be in place and enforcement officials must decide which cases to pursue.These standards and decisions at least implicitly reflect judgments about the factors that decision theory say should matter.

There has been a vigorous debate in recent years over appropriate legal standards for evaluating unilateral firm conduct.As many of the tactics that might count as being exclusionary are vertical restraints, that debate is relevant for evaluating vertical restraint policy.

The candidate standards in decreasing order of hostility are *per se* illegality, presumptive illegality subject to a "quick look," a balancing test, the disproportionate harm test, the no economic sense test, and *per se* legality.*Per se* illegality creates no risk of a false acquittal but, to the extent that a practice is sometimes efficient, maximizes the risk of a false finding of illegality.Presumptive illegality with a quick look provides some scope for an efficiency defense, but the burden is strongly on the plaintiff to demonstrate pro-competitive benefits.In a "balancing test," both the competitive and anticompetitive hypotheses are treated as being equally plausible, and the decision turns on which underlying model more nearly matches the underlying facts.Moving to the other extreme, *per se* legality poses no risk of false findings of illegality, but maximizes the risk of false acquittals.A "No economic sense" test finds a practice illegal only if it makes no sense

without an exclusionary effect.Any efficiency that would justify the practice absent an exclusionary effect is sufficient as a defense.The rationales for a no economic sense test are some combination of a strong reason to believe that a practice is usually pro-competitive and that the cost of a false conviction is high.[13]

The “disproportionate harm” test arguably requires the longest explanation because it has been the most misunderstood.One might suspect that a sound economic standard must challenge any practice for which the expected harm outweighs the expected benefit.But that intuition ignores the insights of decision theory.A standard that bases liability on whether the expected harm exceeds the expected benefit is the balancing test.It is appropriate when the competing explanations are equally plausible, the costs of false acquittals and false findings of liability are equal, and/or when the tests for distinguishing harmful from beneficial instances are accurate.When, however, there are reasons to believe that a practice is usually beneficial or that false findings of liability are particularly costly, one wants a stricter standard for finding liability.The “no economic sense” test is such a standard, but it arguably can go too far since it allows any efficiency justification, no matter how small it is relative to the potential harm.The “disproportionate harm” test requires that the proffered efficiencies must be of the same order of magnitude as the potential harm but does not require a showing that they are necessarily greater.

From the standpoint of decision theory, one obvious factor to consider with respect to legal standards for vertical restraints is how competitive the market is.Consider, for example, whether a fast food franchisor can grant a franchise for a specific location, which is a strict territorial restriction.To the extent that fast food franchises operate in competitive markets (because there are many fast food chains and because franchised restaurants compete with independent restaurants), the risk of anticompetitive harm

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[13]United States antitrust law arguably contains two cases where a no economic sense test applies: the *Brooke Group (Corp., 509 U.S. 209, 222–28, 1993)* standard for predatory pricing and the *Aspen Ski (*Corp., 472 U.S. 585, 1985*)* standard for refusals to deal. The predatory pricing standard is pricing below the “relevant notion of cost,” which is sometimes taken to be average variable cost. A balancing test would arguably be any price below the profit-maximizing price, which is the standard proposed by Ordover and Willig (1981). The United States Supreme Court acknowledged the possibility of above-cost predation but explicitly declined to make it illegal both because it considered predation to be “rarely tried and even more rarely successful” and because the risk of chilling competition by punishing competitive price cuts was too great. Thus, for price cuts to be illegal under this standard, they must qualitatively make no economic sense save for the exclusionary effect. In *Aspen Ski*, at issue was a ski area with four mountains, of which three were jointly owned and one was independent. Aspen Ski Corporation, the owner of the three, stopped collaborating with Aspen Highlands in issuing an area-wide week-long pass. Aspen Highlands tried to create its own area-wide pass by buying lift tickets to the other three mountains. The key fact in the case was that Aspen Ski refused to sell to Aspen Highlands even at the full retail price. That decision would make no economic sense absent any exclusionary effect. The need for such an extreme fact to establish liability reflects the judgment that creating an obligation that a company deal with its competitors has a high probability of being anti-competitive.

from the territorial restriction is negligible.As a result, the practice should arguable be *per se* legal.As such a standard is sometimes articulated, vigorous "interbrand competition" insures that restraints on "intrabrand competition" are not anticompetitive.A similar rationale is present in tying doctrine in many jurisdictions.Absent a finding of market power in the tying goods, tying is generally legal.

The harder cases to consider are when market power is present.The fact that practices are presumptively procompetitive given sufficiently competitive product markets does not imply that they should be presumptively anticompetitive when market power is present.There is no reason for the same standard to apply to all vertical restraints.For example, given how prevalent tying is and how poorly we understand what constitutes an anticompetitive tie, one might argue for something like a "no economic sense" test for tying.Alternatively, without any clear explanation for why bundled discounts are efficient, one might opt for a legal standard that makes it easier for antitrust authorities to challenge successfully.

V. Evidence

To this point, the picture of vertical restraints we have presented is that arguments for why vertical restraints can be procompetive and why they can be anticompetitive both exist.Given that, policy makers would ideally like a set of empirical tests to distinguish on a case-by-case basis which of the hypotheses applies.Those tools do not exist.As a practical matter, policy makers have to judge the plausibility of the competing explanations against the facts of a case.For example, to judge whether preventing discount retailers from free-riding on pre-sale service by other retailers is the motive for a particular instance of minimum RPM, policy makers have little choice but to make a necessarily subjective assessment of how important pre-sale service is for the item.As we explained in the section on decision theory, one should ideally also take into account empirical evidence about the relative frequency of pro- and anti-competitive instances of the restraint in question.Of course, the sort of systematic evidence policy makers would ideally like does not exist,[14]but it is nonetheless worthwhile to consider the evidence that does exist.

1. RPM

From the 1937 passage of the Miller-Tydings amendment to the Sherman Act until its repeal in 1975, RPM was legal in states that allowed it (so-called "fair trade" states) and illegal in states that did not.This created the opportunity to compare outcomes between those states that allowed and did not allow RPM which, in some cases, were adjacent to

[14]To get the sort of evidence that policymakers would ideally want, one would need to generate a randomp sample of instances of the use of each practice and a reliable way to categorize whether each observation in the sample constitutes a pro- or anticompetitive use of the practice.

each other.It also provided some time series evidence when a state switched between allowing and not allowing fair trade (as, for example, Rhode Island did in 1970).

Prices were systematically higher for fair-traded goods in states that allowed RPM compared with states that did not, and the differences were often substantial in both absolute and percentage terms.One might argue that such results about prices do not inform the debate much as theories of pro-competitive uses of minimum RPM predict that minimum RPM raises prices.After all, maintaining retail prices is the point of RPM.But many of the goods that were subject to RPM in the fair trade era in the United States did not match the "pre-sale service" model well; and much of the political support for RPM came from retailers, not manufacturers.Examples included Kleenex, Bayer aspirin, both Colgate and Pepsodent toothpaste, and Dial soap.[15]The retail pharmacies that sold these items would have likely faced competition from grocery stores that were willing to operate on narrower retail margins.This sort of evidence appears to have been the motivation behind the repeal of the Miller-Tydings Act in 1975.[16]

But the pre-sale service model did apply to a substantial number of RPM cases.Ippolito (1991) studied litigated cases in the United States between 1976 and 1982, the period immediately following the Miller-Tydings repeal.She found that collusion was a plausible factor in only 13% of the cases, whereas at least one of the various efficiency rationales was plausible "for virtually all cases in the sample."[17]As she explains, one must be careful about extrapolating from a sample of *litigated* RPM cases, which are not necessarily a random sample of instances of RPM that prevailed under the legal standard at the time, much less a random sample of instances that would prevail under a different legal standard.But the evidence is persuasive that the efficiency explanations are not merely the hypothetical musings of economic theorists but that they occur in practice.

One distinctive feature of the U.S.evidence is that U.S.antitrust law provides for private enforcement.In a substantial fraction of the private suits, plaintiffs were discontinued dealers of goods for which manufacturers rely on retailers to provide service.In jurisdictions without private enforcement, antitrust authorities should expect that discontinued dealers will complain that a manufacturer violated the antitrust laws by cutting them off.We recommend that the antitrust authorities treat these complaints with skepticism.

One general theme that pervades many cases of RPM and the related practice of minimum advertised prices (MAP) is protecting particular types of retailers, particularly at a time of technical advance in retailing.In some cases, RPM arguably reflected the political

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[15]Overstreet (1983), p. 177.

[16]While Telser (1960) is widely cited as the source of the efficiency explanation for resale price maintenance, he concluded that the efficiency explanation did not apply to lightbulbs. Rather, he concluded, RPM in that instance was a way for General Electric and Westinghouse to maintain (tacit) collusion between them.

[17]Ippolito (1991), p. 292.

power of retailers.Such was the case with pharmacists in the U.S.; liquor stores are another alleged instance.But there do appear to be cases when "manufacturers" appear to want to protect distribution outlets.For example, one of the relatively recent MAP cases in the U.S.concerned music retailers at a time when "big box" retailers (like Best Buy) were starting to sell CDs in competition with smaller, more specialized mall-based outlets like Sam Goody (which ultimately went out of business).[18]

Another important example of this phenomenon is the end of the "Net Book Agreement" ("NBA") in the UK.The NBA, which was RPM for books, was in place from 1900 to 1997, when the Restrictive Practices Court ended it.The UK Office of Fair Trading sponsored a study of the effect of the termination, which was important not only for the conclusions but also for the methodology by which it arrived at them.After the end of the NBA, many independent booksellers went out of business, large grocery stores started selling the most popular books at discounted prices, and internet sellers like Amazon made substantial inroads into the UK market.As is always the case with this sort of time series evidence, it is hard to know what would have happened in the absence of the change in legal regime.The internet along with internet retailing would have developed whether or not the NBA remained in place.The study reached its conclusion by comparing the UK market with Germany, where RPM for books remained in place.Amazon achieved greater market penetration in the UK than in Germany.The large traditional book and internet book retailer, Borders, entered the UK but not Germany.And large grocers did not enter book retailing in Germany as they did in the UK.Industrial economists now consider this sort of evidence, which they refer to as "difference-in-difference" evidence, as generally being more persuasive than either pure time series or pure cross-sectional evidence.

2. Tying

Because of the different legal treatments of RPM both across geography and over time, it has been the most-studied vertical restraint.The literature on the effects of other vertical restraints, including tying, is less extensive.Yet, shortly after the controversy over the European Commission's decision in 2001 to block GE's proposed acquisition of Honeywell over concerns that the merger would provide an incentive for the merged entity to bundle GE engines with Honeywell's so-called "avionic" and "non-avionic"

[18]One famous study of the effect of RPM is Oster's (1984) review of RPM by the blue jean manufacturer, Levi Strauss. She found that while RPM may at one point have provided quality certification for "Levi's" by getting higher-quality retailers to carry them, the FTC-mandated end of RPM actually benefitted Levi Strauss as well as customers as the ensuing price discounting increased sales of Levi's. Oster interpreted the result to indicate that Levi Strauss no longer received the benefit of a reputation for quality from RPM because it had succeeded in establishing the reputation of its brand. Provocative as the finding in this case is, saving companies from their own mistakes is not a role of antitrust enforcement; and, even if one accepts Oster's conclusion that the FTC helped Levi Strauss by forcing it to discontinue its use of RPM, the case should be viewed as a rare exception rather than the rule. Antitrust authorities are in general naïve to believe that they in general know what is in the interest of a company better than the company itself.

electronic components used in airplanes, the UK Department of Trade and Industry commissioned a study of bundling and tying cases by Professor Barry Nalebuff and a co-author, David Majerus.They evaluated eleven antitrust and merger cases from various jurisdictions where the legality of bundling and tying practices was thoroughly examined.They concluded that in three of those cases, the competitive authorities challenged tying that was not harmful to consumers.They did not find any case in which the authorities failed to challenge tying that they judged to be anticompetitive.That is, while Nalebuff and Majerus found evidence of "false convictions," they found no evidence of "false acquittals."Moreover, in seven of the eleven cases, they found that tying was not harmful to consumers.

Evans and Salinger (2005) discussed two cases of tying and one of mixed bundling.Of these, the economically most important concerned the tying of optional features on automobiles.U.S.manufacturers offered optional features à la carte whereas Japanese manufacturers offered them only in packages so that, for example, someone who wanted leather seats would also have to get an upgraded sound system and a sun roof.Originally, the practice of the Japanese manufacturers of tying options together was necessitated by the complications of supplying the U.S.market from Japan; and U.S.manufacturers believed that the greater flexibility they provided customers by not tying options together would provide them with an important strategic advantage.As the competition between the two systems evolved, however, both came to realize that the smaller set of offerings provided by the Japanese manufacturers in fact provided a strategic advantage because it was easier to maintain product quality.As Japanese companies built production facilities in the U.S., the historic reason for tying optional features ended.Nevertheless, as Evans and Salinger documented, it was the U.S.manufacturers who adapted the Japanese practice of tying options together rather than the reverse.That is, in market competition between manufacturers who tied options together with those who did not, tying prevailed.[19]

As was argued in Section III.2.5 above, there are several reasons to be extremely cautious about antitrust intervention against tying.The most important empirical regularity about tying is that it is both ubiquitous and indeed inevitable.As Justice O'Connor explained in her concurring decision in Jefferson Parish:

> All but the simplest products can be broken down into two or more components that are "tied together" in the final sale.Unless it is to be illegal to sell cars with

[19]Another case analyzed by Evans and Salinger is less important economically but nonetheless serves the purpose of illustrating the importance of the explanation of tying so as to meet the needs of a diverse group of customers with a single product offering. Specifically, they studied the practice of the electronics retailer, Radio Shack, to offer plug adapters (to plug electronic equipment from one country into electrical outlets in others) only in a package of four at their "brick and mortar" otulets. On their web site, however, they offered them à la carte. As they argued, the practice likely forced consumers to buy a plug adapter they did not want. However, given the structure of the industry, there was no plausible anticompetitive explanation; and Radio Shack's decision to tie the different adapters at its brick and mortar stores but not on the internet was consistent with its need to conserve on the number of distinct product offerings.

> engines or cameras with lenses, this analysis must be guided by some limiting principle.[20]

No one has articulated a compelling limiting principle.

That said, we would argue that there is at least one case in which the public intervention to stop tying has benefitted consumers.The U.S.FTC's Ophthalmic Practice Rules, which are informally known as the "Eyeglass Rule," prevent Ophthalmologists and Optometrists from tying prescriptions to the sale of eyeglasses; and the Fairness to Contact Lens Consumers Act extends similar protection with respect to contact lens prescriptions.While we are not aware of any study in an academic journal of the rule, we believe the rule has been credited with making markets for the provision of eyeglasses and contact lenses more competitive; and we are not aware of any credible claims that the rules have hindered economic efficiency in any way.

Another study that concluded that tying lowered economic welfare is Grimm,*et al.'s.*(1992) study of railroad industry.

3. Exclusivity

As with tying, the literature on exclusivity is relatively thin in light of how extensive various forms of exclusivity are.

Arguably, one particularly important case to consider is carbonated soft drinksin the U.S.Originally, Coca-Cola ("Coke") was a fountain drink.In 1899, it granted the exclusive rights to bottle it for home consumption as an afterthought for $1.Over time, home consumption of carbonated soft drinks came to dominate fountain consumption (although restaurant consumption remains important) and the relationships between Coke and its largest rival, Pepsi, and their bottlers took on increasing importance.

In 1971, the FTC initiated actions against Coke and Pepsi, alleging that territorial exclusivity provisions in their contracts were unreasonable restraints of trade.The proceedings dragged on for more than a decade.Then, when it appeared that the FTC would prevail in invalidating those provisions, the soft drink companies convinced Congress to pass the Soft Drink Interbrand Competition Act in 1980.It made the exclusive territories in contracts between soft drink manufacturers and bottlers legal provided that interbrand competition was vigorous, a condition that was satisfied by the competition between Coke and Pepsi.The act was hotly debated, with critics alleging that it would harm soft drink consumers.

In the mid-1980's, substantial restructuring occurred in the soft drink industry.Some was vertical, with Coke and Pepsi both buying substantial portions of their bottler networks and then spinning them off into separate companiesin which they retained

[20]Jefferson Parish Hosp. Dist. No.2 v. Hyde, 466 U.S. 2, 39 (1984), J.O'Connor (concurring).

substantial minority ownership.Also, Pepsi proposed to purchase Seven Up and Coke proposed to buy Dr Pepper.The FTC successfully blocked the Coke/Dr Pepper deal and Pepsi pulled out of the acquisition of Seven Up in the U.S.At the time, the FTC viewed access to a bottler network as being an important barrier to entry to the soft drink industry.Part of its rationale for blocking the concentrate mergers was the hope that a third bottler network that would service Dr Pepper, Seven Up, and Royal Crown (which was the third largest cola brand) would arise to challenge the Coke and Pepsi bottling systems.While competing bottlers do exist, no system that rivals the size of the Coke and Pepsi systems developed.

Those who would have predicted that the combination of the Soft Drink Interbrand Competition Act and the continued large market shares for Coke and Pepsi boded ill for consumers should consider Figure 3.As it shows, the real (*i.e.*, inflation-adjusted) price of carbonated soft drinks has dropped approximately 30% since the early 1980's.(In contrast, the real price of food in general has remained essentially constant).[21]Moreover, concerns that Coke and Pepsi would be unresponsive to shifting consumer tastes also appear not to have been borne out.Both companies have maintained their large shares by expanding their product offerings, most notably to include sports drinks and bottled water.

To be sure, the history of both systems reveals potential problems with vertical restraints.Both companies had to cope with underperforming bottlers to which they had granted exclusive territories.Precisely because the poor performance hurt the soft drink companies as well as consumers, both Coke and Pepsi have taken actions over the years to make sure that their bottlers competed more aggressively.Indeed, the major structural changes that have occurred, including the recent acquisitions by both Coke and Pepsi of their largest North American bottlers, suggest that the vertical coordination between them has been imperfect.It is hard to see, however, how antitrust intervention could reasonably have been expected to yield better results than those evidenced in Figure 3.

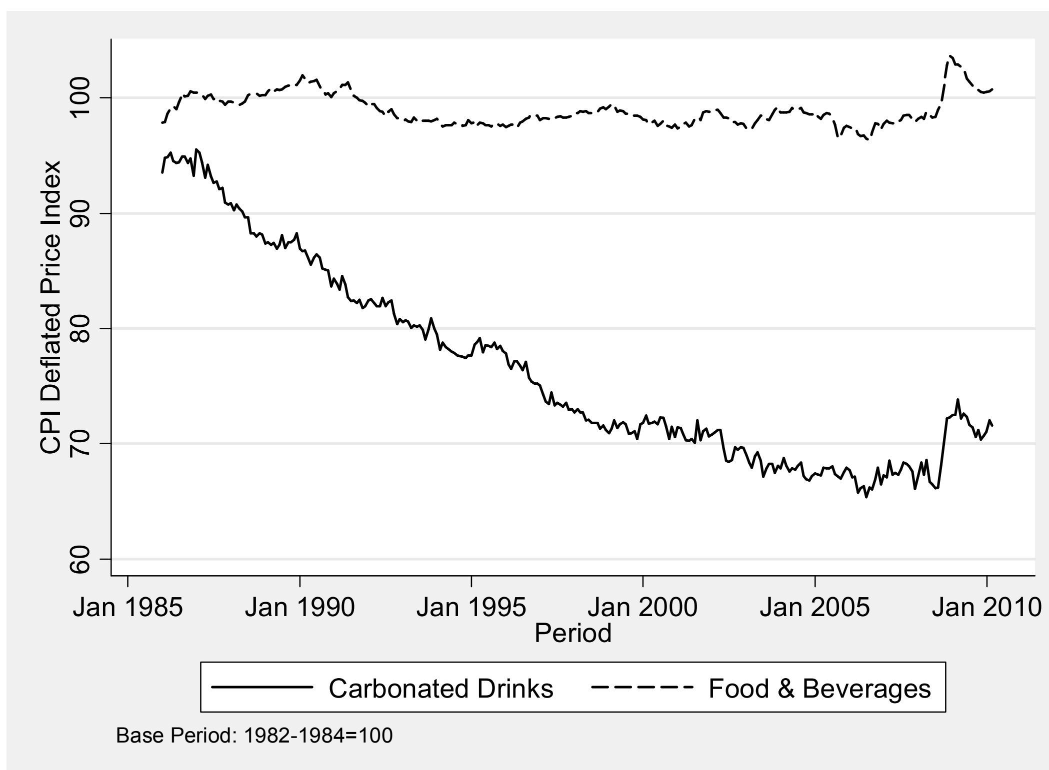
We note further some additional studies related to exclusivity.

Ornstein (1985) found that the adoption of exclusive dealing has generally been associated with the adoption of alternative distribution systems rather than as an anticompetitive device.

Heide*et al.* (1998) conducted a survey of managers' choices of distribution systems. In particular, they studied 147 firms (from a randomly chosen sample) and found that only 46 adopted exclusive deals. Most of these adoptions were positively correlated with concerns over free riding by rivals on manufacturer services to distributors and negatively correlated with the cost for detecting cheating and consumers' search costs. There was no

[21]The increase near the end of the last decade is likely attributable to increases in the price of High Fructose Corn Syrup. The price of corn increased dramatically as a result of the ethanol mandate for gasoline producers in the U.S.

evidence of sensitivity to cost associated with implementation, blocking competition, or firm size.



Source:US Bureau of Labor Statistics, CPI data.

Figure 3: Real Price of Carbonated Soft Drinks in the US

Sass (2005), in the context of the beer market distribution, found that exclusive dealing contracts serve as a mechanism to enhance distributors' sales efforts and sales,by reducing incentives for conflicts between manufacturers and distributors.In particular, he found that even though prices to exclusive distributors were higher than to nonexclusive ones, sales for the distributor of the primary brand went up.This is consistent with the idea of social welfare enhancement.

Kubekand Ornstein (2006) found that exclusive dealing agreements survive even in cases where antitrust conducts are distant.This is one of the reasons why they sustain that this kind of behavior needs to be analyzedon a case-by-case basis.

There are several sectoral analyses of exclusive territories, most of them dedicated to the beer distribution sector (for example, Sass and Saurman, 1993).These studies support the procompetitive effects of exclusive territories based on the positive correlation between beer prices and sales to the determination of exclusive territories.

VI. The Policy Pendulum in the US

Legend has it that Winston Churchill once said, "The United States invariably does the right thing, after having exhausted every other alternative."Whatever one makes of the quip generally, United States antitrust policy towards vertical restraintshas had several false steps.Through a combination of antitrust agency enforcement policies, Congressional action, and Supreme Court decisions, US policy is arguably much sounder than it once was.Because the difficulty of overturning Supreme Court precedent builds an inherent conservatism into the United States legal system, however, at least one vestige still exists.

1. Early policy

The first major United States antitrust statute was the Sherman Antitrust Act, passed in 1890.Most modern challenges to vertical restraints in the US are based either on the Sherman §1 prohibition on agreements in restraint of trade or the Sherman §2 prohibition on monopolization, but such was not always the case.

Relatively quickly, Sherman §1 became the basis for legal hostility toward resale price maintenance.The landmark case was *Dr.Miles Medical Co.v.John D.Park andSons Co.*[22]Interestingly, the issues that persist to this day with respect to vertical price restraints were present in the case.Dr.Miles Medical Company (Dr.Miles) sold a proprietary medicine.It relied on pharmacies for sales.Because it believed that pharmacies needed to maintain a sufficiently high margin to sell and promote its product, it felt challenged by department stores that were willing to sell at a lower price.As a result, it imposed minimum resale price maintenance.John D.Park and Sons (Park) was a drug wholesaler who induced wholesalers who had entered into contracts containing RPM provisions to violate those contracts.Dr.Miles sued Park for tortiousinterference.The Supreme Court ruled that Dr.Miles was not entitled to relief because the contracts violated the Sherman Act.The Court considered Dr.Miles' justifications for the contracts but ruled that they did not matter.Under *Dr.Miles*, RPM was *per se* illegal.Moreover, the *per se* prohibition applied to maximum RPM as well as minimum RPM.

While the courts interpreted the Sherman Act to ban RPM, early challenges to non-price vertical restraints under the Sherman Act generally failed.[23]In response, Congress passed the Clayton Antitrust Act in 1914.Among other of its provisions, §3 of the Clayton Act outlawed exclusive dealing and tying arrangements that "substantially lessen competition or tend to create a monopoly."

After passage of the Clayton Act (as well as the Federal Trade Commission Act, also in 1914), the legal treatment of non-price vertical restrictions became considerably

[22]220 U.S. 373 (1911).
[23]Notable examples were *United States v. Winslow,* 227 U.S. 202 (1913) and *Henry v. A.B. Dick,* 224 U.S. 12 (1912).

stricter.They did not become *per se* illegal in all instances.When imposed by a sufficiently small firm or when involving a sufficiently small volume of commerce, they were legal.While we do not attempt a complete treatment of the development of the law here, we do note a few significant cases.

Interestingly, the law was more hostile to tying than to exclusive dealing.*International Salt Co.v.U.S.*[24] made tying *per se* illegal provided the seller had market power in the tying good and a substantial volume of commerce was affected.International Salt had patents on two machines for the processing of rock salt.Its leases for those machines required the lessee to purchase salt from International Salt as well.International Salt had argued that the practice should be tried under the *rule of reason*, but the Court ruled, "Not only is price-fixing unreasonable, *per se*, but also it is unreasonable, *per se*, to foreclose competitors from any substantial market."[25] Then, in *Standard Oil Co.of Cal.v.United States,*[26] which was a case concerning exclusive dealing, the Court opined that "Tying agreements serve hardly any purpose beyond the suppression of competition."[27](The Court made this statement to explain why the *per se* rule for tying did not apply to exclusive dealing.)

The Supreme Court treated exclusive dealing differently from tying because it recognized that exclusive dealing might have efficiency justifications.An early case was *FTC v.Sinclair Refining Co*.[28]Sinclair Refining made gasoline pumps available to gasoline stations but required that the gasoline stations use the pumps exclusively for gasoline refined by Sinclair.The Court found efficiency rationales for the practice.Part of the Court's reasoning was that stations were free to obtain pumps from other refiners and sell the gasoline of other refiners from the other pumps.

A particularly interesting feature of this case is that the Court viewed it as an exclusive dealing case whereas, in fact, it was a tying case.Even though the case predated *International Salt* and *Standard Oil*, but it nonetheless raises an important issue for modern enforcement.The legality of a practice should turn on its likely effect, not on the legal label assigned to it.When the standards vary across vertical restraints, plaintiffs (including antitrust agencies) will inevitably try to cast whatever behavior they object to as falling within a category that faces an easier legal standard for establishing liability.Specifically, if there is a *per se* rule for tying and a *rule of reason* for exclusive dealing, then plaintiffs will try to cast exclusive dealing as tying.To be sure, there is not complete flexibility in how one characterizes a vertical restraint.There is in general no obvious way to relabel exclusive dealing as resale price maintenance.Still, one general

[24]332 US 392 (1947).
[25]332 US 392, 396.
[26]337 US 293 (1949).
[27]337 US 293, 305.
[28]261 US 463 (1923).

trend over time has been to focus antitrust enforcement on actual effects, not arbitrary legal labels.

> *"The legality of a practice should turn on its likely effect, not on the legal label assigned to it."*

The problem of making legal conclusions dependent on economically irrelevant criteria arose in *U.S.v.Arnold, Schwinn and Co*,[29] which was the culmination of the hostile treatment of non-price vertical restraints in the United States.Arnold, Schwinn and Co (Schwinn) had at one point beenthe leading seller of bicycles in the United States, but had seen its share of the market shrink due to competition from manufacturers supplying mass retailers such as Sears.In response, Schwinn had streamlined its distribution network, limiting the number of retailers.It also relied on a group of wholesalers, each of which had exclusive territories.

Schwinn sold some bicycles directly to wholesalers.It distributed others under consignment plans under which it shipped bicycles either to one of its wholesalers or directly to a retailer under consignment, meaning that Schwinn retained legal ownership of the bicycles and then paid the seller a fee after the bicycle was sold.As a matter of economics, which entity retained legal ownership of the bicycles at intermediate points in the distribution process and whether the wholesalers or retailers earned a fee as distinct from a wholesale or retail margin is irrelevant (or, at least, of only secondary importance).Yet, the specific issue addressed by the Supreme Court was precisely whether the legal standard for non-price vertical restraints depended on the distinction between a direct sale and consignment.The Court ruled that the distinction was crucial.

As important (and economically erroneous) as this finding was, an even more significant aspect of the ruling was that the court confirmed that when Schwinn sold its bicycles to a wholesaler, any non-price vertical restrictions such as territorial constraints or the requirement that the wholesaler only sell to authorized retailers, were*per se* illegal.As it explained in the concluding sentence of the decision, "Once the manufacturer has parted with title and risk, he has parted with dominion over the product, and his effort thereafter to restrict territory or persons to whom the product may be transferred – whether by explicit agreement or by silent combination or understanding with his vendee – is a *per se*violation of § 1 of the Sherman Act."[30]

2. GTE-Sylvania through Leegin – a move to a *rule of reason*

The Supreme Court decided *Schwinn* in 1967.That same year, a White House-commissioned report advocated a conscious policy of systematically breaking up large firms in concentrated industries so as to deconcentrate markets, an idea that no longer

[29]388 U.S. 365 (1967).

[30]388 U.S. 365, 382.

receives serious (or any) consideration among major antitrust authorities.Shortly thereafter, the Department of Justice filed monopolization suits against IBM and AT&T.Thus, 1967 was arguably the peak of activist antitrust policy in the United States.But concerns that United States antitrust law was impeding the operation of competitive markets with excessive intervention were already stirring, and ideas that have been associated with the "Chicago School" percolated into mainstream scholarly commentary on antitrust.

One upshot was the Supreme Court's decision in *Continental T.V., Inc.v.GTE Sylvania, Inc.*,[31] decided just ten years after *Schwinn*.The facts of the case exemplify themes that date back to *Dr.Miles* and *Schwinn* and forward to modern-day cases in which vertical restraints are at issue.Sylvania, a division of the telecommunications firm GTE, manufactured television sets.Faced with a minute share (1%) of the market, it sought to strengthen its distribution system.Apparently recognizing that marketplace success required effective distribution, it decided to restrict its number of retailers in order to attract aggressive retailers who would promote its product vigorously.It developed a system of franchised dealers in which Sylvania limited each franchisee's right to sell Sylvania television sets to authorized locations.Continental was a San Francisco franchisee.Unhappy with the level of sales in San Francisco, Sylvania authorized another dealer within a mile of Continental's authorized location.As part of its response, Continental sought to sell some of its Sylvania televisions in its Sacramento store, a location for which it did not have authorization from Sylvania.When GTE sought to enforce the location restrictions in its franchise agreement, Continental sued and alleged that the restriction was a *per se*violation of § 1 of the Sherman Act under *Schwinn.*

In *GTE Sylvania*, the Court explicitly overruled *Schwinn*.Whereas, to modern eyes, the logic in *Schwinn* is tortured, *GTE Sylvania* reads as a model of analytic clarity.The Court ruled that if the distinction between sales and consignment was irrelevant for the competitive effect of a vertical restraint, it had to be irrelevant for the legal standing of the restraint.And it ruled that if the vertical restrictions in the consignment agreement were reasonable, as the Court had concluded in *Schwinn*, then the standard rationale for a *per se*rule could not apply.Accordingly, the Court reversed *Schwinn* and ruled that non-price vertical restraints would be tried under a *rule of reason*.Although it was not the first time the Court had raised it, the distinction between interbrand and intrabrand competition played prominently with the Court recognizing that in the presence of vigorous interbrand competition, restraints on intrabrand competition generally pose very little risk of restricting competition and would likely be procompetitive.

While *GTE Sylvania* marked a sea change in the treatment of most vertical restraints, it was silent on price vertical restraints and on tying.In 1997, the Court reversed the *per se*ban on maximum resale price maintenance in *State Oil Co.v.Khan*.[32]Without explicitly

[31]433 U.S. 36 (1977).
[32]522 U.S. 3 (1997).

using the term "double marginalization," the Court referred to the concept as a substantial portion of its explanation for reversing a prior ruling.[33]

Minimum RPM has proven to be a far more controversial issue in the United States than maximum RPM.Part of the controversy is political.In 1975, right before the Supreme Court reversed *Schwinn* with *GTE Sylvania*, Congress repealed the Miller-Tydings Act.Passed during the Great Depression, the Miller-Tydings Act allowed individual states to legalize RPM, (or, to use the more popular name, "fair trade").In repealing Miller-Tydings, Congress restored *per se*illegality in the 36 states that had legalized RPM.Also, as evidenced by the involvement of the attorneys general of individual states in both *Kahn* and *Leegin Creative Products v.PSKS, Inc.*[34], a substantial number of politicians judged that the ban on RPM (and implicit support for discounters) was a popular position.There is a related purely legal issue concerning the standards for overturning a long-standing Supreme Court precedent.The longer a precedent concerning judicial interpretation of a statute stands in the United States, the higher standard for overturning it.(The rationale is that Congress can correct Supreme Court misinterpretations by passing new legislation.The longer Congress fails to do so, the more likely it is that it approves of the Supreme Court's interpretation.)*GTE Sylvania* came just ten years after *Schwinn*.The gap between *Albright* and *Khan* was longer, but still less than thirty years.*Dr.Miles* had stood for nearly a century with the repeal of the Miller-Tydings Act serving as Congressional confirmation that it intended minimum RPM to be illegal.

Despite the force of the principle of *stare decisis*,[35] the Supreme Court did overturn *Dr.Miles* in *Leegin.*One interpretation of the U.S.experience with minimum RPM is that it provides an opportunity to learn from U.S.mistakes.Under this view, which the vast majority of antitrust economists would endorse, the appropriate legal standard for RPM is a *rule of reason* and it probably should be relatively lenient particularly for goods for which retailers provide important services that manufacturers rely on.

There is an alternative view, however.Indeed, the Supreme Court was far more divided on *Leegin* than on any other antitrust case it has decided recently.Four justices, including Justice Breyer – considered to be one of the most sophisticated sitting justices with respect to economics – dissented.Had the dissenters said that they would have definitely chosen rule-of-reason treatment for RPM if they were starting "with a blank slate" and declined to do so merely out of deference to a longstanding precedent, such an interpretation might be appropriate.But, Justice Breyer argued in his dissent that the case for overturning *per se*illegality is not as compelling as many economists would let on and that much of the evidence that does exist was available in 1975 when Congress reinstated the *per se* rule by repealing the Miller Tydings Act.It is true that the arguments for the

[33] Specifically, the Court reversed *Albrecht v. Hearld Co.,* 390 U.S. 145 (1968).
[34] 127 S. Ct. 2705 (2007).
[35] *Stare decisis is* a legal principle by which judges are obliged to respect the precedent established by prior decisions.

possible benefits from RPM pre-date 1975.Ippolito's study of enforcement actions between 1976 and 1982 was post-1975 evidence, but it is a judgment call as to whether it was sufficient to merit overturning a long-standing precedent.To justify a *rule of reason*, it is not sufficient to argue that a *per se*rule might generate some "false positives."No legal rule is perfect.To justify rule-of-reason treatment, one would have to argue that the pro-competitive uses of RPM are empirically important and that there is a way as Justice Breyer colorfully put it, "to separate the beneficial sheep from the antitrust goats."One might argue that the evidence in Ippolito (1991) did establish the empirical importance of the pro-competitive uses and that the sort of analysis she used to arrive at the conclusion does suggest that distinguishing between competing explanations is feasible.Indeed, we believe that most economists would argue for such a position.However, the fact that as distinguished and economically sophisticated a jurist as Justice Breyer saw otherwise merits serious consideration.

In the wake of *Leegin*, the US Federal Trade Commission held a series of workshops to address how to implement the new legal standard.[36]A summary of those workshops is beyond the scope of this review.However, the materials from that workshop are an excellent source for conflicting modern thinking about appropriate RPM policy.

3. Tying

Minimum RPM was not the last controversial category of *per se* treatment.There remains tying.The prevailing Supreme Court precedent is *Jefferson Parish v.Hyde*.[37]In contrast to *Leegin*, there was no disagreement between the majority and the dissenters as to whether *rule of reason* treatment would be appropriate if the Court were starting from "a clean slate."The Court admitted as much when it wrote, "It 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.*'"While the Court was not divided as to whether the tie in the case was illegal, the Justices disagreed sharply over the rationale.At issue in the case was an exclusive contract a hospital had granted to an anesthesiology practice.A competing anesthesiologist sued, alleging that the exclusive contract created, in effect, an illegal tie.The Court found the arrangement between the hospital and the anesthesiology practice to be legal.It did not do so, however, based on a *rule of reason* judgment that the efficiencies created by the arrangement outweighed any anticompetitive harm.Conceivably, it could have done so either by ruling that the case should be judged as an exclusive dealing agreement rather than a tie or by overturning the *per se* rule for tying.Instead, it ruled that because the hospital was in an urban area with competing hospitals, the hospital did not have the market power needed to trigger the *per se* rule against tying.Justice O'Connor's concurring decision, which was joined by three other justices, argued for overturning the *per se* ban.

[36]The proceedings are available at http://www.ftc.gov/opp/workshops/rpm/.
[37]466 U.S. 2 (1984).

Since *Jefferson Parish*, U.S.tying doctrine has taken some interesting turns.While*Jefferson Parish* seemed to create the impression that the Court wanted to limit the scope of the *per se*rule without explicitly overturning it, its decision in *Eastman Kodak Co.v.Image Technical Services, Inc., et al.*seemed to reverse directions.[38]The case concerned Kodak's photocopier business, a business in which it had a relatively small market share.Photocopiers require service, and the provision of service requires access to replacement parts.Kodak had historically sold replacement parts to independent service operators but stopped doing so.Following *Jefferson Parish*, one might have expected the Court to rule that without market power in copiers, Kodak did not have market power in the tying good.Instead, however, it ruled that the relevant markets were replacement parts for Kodak copiers and service, and that Kodak had market power in the market for replacement parts for Kodak copiers.As a result, it refused to grant Kodak's motion for summary judgment dismissing the suit.But then, in*Independent Ink, Inc.v.Illinois Tool Works, Inc.*,[39] the Court ruled that a patent over the tying good did not create the presumption of market power needed to trigger the *per se*rule.This reversed a footnote in *Jefferson Parish* stating that a patent does create the presumption of market power.

Whether or not the Supreme Court ends up overturning the *per se*rule on tying, U.S.tying doctrine provides an opportunity to learn from the mistakes of others.First of all, the *per se* ban on tying – even given the conditions needed to invoke it – makes no sense.Second, treating all tying as a single category for which a single legal standard applies is likely a mistake."Package tying," "metering tying," and "bundled discounts" are much different practices for which different standards might apply.Legal hostility to package tying is particularly problematic since such tying is necessary in virtually every business.A ban on tying requires that businesses offer any separable component of their products separately.Since no one has articulated a compelling limiting principle, something like a no economic sense or disproportionate harm standard may be in order.On the other hand, with both metering tying and bundled discounts, the seller typically already offers the tying and tied goods as separate items, so there is no need for a principle limiting what further unbundling might be mandated.Between these two, the plausible efficiency rationales for metering tying may often be more plausible than is the case for bundled discounts.So a stricter rule might apply to the latter.

4. MFNclauses

Despite academic arguments that MFN clauses can facilitate collusion by being a credible form of commitment not to cut prices, U.S.law has generally permitted them.In the early 1980's, the FTC brought suit against the makers of "antiknock" compounds used in unleaded gasoline for MFNs alleging that they were facilitating devices.It lost (in the second circuit court of appeals).The court ruled that MFNs (as well as other business practices that the FTC alleged facilitated collusion) had sound business justifications.

[38]504 U.S. 451 (1992).
[39]547 U.S. 28 (2006).

5. The Withdrawn US Vertical Restraint Guidelines

In 1985, which was during the Reagan administration, eight years after *GTE-Sylvania*,and three years after the highly successful 1982 Department of Justice Merger Guidelines, the DOJ issued vertical restraint guidelines.

The 1985 US Guidelines cover territorial restraints, exclusive dealing agreements, and tying.With respect to the first two, they describe a "structured *rule of reason*" entailing an initial market structure screen and then, for cases that pass through such a screen, a more detailed analysis of competitive effects.General principles underlying the guidelines were that the effect of restraints on interbrand rather than intrabrand competition was the source of competitive concerns, that the two potential competitive concerns from vertical restraints were the facilitation of (interbrand) collusion and exclusion, that the potential source of collusion was raising rivals' costs, and that raising rivals' costswas unlikely under sufficiently competitive circumstances.The analysis of tying was somewhat different to conform with the *per se*rule, but they laid out a structural screen for sufficient market power in the tying good market to trigger the *per se*rule.

The specific structural screen was based on the market share of a firm imposing a vertical restraint, the "vertical restraints index," and the "coverage ratio."The VRI, which resembles the Herfindahl Index, is the sum of the squared shares of the firms using a particular vertical restraint.A separate VRI calculation applies to each stage.The coverage ratio is the combined share of firms at a stage using a particular vertical restraint.The threshold values in the guidelines are 10% for the market share of an individual firm, 1200 for the VRI, and 60 for the coverage ratio.The guidelines stated that the DOJ would not challenge a vertical restraint for any firm with less than a 10% market share or in markets with i) a VRI less than 1,200 and a coverage ratio under 60% in one stage, ii) a VRI less than 1,200 at both stages, *or* iii) a coverage ratio less than 60% at both stages.The importance of the VRI is that in an unconcentrated market, the VRI could be less than 1,200 even if virtually every firm uses a vertical restraint.

A particularly controversial section of the 1985 U.S. vertical restraint guidelines concerned whether to classify a vertical restraint as "price" or "non-price," which was crucial for determining whether the DOJ would consider the *per se*prohibition on RPM to apply.The key phrase was, "[I]f a supplier adopts a bona fide distribution program embodying both nonprice and price restrictions, the Department will analyze the entire program under the *rule of reason* if the nonprice restraints are plausibly designed to create efficiencies and if the price restraint is merely ancillary to the nonprice restraints."[Vertical restraints guidelines, section 2.3]This created a potential loophole that could eviscerate the *per se*ban on RPM.

In 1992, President Clinton's first Assistant Attorney General for Antitrust, Anne Bingaman, rescinded the 1985 vertical restraints guidelines as one of her first acts.The decision may in part have been over RPM and it was likely also the sort of political move made by new administrations to portend a dramatic change in US enforcement.(It is not

clear that the promises implicit in these highly visible pronouncements materialize into actual policy shifts.)

Even if US enforcers no longer use a VRI or the thresholds listed in them, the withdrawn Vertical Restraint Guidelines remain a relatively accurate statement of US policy toward vertical restraints and a clear articulation of the issues involved.

VII. The recent EU Guidelines: From a form-based approach to an effect-based apporach

The foundation of EU policy toward vertical restraints is Article 101, which has two main sections. Section 101(1) articulates what is illegal and appears at first to state a standard of per se illegality. However, section 101(3) lays out a set of conditions under which 101(1) does not apply. So a key issue in assessing EU policy is how easy it is to satisfy the 101(3) conditions.

Section 101(1) outlaws agreements between undertakings that, "(a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; make the conclusion of contracts subject to acceptance by the other parties of supplementary objections which, by their nature or according to commercial usage, have no connection with the subject of such contracts."Like Section 1 of the Sherman Act in the United States, the wording appears to apply equally to horizontal and vertical relationships.In some ways, the wording is broader than U.S. antitrust law.For example, the wording about price discrimination is broader than the Robinson-Patman Act.

The basis for the exception in section 101(3) is that Article 101 is not to prevent conditions that are necessary to create economic efficiencies that accrue at least partially to consumers.In applying section 101(3), the distinction between agreements between vertically-related and horizontally related entities is likely to be crucial, as agreements between vertically-related entities are more likely to create efficiencies than agreements between horizontally-related entities.In assessing EU policy toward vertical restraints, a key issue is how difficult it is to satisfy the Section 101(3) conditions for voiding section 101(1).

The purpose of the EU Guidelines (2010/C 130/01)is to explain the principles for assessing vertical restraints under Article 101 of the European Commission Treaty.They also represent a partial transition from a "form-based approach" to competition policy – which focuses on the how the conduct can be categorized – to an effects-based approach – which focuses on the economic impact that a conduct has on competition andconsumers.

The goal of Article 101 is to ensure that undertakings do not use vertical agreements or concerted practices in order to restrict competition in the market, affecting consumers negatively.[40]Thus, Article 101 applies to all agreements or concerted practicesthat might prevent, restrict, or distort competition, diminishingtrade between Member States. Specifically, agreementsor concerted practices falling within the scope of Article 101(1) – such as, minimum RPM and the restrictions applied to territories, customers, distribution networks, and spare parts – are explicitlyprohibited. All other kinds of agreementsor concerted practices are permitted, provided they fall within the scope of Article 101(3), which confers them sufficient benefits – such as, improvements in efficiency, while allowing consumer to share the resulting benefits– that outweigh theirpotential anti-competitive effects.

In general terms, Article 101 recognizes the difference between vertical agreements whose *object* is anticompetitive from those whose *effects*are anticompetitive. For instance, when the object of a vertical agreement is found anticompetitive (*object rule*), it is presumed that its effect is also anticompetitive and, as a consequence, *per se* illegal. These are the so called*hardcore restrictions*which fall within the scope ofArticle 101(1).

On the other hand, even thoughsome othervertical agreementsare not presumed illegal, its effects might still be anticompetitive (*effect rule*). So, they need to be assessed taking into consideration their pro-competitive and anti-competitive effects as described in Article 101(3). In other words, avertical agreement canbe subject to a balancing analysis where its anticompetitive effects can be weighed against its procompetitive effects. If the former effects dominate the latter, such vertical restraint can be prohibited.

The Block Exemption Regulation (330/2010)(BER) and the *de minimis* Commission Notice (2001/C 368/07) are a set of exemptions that provide a safe harbor for those vertical agreements that might fall within the scope Article 101(3). In addition to providing firms with a safe harbor, the exemptions allow the Commission to conserveits scarce resources by not monitoring vertical agreements introduced by firms with little market power (Motta et al., 2001).

The*de minimis* Commission Notice provides the guidance to consider agreements that are neither capable of affecting trade among Member States nor capable of restricting competition by object or effect. In particular, the *de minimis* Commission Notice only states that Article 101(1) does not apply to agreements between competing entities with a combined share of less than 10% of their relevant antitrust markets or to agreements between non-competing entities with less than a 15% share of their respective antitrust markets.

It is important to notice, firstly, that an agreement can be *de minimis*because, by its nature, it would be unlikely to have any competitive consequences even if used by firms

[40]Article 101 also recognizes horizontal restraints.

with large shares. Consider as an example theCase 30/78 Distillers Co. LTD v. Commission (1980). By 1975, Distillers had 35% of the market share of whisky in France and 55% of market share of spirit beverages in the EU. Distillers had restricted its UK distributors from selling one of its products, Pimm, in France. (?)There were three reasons why Pimm (one of Distillers' beverage) was granted the benefits of Article 101(3): i) it was a new product, ii) the product was generically different in a different markets, and iii) it had 0% of the market share in France, place where Distiller prohibited its UK buyers to sell its new product in France. Secondly, an agreement that might have a significant competitive effect when used by a firm with a large market share can be *de minimis* when used by firms with sufficiently small market shares. Thirdly, for hardcore restrictions, Article 101(1) may apply below the threshold of 15% provided that there is an appreciable effect on competition.

Article 2 of theBERprovides the legal framework to apply Article 101(3), by regulating certain categories of vertical agreements and concerted practices that fall outside the hardcore restrictions described in Article 101(1).It is in the spirit of the BER that competition concerns should arise only when there is insufficient competition at one or more levels of trade. Therefore, the presumption of legality for vertical restraints depends on the market share of the seller and the buyer, provided that those agreements do not contain hardcore restrictions. In particular,Article 3 of the BER establishes that the Article 101(1) does not apply to agreements in which the supplier does not hold more than 30% of the market share.[41]

According to Article 4 of the BER, hardcore restrictions described in Article 101(1) are explicitly excluded from the whole vertical agreements exempted under Article 2. Furthermore, it is presumed that a hardcore restriction included in any agreement will fall within Article 101(1) and that such agreement "will be unlikely to fulfill the conditions of Article 101(3)."However, this presumption does *not* preclude the possibility that the undertakings could argue in favor of the procompetitive effect under Article 101(3) in an individual case base.

Notice that when the market share is above 30%, there is no presumption that a vertical agreement will fall within Article 101(1) or outside Article 101(3). Yet, there is no presumption that a vertical agreement will satisfy the conditions specified in Article 101(3) once it has felt within the scope of Article 101(1).

The application ofthe structured analysisspecified onArticle 101follows a series of steps, which are classified based on theobject and the potential effects of the restraint:

Step 1:The competition authority has to determinefirst whether the object of the proposed agreement is to restrict competition and therefore *per se* illegal.This is always the case for hardcore practices.(Hardcore horizontal restrictions include price

[41]Section V of the EU Guidelines gives the guidance to calculate the relevant market and the market share.

fixing,output restrictions,and the allocation of markets or customers. The hardcore vertical restraints are minimum RPM, and restrictions applied to territories, customers, distribution networks and spare parts.)[42]

Step 2: If the competition authority concludes that the agreement does not have an anticompetitive object, the Commission then has to decide whether the BERor the *de minimis*notice applies.

When an agreement falls outside the scope of Article 101(1) or fails to satisfy the conditions of Article 101(3) there is no presumption of illegality on the agreements falling outside the BER, provided they do not contain restrictions by object.

Step 3: If the agreement fails to satisfy the conditions of Article 101(3), it requires an individual assessment of the likely effects of the agreement such that either it does not restrict competition within the meaning of Article 101(1) or it does fulfill the conditions specified in Article 101(3). In particular, the required analysis askstheCommission to specify a *counterfactual* and to compare the extent of competition with the restraint with the extent of competition under the counterfactual.

According to the EU Guidelines, the application of Article 101 involves also the use of a "structured *rule of reason*."That is, an agreement is considered legal unless it does not pass one or more screens establishing the likelihood of its anticompetitive effects.Ifanticompetitive effects are likely, they have to be larger than its procompetitive effects in order to be prohibited.

However, according to Bennett and Padilla, what the EC is really facing is a "qualified*per se* illegality rule," where agreements are *per se* illegal unless they are unlikely to have appreciable effects on competition, or if they have the potential to restrict competition, they do not reduce competition and the procompetitive effectsoutweigh the anticompetitive effects.Note that even if Bennett and Padilla are right, one can defend a qualified*per se*illegality ruleon the grounds that it is easier and less expensive to administer and enforce than a rule of reason or even a structured rule of reason.Qualified *per se* illegality does, however, reflect a greater tolerance for false convictions than would some variant of a rule of reason.

A fundamental source of dispute over the interpretation of the application of Article 101 of the EU concerns the goal of competition policy.There is substantial agreement among antitrust scholars that the proper role of competition policy is to promote some

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[42] Territorial and customer restrictions are banned while their object is to restraint intra-brand competition. There are however, four types of territorial or customer restrictions which may be permitted: i) Downstream firms restricted to search customer in different areas (but not passive sales, like selling to customers coming from other areas); ii) restrictions to end users from the wholesalers; iii) sales to unauthorized distributors; iv) restrictions on buyer component to used the component to produce goods that compete with those of the supplier.

form of economic welfare.There is disagreement over whether consumer welfare or total welfare (which counts producer surplus as well as consumer surplus) is the appropriate aim.[43]But both of these are different from the traditional interpretation of Article 101, which was to achieve market integration within the member states of the EU.This latter perspective implies greater hostility to vertical restraints such as territorial restrictions than do purely economic factors.The recent EU Guidelines recognize the role of *single-market integration* and the *protection of competition* in achieving the ultimate goal of *consumers' protection*.However, the connection between the former two instruments and the ultimate goalremain unclear.

A case that illustrates the tension is Nintendo,[44]which was found guilty of "artificially" partitioning the single European market.The EC has sought to reconcile the conflicting objectives with the argument that protecting rivalry and the competitive process can increase welfare in the long run even if doing so is detrimental to efficiency in the short run. While this justification based on "dynamic" effects creates the appearance of focusing on economic efficiency, it runs the risk of being a policy that protects competitors rather than competition.

As the EC has struggled to balance competing objectives in its enforcement of article 101, the Court of First Instance (CFI) has provided some guidance.For example, itpartially annulled the EC's decision in Glaxo.[45]Glaxo had offered lower prices to some Spanish distributors, but did not permit non-Spanish distributors to purchase the pharmaceuticals at that price.The EC had found these restrictions as being *per se* illegal.The CFI concluded that the per se rule did not apply because the restriction did not have anticompetitive object.Instead, it ruled that the EC would have to do a rule-of-reaon analysis of wether the practice had anticompetitive effects.

In deciding whether EC policy or the policy from some other jurisdiction provides a suitable model, an antitrust authority should consider the extent to which its country has an objective like the EC's objective to integrate previously distinct national markets.If it does, then the EC model may be the most appropriate.(Integrating, say, the New York and California economies is simply not a factor in US antitrust policy.Similarly, as far as we know, the Australian Competition and Consumer Commission does take into account a need to integrate the economies of Queensland and New South Wales.)

[43] Another issue is whether the protections should focus on consumers' short term benefits or also take into consideration the long term benefits of future generations of consumers.

[44]Nintendo, OJ [2002] L255/33.

[45]Case T-168/01 GlaxoSmithKline Services Unlimited versus Commission of the European Communities [2006].

VIII. Approaches in Latin America: From a *per se* violation to a structured *rule of reason*

Although the application of the antitrust provisions in Latin America are relatively recent and have revealed a mistrust of the capacity of markets to promote social welfare (de León, 2009), we can appreciate a significant evolution in the last 25 years.For the particular case of vertical restraints, they are no longer considered (in general) as *per se* violations of the antitrust law.In this sense, antitrust agencies have been progressively moving toward an evaluation based on the *rule of reason*.

1. Argentina

In Argentina, the National Commission for Defense of Competition (CNDC) is the competition law enforcement agency.Section 1 of Article I of Law 25,156 contains a general prohibition of any anticompetitive conduct that affects consumer welfare.Section 2of Article 1 identifies three types of vertical restraints: i) RPM; ii)tying; and iii) exclusive dealing.It also recognizes as illegal practices single firm conduct such as: i) obstructing entry or excluding individuals from markets; ii) discrimination; iii) refusal to deal; andiv) predatory pricing.

The analysis of vertical restraints in Sections 1 and 2 of Article I requires the presence of dominance by the investigated firm.In this respect, Sections 4 and 5 of Article II define what can be considered as dominant position.The general definition in Section 4 specifies three *sources* of a firm's dominant position: when i) the firm is the only supplier or buyer in the market, ii) it is not exposed to substantial competition, or iii) it is able to exclude a competitor or participant of the market because of itsdegree of vertical integration.Section 5 shows the relevant factors that determine dominance: i) degree of substitution for the relevant market; ii) the presence of regulatory barriers; and iii) the extent to which it can set prices or restrict output unilaterally.

Although RPM is considered a violation, the CNDC's enforcement actions have been relativelylenient (Coloma, 2009).For example, the CNDC has considered maximum RPM as a strategy for promoting competition and enhancing consumers' welfareand not just anticompetitive.[46]Whena finding of minimum RPM prevailed, the CNDC's ruling was mixed.[47]The only case where the CNDC ruled that RPM was a violation, the Supreme Court of Argentina ruled against the original decision based on a different definition of the relevant market.

Before 1984, there were two antitrust cases where two exclusive agreementswere declared illegal: one based on the argument that one of the firms was hindering other competitors and the other based on the argument that it was shortening the consumers'

[46]FECRA v. YPF (1995) and AKRA v Georgalos (2002).
[47]Supermercados MAKRO v. Sava (1997) and CNDC v. TRISA, TSC and others (2007).

options and facilitating the abuse of dominance.[48]After 1984, however, exclusive dealings received almost the similar lenienttreatment that RPM received by the competition law enforcement agency in Argentina.In 1984, an initial accusation in the automobile industry was dismissed because the respondant firm confronted a substantial competition from other firms in the same relevant market.[49]The other accusations that followed this initial case were dismissed based on the argument that all the vertical agreements were part of the firms' strategy for improving their commercialization channels, which did not obstruct competition.[50]

The most important case on exclusive dealing and territories was the *SADIT v.MassalinParticulares*[51]in which the CNDC took into consideration the procompetitive elements associated with the implementation of a vertical agreement: cost savings, quality improvement, and reliability in the distribution.In this case, it was the first time a vertical restriction was evaluated based on its merits and not only on its possible disadvantages.

2. Brazil

In Brazil, the Administrative Council for Economic Defense (CADE) is the competition law enforcement agency.Articles 20 and 21 of Law 8,884contain a general definition of what should be considereda violation of the antitrust norms.But it is in the enforcement guidelines issued in 1999 as an AttachmentI to CADE Resolution 20 where sixtypes of vertical restraints are identified: i) RPM, ii) customer and territorial restrictions imposed in a distribution chain, iii) exclusive dealing, iv) refusal to deal, v) tying, and vi) price discrimination.

Although not originally included as one of the major violations of antitrust law, exclusive territories have been one of the most discussedvertical restrictions in the actual antitrust jurisprudence in Brazil.It was within this context that CADE decided that exclusive territories were*notper se* illegal and that they should be analyzed based on the *rule of reason* (Coloma, 2009).[52]This resolution was then extended to the other vertical practices.

In order to establish the illegality of a vertical restriction, the guidelines in Attachment II elaborate the specific steps required for analyzing a restrictive trade practice: i) identification of the precise practice, ii) determination of the existence of a dominant position in the relevant market, and iii) weighing the economic efficiencies likely to result from the practice.It also specifies a "market control presumption" of 20%.So a market

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[48] J. Savino v. Editorial Glauco (1983) and Bieza v. Sierras del Mar (1984).
[49] CNDC v. Acfor e Igarreta (1984).
[50]Tidem v. YPF (1984), Casa Mado v. Casa Garat (1985), A. Pregat v. Massalin Particulares and others (1995), O. Segal v. RodriguezGonzalez and others (1996) and Albemar v. Camara del Tabaco (1996).
[51]Expte Nº 064-000960/97 (C. 403), 2000.
[52]Seara v. ICI (1993).

share below this percentage is presumed to reflect absence of market power and, therefore is*per se* legal.

3. Chile

In Chile, vertical restraints werelegally treated as*per se* violationsduring the period 1974 – 1992, even condemning firms without questioning their degree of market power.After 1992, the economic analysis of vertical restraints has evolved, now being subject to an evaluation based on efficiency justifications, and therefore subject to a *rule of reason*analysis.Article 2 of the Law for the Defense of Free Competition (LDLC)identifiestwo groups of vertical restraints: i) Non-price vertical restraints, such as quotas, exclusive dealing, exclusive territories and exclusive distribution, and ii) RPM.

There are two cases in the Chilean jurisprudence about antitrust in which the antitrust authority made explicit its willingness to move from treating vertical practices as *per se* violations to evaluatingthem based on a*rule of reason*standard:*Nichimen*-Daihatsu (Resolution N°808,1992) was the first case in which the antitrust competition authority approved an exclusive distribution system based on the grounds that no monopoly abuse was possible.*Toyota* (Resolution N°625, 2001) was another case in which the antitrust competition authority suggested that a RPM is not illegal *per se*.

4. Mexico

In Mexico, all vertical restraintshave been treated as monopolistic practices subject to a *rule of reason*analysis.Article 10 of the Federal Law of Economic Competition(LFCE) includes some vertical restraints among its eleven types of conducts subject to rule of reason analysis, namely[53]: i) exclusive territories and other non price vertical restraints, ii) price restraints (RPM included) and other restraining conditions, iii) tied-sales, iv) exclusive dealing, and viii) exclusive dealing conditioned on a refusal to deal with a third party.

Article 10 also provides the respondent the possibility of a defense on the grounds of "efficiency gains arising from the conduct and whose overall effect is favorable to the process of competition and free market access."The burden of proof in the case of efficiency gains is borne by the respondent.

According to Article 11, for the practices specified in Article 10 to be deemed illegal, the responsible agents need to have substantial market power in the relevant market.Articles 12 and 13 clarify the criteria applied to the notions of relevant market and the existence of market power, respectively.It is worth mentioning that the notion of market power applies for one or more economic agents (i.e., joint dominance) as of May 2011.

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[53]The remaining conducts are not vertical restraints but related to the abuse of dominance. They do not require a vertical relationship and do not impinge upon a business freedom on parties sharing a common vertical production chain.

To illustrate changes in enforcement application of vertical restraints in Mexico, one need only look at the three cases brought to the Commission as complaints against the dominant soft drink producer, Coca Cola, in 2000, 2003 and 2008.[54]In 2000, the case was closed.The 2003 and 2008 cases differ markedly in the standard of proof used to determine anticompetitive effects of presumptive exclusive contracts between Coca Cola's bottlers and the more than 1 million small retailers that represent more than 70% of its sales.In the 2003 case, substantial market power by Coca Cola Group, evidence of exclusive contracts together with no efficiency defense on the part of the defendant led to a determination of an antitrust violation.In 2008, the Commission's analysis focused on the possible effects of the conduct, finding that the plaintiff was able to reach a viable scale of production even if the exclusive deals had been in place.Moreover, statistical analysis showed that these deals were present in less than 5% of the retailers for those markets where prevalence had been more common.

IX. Conclusions

In this white paper, we have discussed both competitive and anticompetitive effects of vertical restraints.Ideal antitrust enforcement would distinguish perfectly between the two.The tools to implement ideal antitrust policy with respect to vertical restraints do not exist, however, so the challenge for antitrust authorities is to formulate an enforcement strategy that minimizes error costs.

Arguably, the most important point to help antitrust enforcers avoid error is to recognize that vertical restraints are distinct from horizontal restraints.They are not agreements among competitors.They are agreements between firms at different stages of a vertical chain that, for a variety of reasons, have decided not to integrate vertically.In general, vertically situated firms have a mutual interest in coordinating their behavior so as to compete more effectively in the market for sales to final consumers.There are many reasons to believe that simple sales contracts will coordinate vertically related firms imperfectly.A firm at one stage might wish to charge too high a price or skimp on quality from the standpoint of the system as a whole.To the extent that vertical restraints coordinate competitive behavior, antitrust challenges to them can be anticompetitive.In the early years of United States antitrust enforcement, the enforcement agencies and courts failed to understand this fundamental point.It took the Chicago critique and many years of jurisprudence to overcome this misperception.It is crucial for other antitrust agencies to learn from that mistake rather than repeat it.

Ultimately, all legitimate antitrust concerns come down to either collusion or monopolization.Some vertical restraints can result in collusion.Others can result in monopolization.Antitrust enforcers considering intervention against vertical restraints should be clear on which of these problems they believe they are attacking.Doing so will

[54] DE-006-2000; DE-021-2003; and DE-013-2008.

weed out many illegitimate complaints because there are many complaints about vertical restraints that do not plausibly reflect either.

In particular, vertical restraints are common in franchise systems.Many of the complaints against vertical restraints are from franchisees, particularly those that a franchisor discontinues for violating the vertical restraint.When the franchise system competes in a market in which interbrand competition is vigorous, there is often no plausible link between the vertical restraint and either collusion or monopolization.Complaints of this sort are best understood as contract disputes, not antitrust violations.When interbrand competition is vigorous, alleged “restrictions” on intrabrand competition are not anticompetitive.

Because our knowledge of the effects of vertical restraints is imperfect, policy makers have to exercise judgment about how aggressively to pursue vertical restraints cases and which types of cases are most important to pursue.Ultimately, policy makers in each jurisdiction must exercise their own judgment, and we should expect some variation in judgment across jurisdictions.We would not presume that our own judgment on these matters should be the final word, but we can offer the following recommendations.

1. There should be a strong presumption that the following practices do not violate the antitrust laws:

1.1. *Maximum* RPM – It is likely to be a solution to double marginalization.In theory, it can serve as a focal point for collusion, but the evidence to support such an allegation should be quite strong to support a case.

1.2. MFNs – When contracts between vertically integrated firms are necessarily incomplete, an MFN is generally an efficient contractual mechanism to provide a trading partner reasonable protection against market developments that are otherwise difficult to enumerate and define.While they can in theory facilitate collusion by committing competitors not to engage in selective price cuts, we are not aware of any evidence that they have been used for this purpose.

1.3. Package tying – The practice is not only ubiquitous, virtually every business has to engage in it.The theories of how package tying can be anticompetitive are so highly stylized that it is virtually impossible to identify whether they apply to a particular case.

2. No class of vertical restraints should be *per se* illegal.

3. *Minimum* RPM should receive rule-of-reason treatment.The potential anticompetitive harm is that it facilitates collusion.The potential procompetitive benefit is that prevents free-riding, particularly on pre-sales service.For goods for which pre-sales service is likely to be important, there should be a presumption that minimum RPM is legal.When the pre-sales service argument does not seem important, antitrust authorities should consider challenging minimum RPM provided that other elements conducive to collusion are present.One consideration would be what fraction of the

relevant market is subject to RPM.Minimum RPM is unlikely to facilitate collusion if firms accounting for only a small share of an unconcentrated market use it.

4. Exclusive dealing and exclusive territories should receive rule-of-reason treatment.The typical concern with exclusivity is that it is a form of raising rivals' costs and therefore an act of monopolization or monopoly maintenance.When raising rivals' costs is the underlying theory, the same sorts of evidentiary burdens used with other types of unilateral conduct should apply.(This is so even if the legal basis for the case is the analogue of Sherman Section 1 or Article 101 rather than Sherman Section 2 or Article 102.)The case must make structural sense.That is, the firm obtaining the exclusive right must be dominant or be able to obtain dominance in a relevant antitrust market.In addition, the strategy must meet a threshold for a probability of success.However, to the extent that competitors to the firm getting exclusive rights have reasonable alternatives, then the exclusivity is unlikely to succeed as a monopolization strategy.Third, due consideration must be given to efficiency rationales.Protecting trade secrets, preventing free riding, and providing incentives for best efforts are all potentially valid pro-competitive rationales for exclusive arrangements.The standard for weighing anticompetitive and procompetitive explanations might depend on circumstances.It is unlikely that "no economic sense" will be the appropriate standard.The less dominant the firm and the better the competitive alternatives available to rivals, the more likely that a "disproportionate harm" standard should apply.The more dominant the firm and the worse the competitive alternatives available to rivals, a balancing test might be more appropriate.

While it is important to learn the valid lessons from the Chicago critique, it is also important not to go too far in the opposite direction.Valid vertical restraints cases do exist.However, they are also likely to be relatively rare; and antitrust authorities should be far more cautious about them than they are about attacking horizontal price fixing or preventing horizontal mergers that result in undue concentration.

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Glossary

All-units discount: Also known as a *cliff discount,* the seller nominally charges a constant price per unit, but the price per unit drops *for all units* once the volume of purchases reaches a threshold.

Anticompetitive exclusion: An exclusion intended to raise rivals' costs rather than lower the cost of the firm engaged in the exclusion.

Appreciability rule ("de minimis doctrine"): A vertical agreement under which no party holds more than 15% of market share.

Arms-length contracts: An agreement between two legally separate entities.

Balancing test:Both the expected competitive and anticompetitive hypotheses are evaluated and the legality of the practice at issue turns on whether the expected competitive benefits are greater than the expected costs arising from a reduction in competition.

Bundled discount: The seller offers two separate goods to the buyer, and the price for one depends on whether the buyer also purchases the other.

Bundling: The practice of selling the combination of two goods that can (and might be) offered separately.If the firm sells the separate items, the term "bundling" is sometimes restricted to selling the combination at a discount to the sum of the prices of the separate goods.

Complementary products: Product A is a complement for Product B if the demand for A is an inverse function of the price of B (meaning that an increase in the price of B causes demand for A to drop.)

Consumer surplus:The difference between what consumers are willing to pay for a product and the market price.

Decision theory: The theory of making rational decisions under uncertainty.

Disproportionate harm test: Requires that the proffered efficiencies must be of the same order of magnitude as the potential harm but does not require a showing that they are necessarily greater.

Minimum Advertised Pricing (MAP):A restriction by a manufacturer on the minimum price that a retailer can advertised for a good.A retailer subject to a MAP constraint may charge as low a price as it chooses.But if its price is below the MAP, it may not advertise it.

Mixed bundling: It means selling both the package and the separate goods, with the price of the package being different from the sum of the prices of the separate goods.

Pure bundling: It means selling just the package and not the separate goods.