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Article

Loyalty discounts, exclusive dealing and bundling: rule of reason, quasi-per-se, price-cost test, or something in between?

Assaf Eilat* David Gilo,† and Guy Sagi‡

ABSTRACT

The article reviews loyalty rebates, target rebates, exclusive dealing, and bundling, and argues that these are analogous practices that deserve similar competitive analyses and rules. In particular, in the case of all of these practices, at least some marginal units are typically sold below cost. The article shows that the analyses and rules that should apply to all of these practices ought not to depend on their labels, but rather on the monopoly power of the supplier engaged in the practice; whether, in the particular case, exclusion is costless or almost costless; the size of the sanction that the buyer suffers from being disloyal to the monopolist, and whether the sanction makes it impossible for the monopolist's as efficient rivals to compete for the buyer; the degree of market foreclosure, including its effective duration; the presence or absence of any efficiency justifications, and whether the discount is expected to be passed on to consumers. The analysis further highlights how exclusion may well be costless, or almost costless and can be achieved when the monopolist has non-price means of coercing buyers to be loyal. Further, intermediate cases are explored, in which exclusion, though not entirely costless, is nevertheless cheaper to the monopolist than ordinary predatory pricing.

KEYWORDS: loyalty rebates, target rebates, exclusive dealing, bundling, tying, exclusionary practices.
JEL CLASSIFICATIONS: K21; L41; L42

1. INTRODUCTION

Particular antitrust interest is raised when a monopolist engages in loyalty discounts, target rebates, or bundling. Loyalty discounts are discounts paid to a buyer in exchange

* Chief Economist, Israeli Antitrust Authority, Email: assaf@aa.gov.il.
† Full Professor, Buchmann Faculty of Law, Tel Aviv University, Email: gilod@post.tau.ac.il.
‡ Lecturer, Netanya Academic College, Email: guy.sagi@gmail.com. We thank the participants of the June 2015 conference of the Journal of Antitrust Enforcement, Oxford for helpful comments and Gilo thanks the Cegla Center for Interdisciplinary Research of the Law for financial support. The views expressed are not those of the Israeli Antitrust Authority.

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for its loyalty to the monopolist. A common example is a discount that a buyer enjoys if he buys most of his requirements from the monopolist. A target rebate is a rebate granted to a buyer when the quantity he purchases from the monopolist reaches a certain threshold. Bundling is a rebate given to a buyer who buys a second product supplied by the monopolist together with the monopoly product. All of these practices (hereinafter called, for convenience, 'conditional pricing') involve discounts granted by the monopolist and, in this sense, bear some resemblance to predatory pricing. They also resemble exclusive dealing and tying arrangements, however, and the quandary which therefore arises is how conditional pricing practices should be analysed—according to a predation paradigm, or according to an exclusion paradigm more usually applicable to exclusive dealing and tying arrangements?

The paradigm of predatory pricing in the USA requires proof that the monopolist has set his price below an appropriate measure of his costs, and that there is the prospect of him recouping the losses inflicted by his below-cost pricing in the future.[1] Because traditional predatory pricing requires heavy short-term investment in order to gain uncertain future returns, many consider it a risky, and often unprofitable, business strategy.[2]

In the case of exclusive dealing, tying, and conditional pricing, there are two principal tests that compete with the price-cost test: the quasi-per-se test, and the rule of reason test. According to the quasi-per-se test, a monopolist is (absent an efficiency justification) forbidden from applying a practice that has the potential to exclude its rivals. The rule of reason is comparatively stricter with the plaintiff, requiring proof that there is a significant likelihood of anticompetitive effect. Even if such an anticompetitive effect is shown, however, the monopolist is again entitled to raise an efficiency justification.

This article has two main purposes. The first is to clarify that loyalty rebates, target rebates (in which the target is tailored according to the buyer's total requirements of the product), exclusive dealing, and bundling, are analogous practices that deserve similar competitive analyses and rules. In particular, exclusive dealing is effectively a loyalty-inducing contract with sanctions other than the sacrifice of rebates, while loyalty and target rebates are a form of bundling between the quantity that the buyer wants to buy from the monopolist anyway and the quantity he is contemplating buying from a rival.

The second purpose is to clarify that the analyses and rules that should apply to all of these practices ought not to depend on their labels ('exclusive dealing', 'bundling', 'loyalty rebates', and so forth), but rather on a set of factors, discussed in some form or another in the case law and literature. These factors are: the monopoly power of the supplier engaged in the practice; whether, in the particular case,

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1 See *Brooke Group Ltd v Brown & Williamson Tobacco Corp*, 509 US 209, 222–24 (1993).

2 See eg Robert H Bork, *The Antitrust Paradox: A Policy At War With Itself* (New York, Free Press, 1978; rev edn, 1993) 54–55; Frank H Easterbrook, 'Predatory Strategies and Counterstrategies' (1981) 48 U Chi L Rev. 263; Phillip Areeda and Donald F Turner, 'Predatory Pricing and Related Practices Under Section 2 of the Sherman Act' (1975) 88 Harv L Rev 697, 699; Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* (Hornbook, 3rd edn, 2005) 340; William E Kovacic, 'The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard. Double Helix' (2007) 2007 Colum Bus L Rev 1, 43–51.

exclusion is costless or almost costless; the size of the sanction that the buyer suffers from being disloyal to the monopolist, and whether the sanction makes it impossible for the monopolist's as efficient rivals to compete for the buyer; the degree of market foreclosure, including its effective duration; the presence or absence of any efficiency justifications, and whether the discount is expected to be passed on to consumers. The costlessness of exclusion depends upon whether the monopolist offers a 'must have' product (or whether the buyer must purchase a minimum quantity of the monopolist's product). We show that, even in a market which exhibits product differentiation regarding the non-contestable product or units that a buyer would in any case purchase from the monopolist, exclusion may well be costless, or almost costless. Furthermore, costless exclusion can be achieved when the monopolist has non-price means of coercing buyers to be loyal. We also emphasize that there are intermediate cases, in which exclusion, though not entirely costless, is nevertheless cheaper to the monopolist than ordinary predatory pricing. Such intermediate cases can justify the application of an intermediately strict legal rule to the plaintiff.

Analysing such practices in this light raises a few more subtle insights that can help a decision maker choose the appropriate legal rule that should govern a given practice. In particular, rather than seeing the price-cost test as an isolated safe harbour, which automatically exempts above-cost pricing (as it does under the US doctrine of predatory pricing), it can be used as a tool to implement either the quasi-per-se rule or the rule of reason. That is, a price-cost test need not be a substitute for the quasi-per-se rule or the rule of reason. It can be a complementary tool to either of these rules.

Another subtlety we highlight concerns the way in which the price-cost test is applied. The leading application of the price-cost test seeks to identify the number of units that a buyer must obtain from the monopolist ('the noncontestable share'), versus the remaining number of units that the buyer may be able to buy from a rival ('the contestable share'), and asks whether the monopolist's rebate causes the contestable share to be sold below cost. This task, however, is extremely difficult, since regulators, plaintiffs, and even the monopolist himself rarely know what the contestable or non-contestable shares are. Instead, what the fact-finder can do is assess how many units below the monopolist's tailored target of loyalty are sold below cost as a result of the rebate. This is the portion of the buyer's requirements that is 'closed' to the monopolist's as efficient competitors. Then, either with or without a parallel assessment of barriers to the entry or expansion of rivals, the decision maker can derive the relevant legal implications. Concerns about erroneously condemning benign behaviour could favour the application of a revised rule of reason, while opposing concerns about erroneously allowing harmful behaviour may militate in favour of a revised quasi-per-se rule. Under a revised quasi-per-se rule, even a relatively small portion of the buyer's requirements being sold at below cost could trigger liability (subject to redeeming efficiencies).

The rest of the article is organized as follows. In Section II, we will provide a brief overview of loyalty rebates and their potential economic effects. Section III does the same for bundling arrangements. Section IV shows how all of these practices are analogous to each other and to exclusive dealing. It also shows that, in the case of all of these practices, at least some marginal units are typically sold below cost. Section

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V will review the current legal framework pertaining to these different conditional pricing practices and the three available legal tests: the price-cost test; the quasi-per-se test; and the rule of reason test. In this section, we also suggest possible variations that could be made to the price-cost test. Section VI will discuss how all of these practices deserve similar legal treatment, depending not on their label but rather on their exhibition of particular characteristics: the existence of monopoly power; the cost (or possibly costlessness) of exclusion; the size of the sanction and its effect on as efficient rivals; the degree of market foreclosure; and efficiency justifications. In Section VII we will examine the recent Intel decision in the light of these particular characteristics. We then conclude.

II. LOYALTY REBATES

Loyalty rebates take place when a supplier offers buyers a discount which is conditioned on them buying a certain quantity or share of their total product requirements from him. An example would be if Firm A offers a 10 per cent discount on the whole quantity purchased from it by a given buyer if that buyer purchases at least 90 per cent of his requirements from the firm. Such rebates promote a buyer's loyalty to the supplier, because they provide a strong incentive for the buyer to purchase most or even all of its demand from the supplier rather than from its competitors.

Economic analysis

In this sub-section, we provide a very brief review of the potential effects of loyalty rebates. According to the economic literature, loyalty rebates applied by monopolists may have anticompetitive effects—as they can lead to the exclusion of rivals from markets or increase their costs, and thus allow the monopolist to maintain its monopoly profits. The conduct may, however, also generate efficiencies similar to those provided by exclusive dealing. Indeed, some of the empirical evidence tends to suggest that the pro-competitive effects of loyalty rebates outweigh their anticompetitive effects. However, it is widely accepted that the empirical literature on the subject is far from being sufficient to reach any sound conclusions on the matter.

Anticompetitive effects

The foreclosure of competition and raising rivals' costs. The primary anticompetitive effect of loyalty rebates is the foreclosure of competition. If production is characterized by efficiencies of scale, then, by foreclosing the market, the dominant firm effectively prevents its rivals from operating efficiently. Rivals cannot competitively lower prices and may be driven out of the market altogether, and the dominant firm can therefore preserve and prolong its dominance in the market and its associated monopoly profits.[3] By the same token, securing the loyalty of critical input providers can also raise rivals' costs by denying them access to those inputs.[4]

3 See, Ilya R Segal and Michael D Whinston, 'Naked Exclusion: Comment' (2000) 90 Am Econ Rev 296–309; Michael D Whinston and BD Bernheim, 'Exclusive Dealing' (1998) 106 J Pol Econ 64–103; Erik B Rasmussen, J Mark Ramseyer and John S Wiley, Jr, 'Naked Exclusion' (1991) 81 Am Econ Rev 1137–45.

4 See, eg Thomas G Krattenmaker and Steven C Salop, 'Anticompetitive Exclusion: Raising Rivals Costs to Achieve Power Over Price' (1986) 96 Yale LJ 209, 213.

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Since the monopolist presumably possesses market power with regard to the monopoly product, it may even be able to exclude competition without bearing costs in certain cases. To illustrate, suppose there are two firms selling a product. Each buyer requires up to 10 units of the product, but requires at least 5 units from the monopolist. If the monopolist sells these 5 units for $2 per unit and offers the additional 5 units for $1 per unit, the total price paid by a buyer purchasing from the monopolist is $15. Suppose now, however, that the monopolist raises the price of each of the first 5 units to $3, keeps the price of the additional 5 units at $1, and offers a discount of 25% on all purchases of a buyer whose purchases reach $20. Here, the price for buying all units from the monopolist remains $15, while if the buyer purchases any number of units from the competition, his total requirements would necessarily cost him more than $15.[5] In such a scenario, unlike in ordinary predatory pricing cases, exclusion is achieved with no substantial short-run costs to the monopolist.

The cartel ringmaster effect—facilitating downstream collusion. Downstream competitors may agree to exclusivity via loyalty agreements with an upstream monopolist. Where such an agreement exists, the firms on both levels of production could share the aggregate monopoly profits while protecting both levels from the entry of competition. New competitors of the upstream monopolist would be foreclosed due to distributors' loyalty to the monopolist, who, in turn, would prevent the entry of new distributors at the downstream level.[6]

A slightly different version of this conduct arises where the monopolist offers a lump-sum rebate to purchasers if it is granted exclusivity, while still charging them the per unit monopoly price. A competitor might offer much lower per unit prices, but each purchaser takes into consideration the fact that, if it accepts the rival's offer, it would not only lose the lump-sum rebate, but the monopolist would also lower the per unit price it charges to other purchasers. As a result, downstream competition would intensify, so that the added profit a purchaser could make from the cheaper competitive offer would be dissipated. Therefore, choosing a competitor's lower-priced input may be unprofitable. Hence, the granting of loyalty rebates helps the monopolist to foreclose the market from competition and also to extract some of the monopolistic profits (a proportion of which is shared with purchasers via the lump-sum rebates).[7]

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5 This example resembles that of Barry Nalebuff, 'Exclusionary Bundling' (2005) 50 Antitrust Bulletin 323, 324, 328–29, to be discussed at n 15 below.

6 Krattenmaker and Salop (n 4) at 238–40.

7 See eg Patrick DeGraba and John Simpson, 'Loyalty Discounts and Theories of Harm in the Intel Investigations' (2014) 2 J Antitrust Enforcement, 170, 173–77. DeGraba and Simpson list the required conditions for this strategy to be effective: (i) 'Buyers compete intensely among themselves'; (ii) 'The incumbent must have exclusive or near-exclusive relationships with downstream buyers that collectively have market power with respect to some customers'; (iii) 'The payment for exclusivity must not result in low marginal input prices. In other words, there should be evidence that the incumbent gave downstream firms some consideration of a fixed nature for not using the entrant's input'; (iv) 'The incumbent must have the ability and incentive to lower its prices if a downstream buyer purchases from the entrant'. See, ibid at 176.

Pro-competitive effects

Inducement of effort on the part of purchasers. When the dominant firm cannot monitor dealers' promotional activities and therefore is not able to pay directly for such activities, it can try to induce purchasers' promotional efforts by virtue of exclusivity. If the purchaser distributes only or mostly the dominant firm's products, he must create or boost demand for the dominant firm's product to make a profit. If, on the other hand, the purchaser also buys competing products, he may be able to make a profit even if he does not invest in promoting the dominant firm's product.[8]

Prevention of free-riding on the dominant firm's investments. When the dominant firm invests in advertising with a view to increasing demand for its product, it also increases the volume of consumers approaching its distributors. However, upon reaching the distributors' outlets, consumers may eventually choose to buy a product which competes with that of the dominant firm. This may prompt the dominant firm to lower the level of its demand-boosting investment. Achieving exclusivity protects the dominant firm from such free-riding and reduces or eliminates the disincentive effect that it has on investment.[9] A similar claim could be made with respect to other investments by the dominant firm that are specific to the purchaser who was induced to exclusivity—such as improvements to the purchaser's infrastructure, know-how, or outlets.

Mixed effects

Price discrimination. One possible explanation for loyalty rebates is price discrimination. Assume that buyers are heterogeneous and, while the monopolist cannot identify each buyer's demand curve, it is familiar with the distribution of demand. The monopolist could offer the same a la carte price to all purchasers, but also implement a rebate scheme designed to induce self-selection by buyers according to their own demand. Such a strategy is often quantity increasing, but may reduce consumer surplus.[10]

8 See Bork (n 2); See, eg *Virgin Atl Airways LTD v British Airways PLC*, 257 F.3d 256, 265 (2d Cir 2001) 'These kinds of agreements allow firms to reward their most loyal customers. Rewarding customer loyalty promotes competition on the merits'; Cf *Ryoko Mfg Co v Eden Servs*, 823 F.2d 1215, 1234 n 17 (8th Cir 1987) exclusivity encourages 'investment in marketing activity, and thus encourages interbrand competition'.

9 See eg Segal and Whinston (n 3) at xx; SE Masten and EA Snyder, 'United States versus United Shoe Machinery Corporation: On the Merits' (1993) 36 J L & Econ 33–70; D Besanko and M Perry, 'Equilibrium Incentives for Exclusive Dealing in a Differentiated Products Oligopoly' (1993) 24 Rand J Econ 646–67; Cf *Roland Mach Co v Dreesser Indus Inc*, 749 F.2d 380, 395 (7th Cir 1984) (Posner j) (mentioning that exclusivity may 'enable a manufacturer to prevent dealers from making free ride on his efforts ... to promote his brand').

10 See M Schwartz and D Vincent, 'Quantity "Forcing" and Exclusion: Bundled Discounts and Nonlinear Pricing' (2008) Issues in Competition L and Policy, ABA 29; A Majumdar and G Shaffer, 'Market-Share Contracts with Asymmetric Information' (2009) 18 J Econ & Manag Strategy 393–421; G Calzolari and V DenicolÚ, 'Competition with Exclusive Contracts and Market-Share Discounts' <http://www2.dse.unibo.it/calzolari/web/papers/competition_exclusive_contracts.pdf> accessed 3 December 2015.

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Empirical evidence

The up-to-date empirical literature on exclusive dealing and loyalty rebates does not provide us with conclusive evidence regarding the effects of these practices. It does provide us, however, with some evidence of particular effects in relation to particular industries. Grossman and Hart, for example, suggest that exclusive arrangements in the insurance industry are employed to encourage investment and promotional activities by retailers.[11] Heide, Dutta and Bergen's study suggests that exclusive arrangements are implemented in the electronics industry to prevent free-riding.[12] Conlon and Mortimer have learned that loyalty rebates implemented by Mars, Inc, the dominant candy manufacturer in the USA, intensify retailers' efforts, but may foreclose market segments to competitors,[13] and Marin and Sicotte, who have studied ocean shipping cartels, have demonstrated that exclusive dealing was used to protect cartel members from new competition.[14] Much empirical work is still needed in order to establish a more comprehensive understanding of the economic effects of loyalty discounts.

3. BUNDLING

Bundling occurs when a supplier produces a line of products and offers buyers a package of two or more products at a discount compared to the aggregate prices of the products when sold separately.

For example, suppose that a manufacturer produces products A and B, each priced at $10 when sold separately, but at $15 for both when sold as a package. A rival selling only product B may find it difficult to compete with the monopolist's bundle. To illustrate this, suppose that the manufacturer in the above example is a monopolist with regard to product A, but faces competition with regard to product B. A rival that wishes to sell product B to the purchaser (who, by assumption, must also buy product A) must face the fact that the purchaser must buy product A from the monopolist for $10. In order to match the price of $15 that the monopolist charges for the bundle, the rival must price his product at no more than $5. The rival's costs, however, may be higher than $5. If $5 is also below the monopolist's costs of supplying product B, then the rival will be unable to compete even if he is as efficient as the monopolist.

The bundling case is analogous to the loyalty rebate case considered above when purchasers' demand for the monopolist's product is such that they must purchase at least a certain quantity from the monopolist but can purchase additional units beyond this necessary quantity ('contestable units') from its rivals. In this scenario, a monopolist which applies a loyalty rebate—offering a discount or rebate when the

11 Stanford J Grossman and Oliver D Hart, 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration' (1986) 94 J Pol Econ 691–719

12 Shantanu Dutta, Jan B Heide and Mark Bergen, 'Vertical Territorial Restrictions and Public Policy: Theories and Industry Evidence' (1999) 63 J Marketing 121–34.

13 Christopher T Conlon and Julie Holland Mortimer, 'Efficiency and Foreclosure Effects of All-Units Discounts: Empirical Evidence' NBER Working Paper Series (2013) Working Paper 19709 <http://www.nber.org/papers/w19709> accessed 3 December 2015.

14 See Pedro L Marin and Richard Sicotte, 'Exclusive Contracts and Market Power: Evidence from Ocean Shipping' (2003) 51 J Indus Econ 193.

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purchaser buys all or most of his requirements of the product from the monopolist—is essentially offering a 'bundle' of the quantity the purchaser must buy from the monopolist (similar to product A in the bundling example) tied to the contestable units the purchaser may buy from rivals (similar to product B in the bundling example). Here, too, the loyalty rebate raises even greater concern if the rebate causes the contestable units, or even a portion of them, to be sold at a price which is *de facto* below the monopolist's cost of supplying them.

Supposedly, the monopolist, when bundling product A with product B, bears some short-term costs. The most obvious of these costs is the reduction in revenues associated with *de facto* pricing product B at a discount, and possibly below cost. However, as long as the *entire* bundle is sold at some profit, the monopolist can employ the strategy indefinitely, and it can therefore prove to be an effective (and relatively cheap) tool to drive competitors out of the market. This is in contrast to ordinary predatory pricing, where the monopolist only sells one product and necessarily bears considerable (and often prohibitive) short-term costs in order to exclude its rivals.

Indeed, economic theory suggests that, in certain circumstances, a monopolist can even exclude competition without bearing any short-term costs at all. The monopolist can do so by raising the price of the product under monopoly (or of the non-contestable units in the case of loyalty rebates) above the monopoly price and charging an effective marginal price below marginal cost (or below avoidable cost) for the additional product (or the contestable units in the case of loyalty rebates) when the products are sold as a bundle.[15] Not only is exclusion costless in such a scenario, but (again, unlike ordinary predatory pricing) customers do not enjoy discounts in the short term—the total price they end up paying is similar to the price they would pay absent bundling.

This strategy can also be applied in the case of a conglomerate supplier selling a bundle of various products.[16]

15 Suppose for example that Firm 1 has a monopoly in product A and faces competition in product B. The monopoly price for A is m and the competitive price for B is c. If Firm 1 would set the price of product A, when standing alone, at $m + e$, but would be willing to sell the bundle of A and B at the total price of $m + c$, then it effectively charges $c - e$ for product B. Supposedly, firm 1's sales would not be diminished, because the package's total price did not change. By doing so, Firm 1 can foreclose as efficient competitors from the market for product B without incurring any losses, because it still prices the bundle at its optimal price. In fact, the below cost price the monopolist charges for product B is immediately recouped in the A market. See Nalebuff (n 5). We elaborate below regarding the notion that this result of costless exclusion holds only if products A and B are complementary products that are bought in fixed proportions, and only if product B is homogeneous.

16 Suppose buyers require 100 different products (eg supermarkets or hotels requiring different kinds of consumer goods). Supplier A is a conglomerate supplying all 100 goods. Many other suppliers supply only some of these goods. One possibility is that supplier A charges a price equal to marginal cost 1 for each product. The total price of such a bundle is 100 and the marginal price for each product in the bundle is 1. Suppose now, however, that supplier A raises the price of each product to 1.20, but grants a rebate of 20 to those buying for 120. The total price of the whole bundle is the same as before (100), but the marginal price of each product in the bundle is negative: (−18.80). Here supplier A's market power stems from the fact that he offers buyers the efficiency of buying a large portion of their requirements from one supplier. Still, competing suppliers might offer the buyer a discount or quality advantage that more than offsets the buyer's cost savings from buying all of his requirements from one supplier. While competitive pricing, as in the first above-mentioned scenario, allows such a rival to compete on the merits,

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Because multi-product bundling can be frequently analogous to tying, most standard motivations for tying apply to bundling as well, as illustrated below.

Economic analysis

Bundling bears a clear resemblance to tying arrangements, and there are therefore many similarities in the economic analysis of the two practices. Many of the economic effects of tying arrangements are also relevant to bundling, although there are some significant distinctions between the two. Alongside the anticompetitive potential of bundling, there may also be, in certain cases, significant pro-competitive benefits. The conduct may also have mixed effects—both anticompetitive and pro-competitive—in a particular case. As is the case with respect to loyalty discounts, current studies tend to imply that the pro-competitive potential of bundling outweighs its anticompetitive potential. However, and again in a similar way to loyalty discounts, empirical evidence regarding the economic effects of bundling is inconclusive, and additional empirical work is warranted.

Anticompetitive effects

At first glance, it may appear that, although competitors may be excluded by bundling, consumers would not be harmed—they are not required to pay higher prices, and often pay lower prices than they would have paid absent bundling. It may also appear that the monopolist does not gain from foreclosing the competitive product markets. However, while this assumption may be valid in the short-term, the following paragraphs illustrate that, in the long-term, the strategy could have significant anticompetitive effects.

Raising barriers to entry. Bundling can raise barriers to entry into both the monopoly and the competitive product markets. If consumer demand for the monopoly product depends upon the additional purchase of the competitive product, effective bundling by the monopolist may entail that entrants into the monopoly market must also supply the competitive products (since stand-alone suppliers of the competitive products are excluded).[17] Thus, entrants into the monopoly segment may be forced to enter both markets simultaneously, and in doing so incur higher-entry costs and risk levels.[18]

Another theory of foreclosure is highlighted by the *Microsoft* case.[19] It arises under the presence of two conditions: first, that the competitive product is complementary to the monopoly product, in the sense that it can only be used in conjunction with the monopoly product; and second that, by producing the complement product, a competitor would be able to enter the monopoly product market in the future. If, in

the costless predatory bundling scenario (with the rebate of 20 to those who purchase for 120) forecloses such a rival from the buyer's business.

17 See Nalebuff (n 5) at 325; and Hovenkamp (n 2) at 461–62.

18 Hypothetically, the entrant into the monopoly product market could coordinate with potential manufacturers of the complementary products in order to reduce the barrier to entry. See Hovenkamp (n 2) at 462; Bork (n 2) at 374–75. However, the need to coordinate entry with another manufacturer itself involves additional costs and risks.

19 See *United States v Microsoft Corp* 253 F.3d 34 (DC Cir 2001).

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these circumstances, the monopolist forecloses the complement product market, it could prevent the entry of competing firms into both that product market and, consequently, the monopoly product market.[20]

Extracting additional monopoly rent through leveraging monopoly power. The traditional argument made by the Chicago School with respect to tying (and also with respect to bundling) was that the leverage of monopolistic power is not plausible, due to the 'single monopoly profit' theory. According to this theory, a firm with monopolistic power in a particular product market cannot increase its already monopolistic profit via tying an additional product to its monopoly product.[21]

However, more modern economic analysis establishes that leverage via tying could in fact be profitable for a monopolist. First, under some circumstances, the monopolist may be able to charge the monopoly price for the tying product and a supra-competitive price for the tied product, in order to extract some of the remaining consumer surplus for the tying product.[22]

Second, when the tied product is complementary to the monopoly product, but can also be used independently of it, and, in addition, there are scale economies in supplying the tied product, foreclosure of a significant portion of the tied product market can be profitable to the monopolist. To illustrate, suppose that there is a monopolistic manufacturer of machines, which inject salt into cans of food, and that the monopolist forecloses the salt market via bundling his salt with his machines.[23] Suppose further that competing salt manufacturers will become less efficient, as a result of that foreclosure reducing the quantities they supply. Such competitors may be driven out of the market, or may continue to operate only with higher costs of production. Consequently, the monopolist could charge consumers who require salt independently (and do not purchase his machines) supra-competitive prices, unconstrained by competing salt suppliers.[24]

20 The *Microsoft* case elucidates this theory. Microsoft is a monopoly in the market of operating systems for home computers (the Windows software), and enjoys 'network externalities' (occurring whenever consumers benefit from the increase in the number of consumers using the product). Microsoft, it was argued, feared the entry and expansion of Netscape into the Internet browser market through its Netscape Navigator, which became successful and was widely used by consumers. Microsoft's concern was allegedly that Netscape would establish a network of consumers for its Navigator that would enable it in the future to upgrade the Navigator software so it could serve as a substitute for Microsoft's Windows software. Therefore, according to the court's holding, Microsoft decided to eradicate its potential rival, developed its Internet browser, Internet Explorer, and tied it to Windows. Since computer purchasers did not require two Internet browsers, Netscape was rapidly pushed out of the market. See Viscusi and others at 275–80, 332–42; Elhauge at 417–18.

21 See Bork (n 2) at 372–75; Ward S Bowman, Jr, 'Tying Arrangements and the Leverage Problem' (1957) 67 Yale LJ 19, 20–23; Aaron Director and Edward H Levi, 'Law and the Future: Trade Regulation' (1956) 51 NW U L Rev 281, 290–92; Richard A Posner, 'The Chicago School of Antitrust Analysis' (1979) 127 U Pa L Rev 925, 926; Keith K Wollenberg, 'Note, An Economic Analysis of Tie-In Sales: Reexamining the Leverage Theory' (1987) 39 Stan L Rev 737.

22 See eg Nalebuff (n 5).

23 This example is loosely based on the circumstances of *Int'l Salt v United States*, 332 US (1947).

24 See Viscusi and others, (n 20) at 278–85; Elhauge (n 20) at 413–17.

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Remark: costlessness of exclusion under product differentiation. Consider the basic example of costless exclusion, in which a monopolist charges a price of $m + e$ (ie e above the monopoly price) for the monopoly product (or for the non-contestable units in a loyalty rebate case); but then, after charging c for the competitive product (or contestable units), grants a rebate of e to those purchasing the bundle. The basic notion of costlessness and a lack of consumer benefit in the short-run which this example suggests could be challenged on the ground that, at times, not all of the monopolist's buyers are indifferent between buying its bundle and buying the monopoly product from the monopolist and the competitive product from a rival. If some consumers prefer buying the tied good from rivals (or, in the case of loyalty rebates, some buyers prefer to buy the contestable units from rivals), then, arguably, the bundling strategy may harm those consumers. However, there are a number of reasons why, even in this more complex case, the practice may well remain almost costless and almost lacking in short-term benefit to consumers.

First, if the monopolist is able to identify buyers who are not interested in his tied product or contestable share, then he can tailor his predatory discounts only to those buyers who are interested. Second, and even absent that ability to identify such buyers, if the tied product or contestable share sold by the monopolist is inferior to that offered by its competitors, this reduces buyers' willingness to pay for it even absent bundling. Absent bundling, and to the extent buyers prefer to buy the tied product or contestable share from its rivals, the monopolist would make no short-term or long-term profits from them. With bundling, on the other hand, the monopolist makes such profits. These profits can often outweigh the fact that buyers feel coerced to buy an inferior product. Therefore, it is not necessarily the case that the monopolist loses from bundling. It is even less clear that the monopolist loses from bundling in the short-run, moreover, when differentiation is 'horizontal' (ie some consumers prefer the monopolist's tied product or contestable share and some prefer competing products). For those buyers who prefer the monopolist's tied product or contestable share, they may even benefit from bundling. Conversely, for buyers who prefer to buy the tied product or contestable share from rivals, the previous remark applies: the monopolist may sacrifice some profits with regard to the monopoly product, but at the same time he gains with regard to the tied product or contestable share. Also, where there is product differentiation, competitive profits are greater than zero; and, in this sense, bundling may prove to be an even more profitable strategy for the monopolist than it is in the case where perfect competition exists in the competitive segment. Where perfect competition exists, bundling is merely a long-term strategy—employed to drive out rivals in the competitive segment and then reap monopoly profits. With differentiated products, on the other hand, there are also short-term profits to be derived from driving out competitors in the competitive segment. Any buyer snatched by the monopolist brings with him profits associated with imperfect competition, even prior to the successful elimination of rivals from the market.

Note also that, when differentiation exists in the tied market or contestable share, bundling can help the monopolist snatch customers from a rival that could not have been snatched without it. These are customers that have a preference for the competing brand, but are lured to the monopolist's brand in the competitive segment

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due to the bundle. The rival finds it difficult to compete with the bundle, despite it offering a product in the competitive segment which is preferred on its own terms.

To be sure, this also entails a pro-competitive effect, because the rivals of the monopolist are induced to react to its bundling by reducing prices, in order to protect their market share and lure consumers back to them. This pro-competitive effect could be balanced against the anticompetitive effects of bundling in specific cases.[25] Recall, however, that many exclusionary practices can be said to induce competitive responses from rivals that are *not* excluded. The underlying question, though, is whether exclusion is likely: if it is, then rivals will not be there to offer a more competitive deal, and this pro-competitive effect vanishes.

An extreme case in which the monopolist's tied product or the contestable share is inferior in the eyes of some consumers is that in which some consumers simply do not have any use for the monopolist's tied product or for the contestable share. Such consumers are clearly harmed by bundling of the two products. Here too, however, the monopolist will not lose from bundling if he can detect such consumers, and simply not apply the bundling strategy to them.

Pro-competitive effects

In this sub-part, we will review the situations in which bundling can serve to increase efficiency. Naturally, they resemble the efficiencies of ordinary tying arrangements, subject to a few distinctions.

Bundling as a means of reducing production costs. The possibility of technologically tied products generating lower production costs[26] is irrelevant to the bundling of products that are not technologically tied together. However, mere bundling may lead, in appropriate cases, to size or scope efficiencies, if, as a result of it, the quantity produced by the manufacturer of both the tying and the tied products increases.[27] The appropriate question to ask when the generation of such efficiencies is claimed is whether, in the particular case, these efficiencies could be similarly achieved in other, less anticompetitive, ways.

Bundling as a means of reducing marketing costs. Bundling could be said to be justified by a consequent reduction in distribution costs if, for example, it is cheaper to package the products as a bundle than to package them separately. An example could be of a medication addressing a runny nose and another addressing coughing. If advertised jointly, the costs of advertising would be spread between the two products, thereby justifying a discount for customers buying both.[28] More generally, the

25 Patrick Greenlee, David Reitman and David S Sibley, 'An Antitrust Analysis of Bundled Loyalty Discounts' (2008) 26 Int'l Indus Org 1132.

26 See eg Bork (n 2) at 378–79; David E Evans and Michael Salinger, 'Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law' 22 Yale J on Reg (2005) 37, at 52–66, 75–82; Phillip E Areeda and Herbert Hovenkamp, *Antitrust Law* ¶ 1717b1 (Wolters Kluwer 2015); Viscusi and others, (n 20) 278–79.

27 Bork (n 2) at 378–79; See also Areeda and Hovenkamp, ibid ¶ 1717b1; Evans and Salinger, ibid at 75–82.

28 See Hovenkamp (n 2) at 405.

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costs of selling two products as a bundle could be lower than when selling them separately due, for example, to reduced transaction costs.[29]

Bundling as a means of eliminating the double marginalization problem. The double marginalization problem arises when two firms with market power at consecutive vertical stages of production set supra-competitive prices independently. In such a case, the final product's price will be higher than the monopoly price which would be charged by a vertically integrated entity, while the output sold will be lower.[30] A similar double marginalization problem can arise when two complementary products are sold by two firms with market power.[31] If one of the firms were to exclude the other via bundling and becomes the sole supplier of both products, the double marginalization problem would disappear.

Bundling as a means of protecting quality and reputation. In some cases, the use of a product necessitates the purchase of accompanying complementary products. If the complementary products do not meet certain criteria and standards, the operating quality of the original product could be reduced, which could negatively impact upon its reputation. To overcome this concern, firms can ensure proper operation by bundling the product with its complementary products.[32]

Mixed effects

Price discrimination. Generally, bundling cannot replace tying as a metering device to achieve price discrimination.[33] Such tying requires the tied product to be priced above its marginal cost, in order to implement the metering mechanism and extract more from heavy users. It is not consistent with charging a low, or below cost, marginal price for the tied product.

Empirical evidence

In recent years, the empirical literature has been attempting to evaluate the impact of vertical restraints—which include tying and bundling arrangements—on consumer and total welfare. According to some existing empirical studies, vertical practices have significant pro-competitive effects, as they tend to lower prices and increase output.[34] However, there are only a few empirical studies which specifically focus on

29 See, eg Gregory S Crawford and Ali Yurukoglu, 'The Welfare Effects of Bundling in Multichannel Television Markets' (2012) 102(2) Am Econ Rev 643–85 ; Bork (n 2) at 379; Hovenkamp (n 2) at 457–58; and Areeda and Hovenkamp (n 26) ¶ 1717b1.

30 See eg Joseph J Spengler, 'Vertical Integration and Antitrust Policy' (1950) 58 J Pol Econ 347.

31 See eg Giuseppe Dari-Mattiacci and Francesco Parisi, 'Substituting Complements' (2006) 2 J Competition L & Econ 333. The theory can be traced back to Courno's analysis of the pricing of complementary products produced by monopolies.

32 See eg Michael A Salinger, 'Business Justification Defenses in Tying Cases' in Wayne D Collins (ed), *Issues in Competition Law and Policy* (2008) 1911, 1923; See Viscusi and others, (n 20) at 268; Bork (n 2) at 379–81; and Areeda and Hovenkamp (n 26) ¶ 1716a.

33 See Bork (n 2) at 376–78; see also Hovenkamp (n 2) at 467, 470; Viscusi and others (n 20) at 271–75; Areeda and Hovenkamp (n 26) ¶ 1717b1.

34 See eg Francine Lafontaine and Margaret Slade, 'Exclusive Contracts and Vertical Restraints: Empirical Evidence and Public Policy' in Paolo Buccirossi (ed), *Handbook of Antitrust Economics* (2007) 391, 408–09; Cooper and others, 648–58.

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bundling, and those that do only do so in the context of a narrow range of industries. For example Crawford and Yurukoglu studied the multi-channel television industry and found, *inter alia*, that regulation prohibiting multi-channel bundling would significantly increase negotiation costs;[35] and Ho, Ho, and Mortimer observed with regard to the video rental industry that full line forcing contracts were mostly implemented by less dominant firms, concluding there is only a weak potential for anticompetitive effects.[36] The scarcity of empirical analysis concerning bundling clearly indicates that much work is still to be done.

A different approach was taken by Muris and Smith, who conducted experiments that tested exclusionary bundling theories. Despite being carried out in an experimental setting designed to increase incentives for exclusion, the results did not generally find that monopolists' bundling decreased total or consumer surplus.[37]

IV. THE ANALOGY BETWEEN EXCLUSIVE DEALING, LOYALTY DISCOUNTS, TARGET DISCOUNTS AND BUNDLING, AND THEIR INHERENT TENDENCY TO SELL SOME UNITS BELOW COST

Before proceeding to the relevant legal framework, there are a few facts regarding the economic effects of the above-mentioned conditional pricing practices that are worth highlighting. First, exclusive dealing (where a buyer agrees to buy only from the supplier) may be equivalent, from an economic perspective, to a loyalty discount. Both bind the buyer to the supplier and may therefore foreclose, in certain cases, other suppliers. The intensity of this anticompetitive effect depends, *inter alia*, on the sanction the buyer suffers from breaching the exclusivity arrangement and buying from a rival. In the case of a loyalty discount, the sanction for not buying most of the buyer's requirements from the supplier is losing the rebate. In the case of ordinary exclusive dealing, the sanction depends upon to what the parties agreed and the applicable contract law doctrine. If specific performance is a likely remedy for breach under the circumstances, the buyer may be obligated by a court not to buy from rivals of the supplier. A similar result applies when the *de facto* sanction for non-compliance with exclusivity or loyalty is prohibitively costly for the customer (eg a refusal to deal by a monopolist with a 'must have' product). If, on the other hand, the only relevant remedy is damages for breach, the sanction is equivalent to these damages.

Another fact worth noting is that target discounts (a discount granted to a buyer if he reaches a certain target of purchases from the supplier) that are specifically tailored to the buyer's total requirements of the product in question (hereinafter 'a tailored target discount') may have the same anticompetitive effect as a loyalty discount. In fact, if the demand of the buyer is certain and the target is tailored to the buyer's total requirements of the product, it functions just like a loyalty discount: it induces the buyer to purchase a fixed percentage of his requirements from the supplier.

35 See Gregory S Crawford and Ali Yurukoglu, 'The Welfare Effects of Bundling in Multichannel Television Markets' (2012) 102(2) Am Econ Rev 643–85.

36 Katherine Ho, Justin Ho and Julie Holland Mortimer, 'The Use of Full-Line Forcing Contracts in the Video Rental Industry' (2012) Am Econ Rev 686–719.

37 Timothy J Muris and Vernon L Smith, 'Antitrust and Bundled Discounts: An Experimental Analysis' (2008–09) 75 Antitrust L J 399.

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Having emphasized the connection between loyalty discounts, tailored target discounts, and exclusive dealing, consider next the above-mentioned connection between loyalty discounts and bundling. When the buyer's demand for the monopoly product is such that the buyer must purchase at least a certain quantity of it, a loyalty discount (and therefore also an exclusive dealing contract or a tailored target discount) may be equivalent to bundling a 'must have' monopoly product with another product which is sold by the monopolist and is subject to competition. In both cases, the monopolist may be able to engage in costless (or at least almost costless) exclusion by raising the price of the 'must have' product (or non-contestable units) above the monopoly price and selling the competitive product (or contestable units) at a price that is below the monopolist's costs.

The analogy between loyalty discounts (or exclusive dealing) and bundling (or tying) also holds when the buyer may switch to the monopolist's rival for all of his requirements. Consider, for example a loyalty discount or exclusive dealing contract with a buyer that may otherwise buy all of his requirements from the monopolist's rival. Here, costless exclusion is usually not possible, because if the monopolist tries to elevate the price of purchasing any number of units, he risks losing market share to a rival. The same follows for bundling or tying. Suppose that there is a monopolist with regard to product A, but that buyers can purchase all units of product A from rivals. Such a monopolist would not be able to bundle his product A with his product B so as to costlessly exclude rivals who supply only product B. Once he tries to elevate the price of product A, he would lose market share to his rivals producing product A.

A final fact to note is that any loyalty discount, tailored target discount or exclusive dealing contract usually involves the *de facto* selling of units of the product at a price below cost. Buying a marginal unit from a rival causes the buyer to fail the loyalty scheme, the tailored target, or the exclusivity clause with an accompanying sanction. At the very least, purchasing this particular marginal unit from the supplier involves a *de facto* discount equal to the sanction which would be applied were that marginal unit to be purchased from a rival. Presumably, such a discount causes this unit to be sold at below cost. The greater the sanction (or loss of discount) for such a breach, the greater the number of units that are *de facto* sold at below cost.

V. THE LEGAL FRAMEWORK

This section will present the three currently prevailing tests for analysing conditional pricing: the quasi-per-se test; the price-cost test; and the rule of reason test. According to the current legal framework, courts—both in the USA and in the European Union—are divided, mostly between the quasi-per-se and the price-cost analysis. Commentators, however, seem to focus on the price-cost and the rule of reason tests.

The quasi-per-se test

According to the quasi-per-se test, if the following conditions are met then the firm under review has violated antitrust law: (i) the firm is a monopolist or is dominant; (ii) the firm forecloses any segment of the market; (iii) there is no redeeming efficiency justification.

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The law in the US regarding conditional pricing is not conclusive, but there are several important cases in which courts have applied the quasi per-se rule or a version thereof. In SmithKline,[38] for example, Lilly, the defendant, manufactured five cephalosporin products.[39] Two of them were protected by patents, while a third—a compound cefazolin—was sold by Lilly under the brand name 'Kefzol' and was subject to competition from SmithKline's 'Ansef'. In order to persuade hospitals to purchase Kefzol (rather than the Ansef produced by its competitor), Lilly designed a package purchase rebate, under which hospitals received a 3 per cent refund on all their purchases if they bought from Lilly a minimum volume of any three of its cephalosporins. But since Lilly's two patented products (which could only be obtained from Lilly itself), as well as the compound cefazolin, were essential to any hospital, the rebate plan essentially meant that a hospital would receive the rebate on all of its purchases if it purchased from Lilly a specified quantity of Kefzol. If attributed solely to the purchases of Kefzol by a hospital—rather than treated as a 3 per cent refund on all of a hospital's purchases—the value of the lump-sum rebate granted by Lilly was approximately 20 per cent. Since all hospitals required Lilly's two patented drugs, the rebate was *de facto* relevant to the package of three drugs (consisting of these two patented drugs and Kefzol). In other words, by linking the purchase of three cephalosporins together, Lilly's rebate scheme effectively offered a potential 20 per cent discount on hospitals' purchases of Kefzol—the only one of the three cephalosporins which was subject to competition. Under these conditions, SmithKline suffered losses and found it hard to compete with the Lilly's rebate,[40] and the Court of Appeals for the Third Circuit found that Lilly had violated section 2 of the Sherman Act. Although the Court's judgment does not use a price-cost comparison, and also does not explicitly state that Lilly's conduct constituted a loyalty discount, its reasoning suggests that the conduct at issue effectively blocked the ability of SmithKline to compete. Hence, Lilly's scheme probably constituted a loyalty discount, using our terminology: the target used to trigger the rebate was presumably tailored to induce hospitals to purchase most of their cefazolin-orientated antibiotics from Lilly, and the size of the rebate was such that it prevented rivals such as SmithKline—which supplied only a cefazolin-oriented antibiotic—from competing for those hospitals' demand. Another feature of this case was the 'must have' nature of Lilly's two patented antibiotics. This 'must have' nature further reinforces the perception that Lilly could have been engaging in costless predation: it may have raised the price of the 'must have' products (its two patented drugs) above the monopoly price, while selling at least some of the units of Kefzol below cost.[41]

38 *SmithKline Corp v Eli Lilly & Co*, 575 F.2d 1056 (3d Cir 1978), cert denied, 439 U.S.838 (1978).

39 Different types of antibiotics.

40 As the Court of Appeals stressed, '[t]o meet the bonus discounts offered by Lilly, a competitor was forced to more than meet the competition on the one product, cefazolin; it had to match the bonus rebate awarded to the hospital purchaser based on total purchases of three cephalosporins, including the leading sellers, Keflin and Keflex. In SmithKline's case, this meant it had to compete "three-on-one".' (575 F.2d 1056, 1062).

41 As emphasized by the same court in the Lepage's case (describing its prior decision in the SmithKline case), '[t]he gravamen of Lilly's § 2 violation was that Lilly linked a product on which it faced competition with products on which it faced no competition' (see *LePage's Inc v. 3M*, 324 F.3d 141, 156 (3d Cir 2003).

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In reading the case, however, it might be argued that the Court did not fully endorse a quasi-per-se approach, since its reasoning does seem to put weight on the fact that SmithKline's ability to compete was impeded. As the Court states: 'The district court's characterization of Lilly as a monopolist is further buttressed by its fair measure of success in insulating Kefzol from true price competition with Ancef by means of its [rebate plan]. The evidence demonstrates that Lilly's competitors did not have the actual or potential ability to capture a significant share of Lilly's business.'[42]

In LePage's,[43] the Court restated its reasoning in SmithKline. 3M, the defendant, had wielded monopoly power and held approximately 90 per cent of the market for brand-name tape, until superstores such as Office Depot and Staples began selling tape under their brand names as private labels. LePage's supplied most of the growing market segment of private label tapes, with 88 per cent thereof (although its total market share in the overall tape market was only 14 per cent). In response to LePage's emergence, 3M entered the private label segment itself, by offering a bundle rebate to selected leading customers. LePage's argued that 3M's actions had foreclosed it from the private label segment, because it could not profitably compete with 3M's aggregate bundle rebate programme. 3M's initial defence was that its total bundle price was above its total bundle cost and, therefore, legal according to the *Brooke Group* decision. Nevertheless, the Court ruled that 3M had violated section 2 of the Sherman Act. Here too, as in the SmithKline case, the Court does not explicitly label 3M's scheme as a loyalty rebate. From the court's reasoning, however, it is clear that 3M's rebate was indeed a loyalty rebate as defined by us above. As the Court of Appeals states:

> '3M offered many of LePage's major customers substantial rebates to induce them to eliminate or reduce their purchases of tape from LePage's. Rather than competing by offering volume discounts which are concededly legal and often reflect cost savings, 3M's rebate programs offered discounts to certain customers conditioned on purchases spanning six of 3M's diverse product lines. . . . 3M's rebate programs set customer-specific target growth rates in each product line. . . . If a customer failed to meet the target for any one product, its failure would cause it to lose the rebate across the line. This created a substantial incentive for each customer to meet the targets across all product lines to maximize its rebates.'[44]

Hence, although it was held that the entire quantity of private label scotch tape was sold by 3M at prices above costs, at least some of the units of private label scotch tape were, by definition, sold below cost. Consider a customer diverting a unit of private label scotch tape from 3M to Lepage's, causing the customer to sacrifice the entire rebate. This unit is sold by 3M *de facto* below its cost. This must have been the

42 575 F.2d, 1065.

43 *LePage's Inc v 3M,* 324 F.3d 141 (3d Cir. 2003).

44 324 F.3d at 154.

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case for several additional units, albeit not for the entire quantity sold by 3M in the private label segment.[45]

Moreover, the Court of Appeals holds that 3M's branded scotch tape, in which 3M held a monopoly, was a 'must have' product for 3M's customers, and it compares 3M's branded scotch tape with Lilly's two patented antibiotics from the previous SmithKline case:

> 'In both cases, the bundled rebates reflected an exploitation of the seller's monopoly power. Just as "[cephalosporins] [were] carried in . . . virtually every general hospital in the country," SmithKline, 575 F.2d at 1062, the evidence in this case shows that Scotch-brand tape is indispensable to any retailer in the transparent tape market.[46]'

However, it is not clear if, in Lepage's, the Court applies a strict quasi-per-se approach, rather than further inquiring whether 3M's competitors were actually or potentially foreclosed from the market. For example, the Court mentions, albeit in passing, that most customers diverted private label business to 3M due to its scheme.[47]

EU competition law applies the quasi-per-se approach when analysing retroactive conditional pricing discounts. In the early case of Hoffmann-La Roche,[48] the Court of Justice considered Roche's aggregated bundled rebate, which was offered to consumers who bought the majority of their requirements from Roche. The bundle included several different types of vitamins. The Court found the practice abusive because the rebate, granted on all types of vitamins, made it unprofitable for consumers to purchase single vitamins from Roche's competitors.[49]

In Hilti,[50] a dominant firm producing nail-guns, nail cartridges and nails, implemented a policy of reducing rebates on orders of nail cartridges by clients that purchased nails from Hilti's rivals. Thus, purchasers of nail cartridges were induced to prefer Hilti's nails over those of its competitors. The Court of First Instance ruled that Hilti's policy 'impairs competition inasmuch as it is liable to deter undertakings from establishing themselves in the market', and was, therefore 'improper'.[51]

In British Airways,[52] a dominant airline implemented a rebate scheme that awarded bonuses to travel agents who met individualized targets for selling British Airways tickets. The bonuses were calculated as a percentage of all tickets sold by the agent. The Court of Justice ruled that, by applying its discount plan, British Airways had abused its dominant position.

In Michelin (II),[53] a dominant firm offered a standardized quantity rebate plan to all customers. According to the rebate plan, whenever a purchaser reached a certain

45 324 F.3d at 155. The Court introduces a similar analysis of Lepage's exclusive dealing allegations against 3M. See 324 F.3d at 158.

46 ibid.

47 324 F.3d at 160.

48 *Hoffmann-La Roche v Commission* [1979] ECR 461.

49 ibid para 110.

50 Case T-30/89 *Hilti v Commission*.

51 Para 100.

52 Case C-95/04 P *British Airways v Commission*.

53 Case T-203/01 *Manufacture française des pneumatiques Michelin v Commission*.

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quantity of purchases per year, it earned a rebate calculated according to the total quantity it had purchased. Although the plan seemed to constitute a mere quantity rebate, the Court analysed it according to its substance: since the amount of the rebate changed substantially for even small increments in quantity, it was held to have the effect of a loyalty rebate plan. Accordingly, the Court of First Instance concluded that the rebate scheme constitutes an abuse of dominant position.

In two recent important cases, moreover, the European Commission and the Courts have expressed their general discontent with loyalty discounts and target rebates, re-affirming the application of the quasi-per-se rule to them. In Tomra,[54] the dominant firm produced automatic recovery machines for empty beverage containers. The Court of Justice upheld the General Court's ruling that Tomra has infringed Article 102, because it implemented an exclusionary strategy in the form of exclusivity agreements, individualized quantity commitments and individualized retroactive rebate schemes. Tomra's intent was to protect its dominant market position by preventing new entry and limiting the growth of small competitors. The Court upheld the finding that Tomra had foreclosed a significant part of the market, despite not stipulating a threshold for the level of foreclosure required (if, indeed, it is required at all) for such a conclusion. Although the Court of Justice agrees with the Commission and the General Court that a significant (enough) portion of demand was foreclosed in the Tomra case (approximately 40 per cent of the market), it does not follow from its ruling that this is a prerequisite for liability. In fact, the Court of Justice states that 'competitors should be able to compete on the merits for the entire market and not just for a part of it',[55] and then continues to rule that 'a rebate system must be regarded as infringing Article 102 TFEU if it tends to prevent customers of the dominant undertaking from obtaining their supplies from competing producers'.[56] The Court further states that a price-cost comparison is not required in order to condemn retroactive rebates based on individualized targets that correspond to the customer's total or nearly total demand for a product.[57] Recall, however, that such a retroactive tailored target rebate by definition involves below cost pricing of at least some of the units bought by the customer. If the customer falls short of the target by even one unit, it sacrifices the entire retroactive rebate, which almost always exceeds the monopolist's marginal cost of supplying that unit—and the greater the size of the rebate, the more units are sold, *de facto*, below cost. The Court acknowledges that the dominant firm may show that the practice involves efficiencies that outweigh the competitive harm, but upholds the General Court's findings that no such efficiencies were successfully demonstrated by Tomra.[58]

Finally, in Intel,[59] on which we will elaborate in Section VII, the General Court held that the value of the discount, its duration, and the issue of actual foreclosure are all immaterial and not necessary for demonstrating an abuse of dominant position. The Court maintained, however, that the defendant could present a redeeming

54 C-549/10 P *Tomra Systems ASA v Commission.*

55 ibid at para 42.

56 ibid at para 72.

57 ibid at para 73.

58 ibid at para 75.

59 T-286/09 *Intel v Comission.*

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efficiency defence—although it is notable that, thus far, there is no decision of any EU court which has accepted such a defence in the case of loyalty discounts.

There is some criticism in the literature regarding the EC's quasi-per-se approach. Heimler, for example, advocates a move to a price-cost test applied to the contestable units, as is already done in some of the case law to be discussed below.[60]

The price-cost test

Price-cost tests for conditional pricing practices evolved from the recognition that, when the monopolist sets its price at a level which is below its own costs, it can exclude from the market an 'as efficient rival'. A price-cost test can be applied in various ways.

One way is to simply examine whether the monopolist is making an overall profit on the bundle. The problem with this approach, however, is that although a monopolist may be making an overall profit, as efficient rivals may still not be able to compete if some (although not all) of the units are sold to the customer at below cost.

Another way, often echoed in the literature and in a few decisions, is to identify the number of units of the product that the customer can buy from a rival ('the contestable quantity'), and examine whether the monopolist's reward for the customer's loyalty, divided by the number of units in the contestable quantity, causes the contestable units to be sold below the incremental cost of supplying them.

The problem with this application of the price-cost test is that the contestable quantity is extremely difficult to assess—even ex post by an expert agency, let alone by the monopolist's rivals in a private suit, or even by the monopolist itself. The task becomes even more formidable once we acknowledge that the contestable quantity needs to be assessed regarding each and every customer. Calculation of the monopolist's appropriate measure of cost may also prove to be extremely difficult, especially for a private plaintiff.[61] This task, however, is less insurmountable than the calculation of the contestable quantity. In many cases, it suffices to come up with a rough estimate. For example, if the conditional discount involves pricing some units at negative prices, it can be presumed that these are sold below cost. Moreover, if the plaintiff or the antitrust agency is able to show that the monopolist's marginal costs cannot be below a certain threshold, it suffices to show that the units were sold at a price below this threshold.

An alternative way to apply a price-cost test is to determine the rebate paid to the customer for his loyalty, and then determine how many units were sold below cost, or below some lower threshold of cost that the plaintiff or antitrust agency is aware of (including zero). For example, if the rebate is of $100, then surely the last unit below the tailored target was sold at a discount of $100 (since if the customer purchases this unit from a rival rather than from the monopolist, the customer sacrifices the $100 rebate). This exercise can be repeated for additional units below the target.

60 See Alberto Heimler, 'Below-Cost Pricing and Loyalty-Inducing Discounts: Are They Restrictive and, If So, When?' [2009] Competition Policy International 1.

61 See, eg Areeda and Hovenkamp (n 26) ¶ 504b; William M Landes and Richard A Posner, 'Market Power in Antitrust Cases' (1981) 94 Harv L Rev 937, 941; and Dennis W Carlton, 'Market Definition: Use and Abuse' (2007) 3 Competition Policy Intl 3, 7.

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If the bottom threshold assessed for the monopolist's variable costs is, for example, $1, the rebate implies that 100 units below the target were sold at cost, and 99 units were sold below cost. When applied in this way, the price-cost test does not demand an inquiry into the size of the contestable quantity. Instead, it determines the portion of the customer's requirements that are closed to as efficient rivals.

In the USA, the price-cost test has received growing support in recent years. In Ortho,[62] the defendant, Abbott Labs, was a supplier of five different blood tests: one for HIV, two for hepatitis B, one for hepatitis C, and one for a virus connected with leukemia (HTLV). It offered buyers a discount if they purchased a package of four products, and even a greater discount if they purchased all five. The defendant was the only firm supplying all five blood tests, and held substantial market power with regard to at least two blood tests, but each of the blood tests was also produced by competing firms. The court acknowledged that, when a monopolist has market power in one good, it can price a package including this good and a second good at above cost and still drive out as efficient competitors selling a second good.[63] Nevertheless, the District Court dismissed the complaint because the plaintiff, Ortho, had continued to make a profit despite Abbott's rebates.[64] Hence, the Ortho test is not ready to condemn rebates involving below cost pricing of marginal units as such. For example, as the decision states, it was undisputed that the two blood tests that the plaintiff could supply were sold by Abbott for a negative marginal price, because the price of Abbott's five-test bundle was lower than the price Abbott charged for purchasing only the three tests that the plaintiff did not supply.[65] But rather than examining whether any particular units were sold below cost, the Court asks instead whether the plaintiff could have overcome the rebate plan by continuing to sell to allegedly foreclosed customers and still make a profit from selling to them.[66] Since the evidence suggested that Ortho, the plaintiff, indeed made profits from selling to allegedly foreclosed customers, even after implementation of Abbott's rebate plan, the Court dismissed Ortho's allegations of an antitrust violation.

Similarly, in *Virgin Atlantic Airways,*[67] the District Court applied the *Ortho* test to British Airways' discount programmes for corporate customers and travel agents with bundled routes from Heathrow Airport, which used individualized targets to trigger rebates on all of the customer's purchases. Some of the targets were based on the share that British Airways enjoyed of the customer's total purchases of flights between the US and the UK, and others on a revenue target tailored to the customer. The Court did not explicitly dismiss Virgin's claim that prices for marginal routes sold by British Airways could have been predatory on the margin (ie sold below cost), and that such behaviour violates section 2 of the Sherman Act. Nevertheless, the Court did not accept a theoretical claim that the rebates paid to customers should be attributed to a marginal route, but instead demanded proof that the

62 *Ortho Diagnostic Sys, Inc v Abbott Labs, Inc,* 920 F Supp 455 (SDNY 1996).

63 ibid at 468.

64 ibid at 469.

65 ibid at 461.

66 ibid at 469.

67 See *Virgin Atlantic Airways Ltd v British Airways PLC,* 69 F Supp 2d 571 (SDNY) 1999), aff'd, 257 F.3d 256 (2d Cir 2001).

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rebates induced customers to make more purchases and that this caused British Airways to operate additional routes (rather than, for example, operating fuller existing flights).[68] The Court refused to analyse the mere pressure that the rebate places on a customer contemplating whether to buy from a competing airline, thereby sacrificing the rebate by not meeting the target tailored to him. Accordingly, the Court dismissed the allegations against British Airways.[69]

In Cascade Health Solutions,[70] the Ninth Circuit considered a claim against a hospital that offered bundled discounts to customers who made the hospital their sole provider for all of their hospital services. The court acknowledged that, when a monopolist sells a bundle, it can engage in the costless exclusion of equally efficient rivals who only sell a single product.[71] The Court holds, however, that some price-cost comparison needs to be conducted, so as not to create a rule that defends rivals who are less efficient than the monopolist.[72] Accordingly, the Court disavowed the District Court's jury instructions—which disregarded a price-cost comparison—and remanded the case back to the District Court. Nevertheless, the Ninth Circuit refuses to adopt a rule that simply compares the total costs of supplying the bundle and the total revenue the monopolist receives from the bundle, because such a rule allows monopolists to engage in bundled discounts that may exclude as efficient competitors.[73] The Court also declines to endorse the so-called Ortho test—examining whether an as efficient rival can be profitable despite the rebate scheme—because such a rule involves information that the monopolist is typically unaware of, and it is applied differently for different plaintiffs that have different costs.[74] Instead, the Court prefers a rule that allocates all of the discounts that the monopolist grants a buyer to the competitive product or products. If the resulting price of the competitive product or products is below the monopolist's incremental costs of supplying them, then the bundled discount excludes a hypothetical as efficient rival and a violation of section 2 of the Sherman Act may therefore be found.[75] Applying such a rule to the case of a single-product loyalty discount or exclusive dealing would involve allocating the entire discounts given in exchange for loyalty to all of the 'contestable' units—those which the buyer can buy from a rival rather than from the monopolist. Interestingly, the Court also dismisses the claim that the plaintiff needs to show good probability of recoupment by the monopolist, because, as the Court states, 'exclusionary bundling does not necessarily involve any loss of profits for the bundled discounter'.[76] The Court in Cascade also did not endorse the suggestion that part of what the plaintiff needs to show for an imposition of liability is an adverse effect on competition. Its reasoning, however, is merely that such a requirement would be redundant, given that the plaintiff in a private action needs to show antitrust injury

68 ibid at 579.

69 See Heimler (n 60), for a critique on US courts that *de facto* demand, in the case of loyalty rebates, actual exclusion rather than a potential for exclusion.

70 *Cascade Health Solutions v PeaceHealth*, 515 F.3d 883 (9th Cir 2008).

71 ibid at 897.

72 ibid at 903.

73 ibid at 904.

74 ibid at 906.

75 ibid at 906.

76 ibid at 910.

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anyway.[77] It therefore needs to be asked whether such a requirement exists when an antitrust agency, for example, assesses whether there was a violation, regardless of damages or antitrust injury. This question is meaningful, since it may be, in a particular case, that the monopolist's marginal price is below its average variable costs, pursuant to the price-cost test above, but that nevertheless rivals are not excluded. This may occur, for example, when a sufficient portion of buyers are not subject to the problematic rebates, so that they are open to rivals, or when rivals are excluded from the relevant market, but can continue operating in adjacent markets and can costlessly return to operating in the relevant market. Such rivals allegedly discipline the monopolist's pricing in the relevant market. In principle, deciding whether such a requirement exists depends on the balance between false positives and false negatives; but, as noted, the Court in Cascade does not deal with this requirement.

Finally, in the recent case of Eisai,[78] the defendant—Sanofi—offered hospital-group-purchasing-organizations loyalty discounts for its drug Lovenox, which dominated the relevant market. The highest discount, of up to 30 per cent, was offered to hospitals that purchased Lovenox for 90 per cent or more of their total requirements within the relevant drug class. Sanofi's intent to use the loyalty discounts in order to 'create obstacles for competitive products', in the form of penalizing hospitals that did not comply with higher prices of Lovenox (including using the market share rebates in order to prevent the entry of particular rivals) was well documented.[79] The plaintiff also claimed, and it was not disputed, that the loyalty discounts caused it to reduce its level of operation, thereby becoming less efficient.[80] Again, the District Court ruled in favour of the defendant, applying a price-cost test. But the court did not apply this test to particular units sold at the margin or to the non-contestable units, but rather to the bulk of all units sold by the monopolist—and this bulk was sold above cost. The Court did not reject the testimony of Eisai's expert, which showed that a hospital wanting to buy between 10 per cent and 62 per cent of its requirements from it ended up paying more for the drug, due to the elevated prices charged by Sanofi for the non-contestable units.[81] Nevertheless, the Court held that Eisai could have deepened its own discounts so as to mitigate hospitals' resulting unwillingness to purchase such large quantities of its drug. No analogy was made between the bundling of two products and the 'bundling' of the non-contestable units Sanofi sold and the contestable units that hospitals could potentially have bought from rivals, and no reference was made to the claim that exclusion via such bundling could be costless.

In the EU, as previously discussed, the courts apply the quasi-per-se test for loyalty rebates. Despite the case law discussed above, however, the European Commission, in its Guidelines on Abusive Exclusionary Conduct, seems to promote a price-cost approach similar to the test adopted by the US Ninth Circuit in

77 ibid at 910.

78 Available at <http://res.cloudinary.com/lbresearch/image/upload/v1396896076/Eisai_v_Sanofi_3_28_Opinion_Unsealed_nbzekj.pdf>.

79 ibid at p 15.

80 ibid at p 65.

81 ibid at p 63.

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Cascade.[82] The General Court in Intel, however, held that the Guidelines are not meant to provide a legality test, but rather a prioritization test for the Commission in determining on which cases it ought to focus.[83]

When it comes to the literature, several prominent commentators support price-cost tests.

Hovenkamp proposes to limit the application of the price-cost test to firms with near-monopoly power in supplying the relevant bundle of goods.[84] When the market includes one or more significant rivals who produce the entire line of items, or when a group of firms in the market could easily coordinate to offer the bundle, Hovenkamp would use the *Brooke Group* test and compare the price and cost of the complete bundle.[85] Moreover, according to Hovenkamp, the price-cost test would only be the first prong of the analysis, establishing a safe harbour.[86] Once the test has been satisfied, the plaintiff would have to additionally prove that the discount may injure competition and the absence of legitimate justifications.[87]

According to Nalebuff, a price-cost test applied to the marginal units (ie the 'tied' good, or the non-contestable units) is a *prima facie* condition for a violation. However, he contends that, in addition to demonstrating such below-cost pricing, a plaintiff should also prove significant foreclosure.

The rule of reason

A rule of reason analysis is widely used in antitrust law. It is implemented in scenarios where certain behaviour can be beneficial and pro-competitive in many circumstances, but harmful and anti-competitive in others, and where there is no clear bias in favour of the anti-competitive and harmful scenarios. A rule of reason for conditional pricing is based to a large extent on the equivalent test applied to exclusive dealing arrangements in the United States.[88]

According to the rule of reason, there is a violation of antitrust law only if the defendant's conduct may substantially harm competition, and only if there are no pro-consumer benefits of the conduct that outweigh its potential harm to competition.[89]

A rule of reason analysis was recently adopted by the US 3rd Circuit in *ZF Meritor v Eaton*,[90] in which the plaintiff—a manufacturer of heavy duty truck

82 See Guidelines paras 24–25.

83 See Intel (n 59); See also Wils, at p 6.

84 Phillip E Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles And Their Application* (2008 Supp.) ¶ 749a, at 143; ibid 749b at 146–47.

85 ibid ¶ 749b, at 147; ¶ 749, at 158–59.

86 For a similar approach see Muris and Smith (n 37).

87 ibid.

88 The Supreme Court in *Tampa Electric* held that exclusive dealing arrangements are not illegal per se, but the Court did not explicitly call for a broad rule of reason inquiry. See *Tampa Electric Co v Nashville Coal Co*, 365 US 320, (1961). Nevertheless, lower courts have read the Supreme Court's decision in Tampa as advocating the implementation of the rule of reason to exclusive dealing. See, eg *Ronald Machinery Co v Dresser Industries*, 749, 394 F.2d (7th Cir 1984). See also Areeda and Hovenkamp (n 26)¶ 1820 at 165–66.

89 For a general discussion regarding the rule of reason, see Areeda and Hovenkamp (n 26) ¶¶ 1507–1511. Regarding the implementation of the rule in the context of tying arrangements, see ibid ¶¶ 1728c, 1729; see also Microsoft Corp, 253 F.3d 34, 58–9 (DC Cir 2001).

90 *ZF Meritor v Eaton Corp* 696 F.3d 254 (3d Cir 2012).

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transmissions—argued that Eaton, the dominant firm, had driven it out of the relevant market by implementing loyalty discounts combined with other significant measures vis-à-vis all four existing Original Equipment Manufacturers (OEMs) (who in turn sell trucks to the end consumers). The Court rejected Eaton's argument that above-cost pricing cannot be a violation. It acknowledged that, if the monopolist uses price as the predominant mechanism of exclusion, a price-cost test is appropriate. But if *de facto* exclusive dealing is also achieved in a particular case via methods other than price discounts, a price-cost test is not a prerequisite for liability.[91] This is the case, according to the Court, even if it was the loyalty discounts that ultimately persuaded the customers to accept the overall *de facto* exclusive dealing contract.[92] Indeed, the Court found that Eaton threatened customers who failed to meet their targets with cancellation of the contract, price increases, and shortages of supply.[93] This threat had a coercive effect on customers, since Eaton's transmissions were a 'must have' product for the OEMs. The Court continued, stating that 'although prices are unlikely to exclude equally efficient rivals unless they are below-cost, exclusive dealing arrangements can exclude equally efficient (or potentially efficient) rivals, and thereby harm competition, irrespective of below-cost pricing . . .'[94] This is an important insight: if the monopolist threatens a customer with a sanction for disloyalty that imposes costs that are considerable enough, the customer will not purchase from an as efficient rival of the monopolist, regardless of pricing. In essence, it is as if the monopolist sells the marginal units at a discount equal to the harm such a sanction imposes on the customer. Naturally, such a discount would involve below cost pricing of those marginal units.

The rule of reason analysis of conditional pricing practices is advocated by several academic scholars. For example, Wright states that, in his view, 'loyalty discounts elicit the same concerns about raising rivals' costs that "total" exclusive dealing does and, for that reason, ought to be analyzed under the same legal rubric as exclusive dealing'.[95] Similar views have recently been expressed by Gates[96] and Salop.[97]

VI. THE IMPORTANCE OF THE RELEVANT CHARACTERISTICS RATHER THAN THE LABEL OF THE PRACTICE

As shown in Section IV above, exclusive dealing, loyalty discounts, tying, and bundling are all practices analogous to one another; and it does not therefore make sense to apply completely different legal rules to each of the practices based solely on how

91 ibid at 275.

92 ibid at 277.

93 ibid.

94 ibid at 281.

95 See Joshua D Wright, 'Simple but Wrong or Complex but more Accurate? The Case for an Exclusive Dealing-Based Approach to Evaluating Loyalty Discounts' at 20 (Remarks at the Bates White 10th Annual Antitrust Conference, 3 June 2013, <https://www.ftc.gov/public-statements/2013/06/simple-wrong-or-complex-more-accurate-case-exclusive-dealing-based> accessed 5 December 2015).

96 'Antitrust by Analogy: Developing Rules for Loyalty Rebates and Bundled Discounts' (2013) 79 Antitrust LJ 99.

97 See Steven Salop, 'Conditional Pricing Practices and the Two Anticompetitive Exclusion Paradigms' (Presentation at the DOJ/FTC Workshop on Conditional Pricing Practices, 23 June 2014, <http://www.justice.gov/sites/default/files/atr/legacy/2014/07/01/306674.pdf> accessed 5 December 2015).

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the practice is labelled. All of these practices induce customers not to purchase from the monopolist's rival. The rule that ought to be applied (quasi-per-se, price cost, or rule of reason), as well as the harm to competition, do not really depend on how the practice is labelled, but rather on the following characteristics:

Monopoly power

It seems that all possible rules (quasi-per-se, price-cost test, and rule of reason) mandate some demonstration of market power or a dominant position. Without market power, leverage of the monopolist's power in selling the non-contestable product or units in order to exclude rivals in the contestable product or units is not possible.[98] Common cases satisfying this requirement are those in which the defendant is the only supplier of a product, or those in which the defendant sells a substantial non-contestable quantity of a product (eg the case in which many end consumers prefer the monopolist's product and, hence, retailers must carry a minimal quantity thereof, or the case where rivals are capacity constrained and cannot supply all of a customer's requirements).

The case of a conglomerate that derives its market power from selling a bundle of products deserves further elaboration. Suppose that there is a firm who is the only one selling the whole range of products, while buyers wish to buy many of these products together from the same supplier. This case, too, satisfies the above-mentioned monopoly requirement. Possible variations of this scenario include cases in which buyers could alternatively buy a part of the bundle from each supplier. In such a case, other suppliers (such as smaller conglomerates selling only part of the whole bundle of products required by buyers) offer a substitute to the whole bundle sold by the monopolist, but this substitute is inferior. The superiority of the monopolist may grant him substantial market power over selling the whole bundle, or at least most of the products in the bundle together.

Costlessness of exclusion

As demonstrated above,[99] the costlessness, or near costlessness, of exclusion via conditional pricing depends on whether the monopolist's product, or a minimum number of units of the monopolist's product, is a 'must have' (or 'noncontestable') input from the point of view of the buyer, with no viable alternatives. In such cases, there is considerable concern that exclusion is costless, or almost costless, since the monopolist can raise the price of the non-contestable good or units above the monopoly price in order to subsidize below cost pricing of the contestable good or units. Such scenarios justify at least two important legal implications. First, future recoupment of the short-term losses incurred in order to exclude is not necessary and should not be required. Second, the practice lacks the efficiencies that are associated with lower prices. The monopolist does not induce customers to be loyal via low pricing, but rather by intimidation: the price of the non-contestable goods or units goes up when

98 See, eg Areeda and Hovenkamp (n 26) ¶ 1820a, at 161 for a discussion of the market power requirement in the context of the rule of reason applied under US law to exclusive dealing, and Areeda and Hovenkamp (n 26) ¶ 1821b, at 174 for a similar discussion regarding conditional pricing.

99 Above text accompanying note 15.

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the customer is disloyal. Both these considerations may favour a rule that is stricter—such as the quasi-per-se approach—depending on the opinion or policy of the decision maker.

Of course, when the monopolist has ways other than pricing to induce loyalty, exclusion can be similarly costless. As long as the threat to retaliate against a disloyal customer is credible and effective, exclusion could be costless (even if applying the sanction involves costs for the monopolist). At the end of the day, the sanction need not be applied, since its deterrent effect alone would suffice to induce loyalty.

Conversely, some loyalty-inducing schemes could in fact involve costs for the monopolist. Consider the case in which the monopolist's product is not a 'must have' input, and customers can easily purchase all of their needs from the monopolist's rivals. Here, absent non-price ways to coerce buyers, the monopolist cannot subsidize below cost pricing of the marginal units by elevating the price of infra-marginal units. Here, an approach more lenient to the defendant—such as requiring recoupment in the long-run, or a rule of reason analysis—may be more appropriate.

The monopolist's product may not constitute a 'must have' input, yet it may still possess market power. For example, the customer may not want to purchase infra-marginal units at prices above the monopoly price, but still prefer to buy them at a price which is above the monopolist's costs. Such units can be defined as partly contestable. The monopolist could bundle these partly contestable units and fully contestable units via loyalty rebates. Because the monopolist possesses some market power with regard to the partly contestable units, the whole bundle can be sold at a profit, despite the fully contestable units being sold below cost. This is an intermediate case, where exclusion does involve some cost, and some short-term price reduction, so that it may deserve a rule of intermediate severity towards the defendant.

The size of the sanction for disloyalty and the ability of as efficient rivals to compete

An important step in examining the anticompetitive effect of a conditional pricing scheme is to ask whether particular customers affected by the scheme, or a portion of their demand, become closed to rivals. As noted, price-cost tests are useful in trying to detect whether the monopolist's rebates exclude as efficient competitors. The US case law tends to treat the price-cost test as a safe harbour for defendants, following Brooke Group. However, a price-cost test can be useful not only (or necessarily) as a safe harbour, but as an indicator, among others, of anticompetitive harm. For example, the fact finder can calculate the number of units sold below cost in order to see what portion of the customer's requirements, under the loyalty target, is closed to as efficient rivals. This portion need not be equal to the entire contestable portion (the entire number of units the customer is able to buy from rivals) in order to harm a rival's ability to compete. At times, the existence of various barriers to entry or expansion entail that rivals may initially need to be able to compete over smaller portions of the customer's demand in order to be able to expand in the long-run.

As discussed above,[100] applying the price-cost test to the entire of the monopolist's contestable share is extremely difficult. Furthermore, the exact contestable share

100 Above text accompanying note 61.

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is often unknown to the monopolist itself, so it would find difficulty in adjusting his behaviour so as to comply with antitrust law. Finally, as noted, the rebate scheme may be exclusionary even when only smaller portions of customers' demands are blocked to as efficient rivals.

Another issue that a decision-maker should look at is whether the case before it raises concerns due to an alternative theory discussed above—according to which the monopolist is trying to relax downstream competition via loyalty rebates.[101] If such concerns are raised, it matters not whether the rebates exclude as efficient rivals.[102]

Furthermore, as discussed in the case law above,[103] exclusive dealing and analogous practices can be achieved via non-price threats—such as a threat to stop supplying to a disloyal buyer, or other effective threats.[104] In these cases, it is more difficult to assess the monetary value of the sanction, and the price-cost test therefore becomes less useful. Typically, in such cases (unlike cases where loyalty is achieved solely via monetary rebates) the buyers themselves may not be content with the loyalty programme, because they may not be sharing a considerable portion of the profits which the monopolist reaps from its exclusionary practices. If possible, the fact-finder should seek evidence of such discontent (eg via internal correspondences on the buyer's side) in order to support the allegation that loyalty was achieved via methods other than pricing. Such cases involve threats to competition that are no less severe than below cost price incentives. In essence, if the penalty to a buyer for not being loyal to the monopolist is prohibitively costly (eg shortages in supply of an essential input), then the cost of the penalty may well exceed that of sacrificing rebates that involve below cost pricing. Such a penalty would be analogous to a loyalty rebate raising prices to infinity if the customer is disloyal. This, too, of course, involves de facto 'below cost' pricing; but does so in a trivial way that makes price-cost calculations redundant.

Significant market foreclosure

Under the rule of reason analysis applied in exclusive dealing cases (and in addition to proof that particular customers are foreclosed to rivals), evidence of significant foreclosure of the entire market is required in order to demonstrate the probability of substantial harm to competition.[105] Naturally, the degree of foreclosure is relevant, since when a large enough share of the market is foreclosed, the monopolist can constrain a potential rival's output and affect its ability to achieve scale economies (and in extreme cases can prevent entry altogether or induce the exit of rivals). Consequently, in the long-run, rivals cannot constrain the monopolist's market power, and prices remain high.

101 Above note 7 and accompanying text.

102 See Degraba and Simpson (n 7).

103 See, eg discussion of the Meritor case, above n 90 and accompanying text.

104 A similar case is where an entrant requires a minimum scale of operations in order to enter and buyers are captured in a collective action problem—each refusing the entrant's offer out of the fear that rival buyers would refuse as well and the entrant will not be able to enter. See E Rasmusen, JM Ramseyer and J Wiley, 'Naked Exclusion' (1991) 81 Am Econ Rev 1137–45; I Segal and M Whinston, 'Naked Exclusion: Comment' (2000) 90 Am Econ Rev 296–309.

105 Areeda and Hovenkamp (n 26) ¶ 1821c, at 176–77.

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Supporters of the rule of reason approach to conditional pricing advocate a similar requirement of substantial foreclosure for conditional pricing by a monopolist. Those who support a stricter approach—such as the quasi-per-se approach—on the other hand, do not require a demonstration of significant market foreclosure. According to the latter view, rivals of a monopolist should be able to compete over any and all customers, and it is not enough that a significant portion of demand is open to them. Since, as we have shown, exclusive dealing is analogous to conditional pricing, consistency with a quasi-per-se approach to conditional pricing dictates that a similarly strict approach should be applied to exclusive dealing imposed by a monopolist. Under such a rule, exclusive dealing imposed by a monopolist is treated more harshly by antitrust law than exclusive dealing imposed by a firm that does not enjoy a dominant position. The justification for this approach is that, with a dominant firm, competition is distorted by definition, and entrenchment of the monopoly position should therefore be subjected to greater scrutiny.

Within the rule of reason analyses of exclusive dealing, the case law currently offers no clear threshold of market foreclosure indicating illegality. According to Areeda and Hovenkamp, foreclosure of less than 30 per cent is harmless to competition and therefore should be presumed legal. When foreclosure is higher than 50 per cent, US courts find it easier to condemn the conduct.[106] Recall that, in the Tomra case before EU's General Court,[107] foreclosure of approximately 40 per cent of the market was considered significant and liability was found (although it is not clear that foreclosure of a significant portion of the market was a prerequisite for liability).

The mere percentage of demand that is foreclosed may at times be misleading. Consider a case where only 10 per cent of customers are foreclosed by loyalty rebates, but it turns out that these are the only customers that are willing to purchase some of their requirements from a rival, whereas the other 90 per cent of customers are loyal to the monopolist anyway. Here, it is enough for liability that the monopolist forecloses that 10 per cent of customers in order to prevent rivals from competing over any of its customers. It may, however, be extremely challenging for an antitrust agency, let alone a private plaintiff, to show that these 10 per cent are indeed the 'contestable' customers, whereas the other 90 per cent are 'noncontestable anyway'. Such concerns may be used as a justification for the adoption of a quasi-per-se approach.

Another challenging question is how much weight the decision-maker ought to put on the ability of rivals to continue operating in adjacent markets. Suppose, for example, that the monopolist in the market for food and beverages has foreclosed to rivals a significant portion of hotel chains in a certain country. Taking a rule of reason approach to its extreme would suggest that this alone is not enough to drive rivals out of business, since those rivals could continue supplying restaurants, supermarket chains, and the like. Because such rivals continue their operations, and assuming that their re-entry into selling to hotels would be costless, exit from the hotel segment would not prevent them from constraining the monopolist's pricing vis-à-vis hotels in the long run. The complexity of such an extreme rule of reason analysis,

106 See ibid.

107 Above n 54 and accompanying text.

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in addition to the relatively high probability of false negative errors that this complexity entails, may justify a preference for a quasi-per-se approach. A similar point may be made with regard to a claim that it is relatively easy for the rival to establish his own subsidiary within the customer's segment. For example, suppose that the monopolist forecloses a significant percentage of distributors. A full-blown rule of reason would consider whether a rival could relatively cheaply and quickly establish his own distributor, and thereby access end-consumers without requiring access to the foreclosed distributors.

Within a rule of reason approach, the question of whether rivals are foreclosed depends upon the corresponding barriers to entry or expansion. The portion of demand available to a rival should be assessed in conjunction with the entry or expansion barriers facing entrants. As noted, a small rival of the monopolist may find it difficult to expand to or enter at a large scale and selling large quantities to each buyer. It may be necessary, in order to secure its ability to enter and expand, to enable the rival to sell small quantities to each buyer, at least in the early phases of its expansion or entry.

Finally, and as will be discussed below, foreclosure at a certain point in time is meaningless without data about the period in which rivals may be foreclosed.

The relevant time period of the exclusivity

As previously noted, the foreclosure of a large percentage of the market is likely to exclude competition. However, it is also the case that, the shorter the period of foreclosure, the smaller the probability of exclusion. In the context of exclusive dealing, Areeda and Hovenkamp suggest that a period of less than one year should be presumed legal when there are no substantial switching costs, and when dealers in the same distribution system are observed to be switching.[108]

The rationale for such an approach is that a rival will not be excluded if, within a short enough period of time, customers would be open to his competitive offers. Accordingly, the fact finder needs to examine the length of the contract or offer and other factors that affect the customer's costs in switching to a rival. Note, however, that while a loyalty rebate may be phrased as expiring within a short period, its exclusionary effects may in fact persist for a longer term. Consider, for example, a loyalty rebate based on a yearly sales target. Supposedly, the term of the exclusivity-inducing contract is only one year. The same target is implemented, however, every year, with the same pressure imposed to accept the offer (eg bundling the contestable quantity with the non-contestable quantity, or other threats on the part of the monopolist).

Efficiency justifications

As noted above, conditional pricing practices may have efficiency justifications. Under all the relevant rules discussed above, if the plaintiff meets the preliminary burden of proving a *prima facie* case of illegality, then that burden is passed to the defendant to prove the existence of significant countervailing efficiency justifications. It is only if the defendant fails to prove such an efficiency justification that the arrangement is held to violate antitrust law.

108 Areeda and Hovenkamp (n 26) ¶ 1821 d3 at 186–87.

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From the past experience of antitrust authorities, it is clear that efficiencies are often difficult to verify and quantify. This is the rationale behind the requirement that it is upon the alleged offender to substantiate such claims, their likelihood and magnitude, so that they can be reasonably verified. As is the case with efficiencies in the field of merger control, efficiency claims need not be considered if they are 'vague, speculative, or otherwise cannot be verified by reasonable means'.[109] The alleged violator should be required to demonstrate how, and to what degree, the claimed efficiencies would be passed on to consumers. Since the efficiencies must outweigh the anti-competitive harm, it follows that, the greater the harm, the more important the efficiency justification needs to be.

Will the discount be passed on to consumers?

The ultimate 'efficiency' of conditional pricing schemes is allegedly the discount itself, which may be presented as a consumer-friendly move on the part of the monopolist. Loyalty discounts are often mistakenly defended on the basis that they involve lower prices for buyers. But this is not necessarily the case. It should be examined whether, under the particular circumstances of a given case, the discounts are likely to be passed on to consumers. If the rebate for loyalty takes the form of a lump-sum payment, for example, it is unlikely to be passed on to consumers, since it does not affect the customer's marginal cost of selling additional units. It should be noted in this respect that 'lump sum' rebates are more prevalent than it might superficially seem. As Degraba and Simpson stress,[110] a 'lump sum' payment could take the form of a 'discount applied to the purchase of infra-marginal units. In the latter case, the discount is a lump-sum because the buyer receives the same total discount irrespective of how many units it sells beyond some threshold'. Nalebuff too stresses that bundled discounts are rarely passed on to consumers.[111] To illustrate, consider a loyalty discount of 20 per cent off the price per unit granted to a customer who reaches a target of purchasing 90 per cent of his requirements from the monopolist. Suppose that the buyer currently is buying 80 percent of his requirements from the monopolist, and at that point receives an attractive offer from the monopolist's rival to buy the additional units the customer requires from the rival. The discount that the customer would sacrifice if he accepts the rival's offer would typically not be passed on to consumers, since it is retroactive and granted for units that the customer had already purchased. On the contrary, if the customer accepts the rival's offer, the price of marginal units goes down, and this price reduction is more likely to be passed on to consumers. Things may be different, however, when the customer engages in an ex ante 'auction' between the monopolist and rival firms, and makes the decision on how to divide his requirements among them at the beginning of the relevant period. Here, if the customer decides to buy exclusively, or almost exclusively, from the monopolist, he may take account of the discount in his marginal pricing decisions and pass some of the discount on to consumers.

109 See, eg the DOJ Horizontal Merger Guidelines.

110 See Degraba and Simpson (n 7) at 174.

111 Nalebuff, (n 5) at 322.

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VII. INTEL VERSUS EUROPEAN COMMISSION[112]

On June 2014, the General Court issued a judgment upholding in its entirety the European Commission's decision to impose a €1.06 billion fine on Intel for abusing its dominant position in the market for central processing units (CPUs).[113]

According to the Commission, Intel continuously infringed Article 82 EC (now Article 102 TFEU) from October 2002 until December 2007 'by implementing a strategy aimed at foreclosing a competitor, AMD, from the market for x86 CPU microprocessors'.[114] Prior to 2000, there were several manufacturers of x86 CPUs, but most of these manufacturers have since exited the market. From that point onwards, Intel and AMD have been essentially the only two companies still manufacturing the product.[115] In the relevant period, Intel held a dominant position in the global market for x86 CPUs. Intel's dominance manifested itself in its consistent control of a market share in excess of or around 70 per cent, and from the fact that the market for x86 CPUs is characterized by significant barriers to entry and expansion.[116]

In order to exclude AMD, Intel awarded four leading computer manufacturers—Dell, Lenovo, HP, and NEC—rebates that were conditioned on the manufacturers purchasing all or almost all of their x86 CPUs from Intel. In addition, Intel awarded rebates to the European retailer, Media-Saturn Holding (MSH), which were conditioned on MSH marketing exclusively computers with Intel's CPUs. The Commission concluded that these rebates significantly diminished Intel's competitors' ability to compete on the merits. Thus, Intel's strategy led to a reduction in consumer choice, in addition to lowering incentives to innovate.[117]

The Commission also found that Intel had abused its dominant position by imposing naked restrictions. This finding was based on Intel's payments to three computer manufacturers—HP, Acer and Lenovo—which were conditioned on these manufacturers postponing or cancelling their launches of AMD CPU-based products.[118]

In the part of its ruling concerned with the rebates granted to the computer manufacturers in consideration of 'exclusive or quasi-exclusive' supply, the General Court relied on the holdings in *Hoffmann-La Roche* and *Tomra*. The Court stated that, according to settled case law:

> 'an undertaking which is in a dominant position on a market and ties purchasers — even if it does so at their request — by an obligation or promise on

112 Judgment of 12 June 2014 in Case T-286/09 *Intel v European Commission* ('Intel'). An appeal by Intel against this judgment is currently pending before the Court of Justice: Case C-413/14 P *Intel v European Commission*. Our attention is focused on *Intel v European Commission* but it is worth noting that Intel's conditional pricing practices were central in several recent cases. In 2009 AMD's suit against Intel was settled for $1.25 billion, and in 2010 in *FTC v Intel*, the parties reached a settlement according to which Intel would cease the practice of conditional discounts on exclusivity or on sales of rivals' products.

113 A CPU is a key component of any computer, in terms of both performance and costs. The product is often referred to as the computer's 'brain'. See, eg Intel (112) at para 21.

114 Intel, ibid at para 20.

115 ibid at para 22.

116 ibid at para 25.

117 ibid at para 31.

118 ibid at para 33.

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> their part to obtain all or most of their requirements exclusively from that undertaking abuses its dominant position within the meaning of Article 82 EC [now Article 102 TFEU], whether the obligation in question is stipulated without further qualification or whether it is undertaken in consideration of the grant of a rebate.'[119]

The Court continued by stating that the same reasoning applies to circumstances in which an undertaking in a dominant position applies a system of loyalty rebates so that customers purchase all or most of their requirements from the undertaking.[120] Such rebates (which the Court refers to as 'exclusivity rebates', and which were granted to Dell, NEC, and Lenovo) do not require an analysis of the circumstances 'aimed at establishing a potential foreclosure effect'.[121] According to the Court, this type of rebates constitutes an abuse of a dominant position if there is no objective justification for granting it, even without proof of a capacity to restrict competition in the circumstances of the case.[122] Exclusivity rebates granted by an undertaking in a dominant position 'are by their very nature capable of restricting competition'.[123] Therefore, it is not necessary to examine the circumstances of the case at hand in order to establish that an actual restriction of competition occurred.[124] Such a conclusion holds not only where entry or expansion becomes impossible, but also where it becomes merely more difficult.[125]

Furthermore, even if an analysis of the circumstances of the case at hand had been necessary, it is not essential to carry out an 'as efficient competitor' test, meaning that it is not necessary to demonstrate that the dominant firm has set its prices at below some level of its cost. It is sufficient to demonstrate the implementation of a loyalty mechanism.[126] With regard to the Commission's Guidelines,[127] the Court held that they do not undermine its ruling, because they merely set priorities for enforcement policy and do not represent the current law pertaining to abusive conduct. Additionally, the Guidelines were published after the decision to open proceedings against Intel was taken.[128]

The Court further stated that Intel was an unavoidable trading partner for its purchasers, who had to acquire at least a portion of their demand from Intel.[129] Intel's competitors were thus in a position to compete only for the contestable share of the customer's demand. Therefore, if Intel's customer decided to obtain a portion of x86 CPUs from AMD, it risked losing not only the rebates for that portion, but the

119 ibid at para 72.
120 ibid at para 73.
121 ibid at para 79–80.
122 ibid at para 81.
123 ibid at para 85.
124 ibid at para 86.
125 ibid at paras 88, 149.
126 ibid at paras 144–45.
127 Guidance on the Commission's enforcement priorities in applying art 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings.
128 Intel (n 112) at paras 154–55.
129 ibid at para 91.

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rebate for the non-contestable quantity as well.[130] The Court concluded that Intel could have justified the exclusivity rebate system by showing counterbalancing efficiencies that benefit consumers. Intel, however, failed to put forward any such justification.[131]

The considerations of the previous section as applied to Intel

Monopoly

Apparently, it was not contested that Intel was the dominant firm in the market for x86 CPUs, as it held 70 per cent or more of a market with also presented significant barriers to entry and expansion. Under such circumstances, it would be reasonable to infer that monopoly power existed at the relevant time. In any case, Intel did not put forward any convincing evidence to the contrary.

Costlessness of exclusion

The Court did not explicitly address the question of whether exclusion in this case was costless. It did, however, repeatedly stress the fact that Intel was an unavoidable trading partner for the relevant customers. Intel's product was a 'must have' input for them, and they required a significant number of units of Intel's product. Hence, a non-contestable share existed in this case. This implies, as shown above,[132] that exclusion in the Intel case may well have been costless to Intel.

The size of the sanction for disloyalty and the ability of as efficient rivals to compete

As noted, the General Court did not require the application of a price-cost test in order to examine whether an as efficient rival is able to compete for the relevant customers. Nevertheless, the Court stresses that the rebate was retroactive in nature, and that, when a customer was not loyal to Intel, rebates on the entire quantity—contestable as well as non-contestable units—were cancelled. As we show above,[133] this implies that at least some of the marginal units sold by Intel must have been sold below Intel's costs of providing them. Still, the General Court does not require an examination of the number of units sold below cost in this way (to determine the number of units closed to equally efficient rivals). The Court also does not require a determination of the size of the sanction for disloyalty, to establish not only *if* it disturbs a rival's ability to compete on the merits, but also by *how much* it does so.[134]

The Court does not discuss alternative theories of harm to competition, such as the allegation that Intel's loyalty system may have been used to relax downstream competition among the computer manufacturers.[135]

130 ibid at para 92.

131 ibid at para 94.

132 Above text accompanying n 15.

133 Above text accompanying n 58.

134 See Intel paras 108, 109. The Court nevertheless noted that Intel granted rebates amounting to millions of dollars annually, which were granted, at least in part, in consideration for exclusivity. There is no finding, however, regarding the magnitude of this sanction for disloyalty as compared with total sales.

135 See Degraba and Wilson (n 7), for a discussion of this claim in the context of the Intel case.

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Market foreclosure

According to the General Court, in the case at hand, Dell's market share rose from 14.58 per cent at the beginning of 2003 to 16.34 per cent at the end of 2005. Since Intel offered Dell discounts on the condition that Dell purchased its entire x86 CPU requirements from it, it follows that between 2003 and 2005 Intel had foreclosed between 14.58 per cent and 16.34 per cent of the market solely through the rebates granted to Dell.[136] The Court considers such a share of the market as significant.[137] During 2006–2007, the share of the market affected was smaller, as the exclusivity payments concerned only MSH and Lenovo.[138] Nevertheless, the Court concluded that there was a single continuous infringement by Intel.[139] Even when assuming the average foreclosure percentage in the entire period was approximately 14 per cent of the market, the Court took the view such a share must be regarded as significant.[140]

In any case, the Court emphasized that the size of the foreclosed share is irrelevant when dealing with a dominant firm engaged in granting loyalty discounts.[141] In the Court's view, customers and competitors should have the opportunity to benefit from any degree of competition, within the entire market, and not just part of it.[142] Similarly, a dominant firm cannot justify granting a loyalty discount to a customer in a certain segment of a market by the fact that the customer (or other customers) remains free to obtain supplies from rivals in other market segments.[143]

Duration

The General Court rejected Intel's argument that its supply contracts were only of a short duration, or that they could be terminated at a 30 days' notice, and therefore should not be condemned. The Court held that the relevant criterion is not the duration of the notice period for terminating a contract, or the fixed duration of an individual contract, but rather the overall period during which the dominant firm applies exclusivity rebates vis-à-vis a customer.[144] In the present case, that period amounted to approximately five years in the case of MSH, approximately three years in the case of Dell and NEC, more than two years in the case of HP, and approximately one year in the case of Lenovo.[145]

136 ibid at para 190.

137 ibid at para 191.

138 ibid at para 192.

139 ibid at para 193.

140 ibid at para 194. Intel, for its part, argued that the practices at issue foreclosed only between 0.3% and 2% of the market, see Intel para 114. The Court, however, held that the calculation method used by Intel to reach these figures was erroneous, because Intel took account only of the contestable share concerning the relevant customers, together with MSH, rather than their entire market share. See Intel paras 114–15.

141 ibid at para 116.

142 ibid at paras 117, 132.

143 ibid at para 132. Accordingly, the rebates granted to HP must be regarded as illegal exclusivity rebates, even though the discount concerned only a particular segment of HP's requirements. See ibid at para 134.

144 ibid at paras 112–13.

145 See Intel para 195.

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Efficiency justifications

Intel did not offer any viable efficiency justification for its conduct. Some consider this fact as constituting evidence that Intel's conduct was anti-competitive.[146] One question that arises is whether Intel could have claimed that the lower prices involved in the discounts or rebates themselves had a pro-consumer upside that justified the loyalty mechanism in spite of its exclusionary effect. As our analysis in the sub-Section 'Will the discount be passed on to consumers?' above suggests, when rebates are retroactive in nature, they may not be passed on to end consumers.

VIII. CONCLUSIONS

Antitrust law regarding conditional pricing has evolved in a somewhat inconsistent way. Some decisions adopt a quasi-per-se rule, others a rule of reason, while others focus solely on a price-cost comparison. Weight also seems to be placed on the label of a practice rather than on more subtle characteristics. This can cause erroneous judgments since, as we show, loyalty rebates, target rebates, bundling, and exclusive dealing all actually constitute similar practices. Cases differ from one another based not on the label of the practice but, rather, on more subtle characteristics: the monopoly power of the supplier; the costlessness of exclusion (hinging on whether the monopolist's product is a 'must have' product); the size of the sanction for disloyalty and its effect on equally efficient rivals given their barriers to entry or expansion; the degree of market foreclosure; efficiency justifications, and whether the rebate is expected to be passed on to end consumers.

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146 See eg Wouter PJ Wils, 'The Judgment of the EU General Court in *Intel* and the so-called "more economic approach" to Abuse of Dominance' (2014) 37(4) World Competition 25.