Robust exclusion and market division through loyalty discounts☆

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ABSTRACT

We show that loyalty discounts create an externality among buyers because each buyer who signs a loyalty discount contract softens competition and raises prices for all buyers. This externality can enable an incumbent to use loyalty discounts to effectively divide the market with its rival and raise prices. If loyalty discounts also include a buyer commitment to buy from the incumbent, then loyalty discounts can also deter entry under conditions in which ordinary exclusive dealing cannot. With or without buyer commitment, loyalty discounts will increase profits while reducing consumer welfare and total welfare as long as enough buyers exist and the entrant does not have too large a cost advantage. These propositions are true even if the entrant is more efficient and the loyalty discounts are above cost and cover less than half the market. We also prove that these propositions hold without assuming economies of scale, downstream competition, buyer switching costs, financial constraints, limits on rival expandability, or any intra-product bundle of contestable and incontestable demand.

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1. Introduction

In a loyalty discount contract, a seller commits to charge loyal buyers (those who buy all or a high percentage of the product from that seller) less than other buyers.[1] Prior analysis of loyalty discounts has focused on whether they should be treated like exclusive dealing (because buyers only obtain a discount if she buys little or no product from

competitors) or like predatory pricing (because the seller is offering buyers lower prices through the discount). Part of the disagreement reflects differing assumptions about whether loyalty discounts involve buyer commitments similar to those in ordinary exclusive dealing or instead leave the buyer free to buy elsewhere if a rival offers a lower price. Both types of loyalty discounts are possible and present in actual markets, and it turns out that their analysis differs in certain ways.[2] To clarify the analysis, we model loyalty discounts with buyer commitment separately from loyalty discounts without buyer commitment.

First, we address loyalty discounts that a seller gives in exchange for a buyer commitment to remain loyal by not purchasing from the seller's rival. This analysis differs from that for ordinary exclusive dealing because loyalty discounts add a seller commitment to charge loyal buyers less than disloyal buyers. We show that this important feature of loyalty discounts creates distinctive anti-competitive effects that make loyalty

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[1] This discount could be either a fixed dollar discount or a percentage discount. The discount could leave the actual price unspecified ex ante; the seller commits only that the price for loyal buyers will be less than the price for other buyers. Some assert that actual loyalty discounts do not involve any seller commitment to maintain a loyalty discount. See, e.g., Crane (2013, pp. 286–288), Lambert (2012). In fact, such seller commitments are common in the health care industry, where dominant suppliers typically contract with hospitals through Group Purchasing Organizations (GPOs). In the typical contract, the supplier agrees with the GPO to offer contracts to GPO members with price tiers based on whether the hospital is loyal (buys a high percentage) from the supplier, with hospitals who agree to disloyal tiers getting a nominal "discount" from supplier-set list prices and those who agree to loyal tiers guaranteed a higher discount. See Elhauge (2002). These supplier-GPO contracts thus commit the supplier to charging loyal customers less than disloyal ones, even though both prices can be moved in tandem by changing the list price.

[2] Some assert that loyalty discounts generally do not involve any buyer commitments, see Crane (2013, pp. 286–289), but in fact they often do. See Elhauge (2002, pp. 2–8); see, e.g., Natchitoches Parish Hosp. Serv. Dist. v. Tyco Int'l, Ltd., 247 F.R.D. 253, 259 (D. Mass.2008) ("Tyco required purchasers to commit to buying a specific percentage of all of their sharps containers needs from Tyco in order to get the best pricing"); Natchitoches Parish Hosp. Serv. Dist. v. Tyco Int'l, Ltd., 2009 WL 4061631, at *5-6 (D. Mass. Nov. 20, 2009) (distinguishing loyalty discounts with buyer commitments from those without them). Castro v. Sanofi, 2015 WL 5770381 (D.N.J. 2015), also involved buyer commitments. In contrast, the court in Eisai Inc. v. Sanofi-Aventis U.S., LLC, 2014 WL 1343254, at *4 (D.N.J. 2014), concluded that "the Lovenox Program did not contractually obligate customers to purchase any amount of Lovenox from Sanofi." Einer Elhauge was a plaintiff's expert in these cases. Unfortunately, terms remain sealed in other court cases.

discounts with buyer commitment especially effective at excluding rivals.

Second, we model loyalty discounts without buyer commitment, where buyers receive the loyalty discount for buying a specified share from the seller but remain free to buy elsewhere if a rival offers a lower price. Many have analogized these loyalty discounts to predatory pricing.[3] Our model, however, highlights three crucial differences from ordinary predatory pricing: (1) in loyalty discounts, prices are conditioned on buying a certain share from the seller; (2) loyalty discounts need not involve any true discount because they merely set a difference between the prices charged to loyal and disloyal buyers that could just as easily involve raising the disloyal price above what the incumbent would charge without a loyalty discount; and (3) loyalty discounts involve a seller commitment to charge loyal buyers less than disloyal buyers. We show that these three features create distinctive anti-competitive effects that can make loyalty discounts more akin to market division than to predatory pricing.

The proper antitrust treatment of loyalty discounts has been a contentious issue. Some courts have held that loyalty discounts cannot be anti-competitive unless they are below cost, while other courts have rejected that proposition or held it applies only when price is the clearly predominant mechanism of exclusion.[4] In 2004, the Solicitor General advised the U.S. Supreme Court to avoid taking a case to resolve this legal conflict, in part because economic analysis on the topic was unresolved. Since then, the Supreme Court has continued not to intervene, while economic analysis on loyalty discounts has remained divided.[5]

For loyalty discounts with buyer commitment, we prove that, unlike ordinary exclusive dealing, they can have anti-competitive effects even if sellers lack economies of scale, buyers are final consumers, buyers can coordinate on their preferred equilibrium, and the contracts cover a minority of the market. Further, whereas for ordinary exclusive dealing a possible equilibrium involves all buyers rejecting anti-competitive exclusive dealing, we prove that universal buyer rejection is not a possible equilibrium if the entrant's cost advantage is not too large and there are enough buyers. In any equilibrium, enough buyers accept the loyalty discount to anti-competitively increase prices and reduce total welfare, and there always exists a possible equilibrium where all buyers accept, completely foreclosing a more efficient rival. None of these results depends on loyalty discounts being below cost; instead, the effect of loyalty discounts is to increase prices even further above cost. As with general exclusive dealing contracts, buyers must receive some upfront compensation in order to agree to these contracts, but the size of the required transfer goes to zero when there is complete exclusion as the entrant's cost approaches the incumbent's. Of course, this transfer could take many forms in actual cases, such as access to a good that only the incumbent can provide on somewhat more favorable terms.

What drives the difference in effects is that the incumbent commitment to maintain a loyalty discount softens competition for free buyers. The loyalty discount reduces the incumbent's incentive to compete for free buyers because lowering the price to free buyers requires lowering the price to captive buyers. This, in turn, reduces the entrant's incentive to compete for free buyers with aggressive pricing. This increases prices to free buyers, which inflates prices to captive buyers because their price is based on the loyalty discount from free buyer prices. Prices are elevated above competitive levels to all buyers, reducing consumer and total welfare.

This raises the question how can a commitment to higher post-entry prices deter entry? Not surprisingly, an externality drives this effect. For each additional buyer that agrees to a loyalty discount with buyer commitment, competition becomes less aggressive, raising prices for all buyers. The incumbent supplier only needs to compensate each buyer for her losses from these higher prices, but she gains from the higher prices affecting all buyers. Thus, the incumbent's gain from signing an additional buyer can exceed this buyer's loss while still falling short of the losses this creates for all buyers. This enables the incumbent to profitably induce buyers to agree to loyalty discounts with buyer commitment that reduce overall welfare and potentially exclude an efficient entrant entirely.

We focus on the case of buyers with independent demands (they could be final consumers or firms whose profits do not significantly depend on the price at which other firms purchase these goods) because Simpson and Wickelgren (2007) and Abito and Wright (2008) have already shown that intense downstream competition creates a different externality across buyers that can enable an incumbent to use exclusive dealing to create anti-competitive effects. The goal of our paper is to show that loyalty discounts can have anti-competitive effects in situations in which ordinary exclusive dealing contracts do not and to explain those effects in cases where buyer demand is not very dependent on the prices received by other buyers.[6] Adding competition between buyers would only strengthen the effect of the externality across buyers that allows firms to get buyers to agree to loyalty discount contracts that hurt buyers as a group.

We show that loyalty discounts without buyer commitment can create anti-competitive effects through market division rather than through exclusion. Because the incumbent's loyalty discount requires it to charge loyal buyers less than buyers who are not covered by the loyalty discount (uncovered buyers), the incumbent cannot lower prices to uncovered buyers without also lowering prices to loyal buyers. This makes it more costly for it to compete for uncovered buyers and effectively cedes those buyers to the entrant, which reduces the entrant's incentive to compete aggressively for covered buyers.

We prove that, if the entrant's cost advantage is not too large, loyalty discounts without buyer commitment soften competition and increase prices above competitive levels, reducing consumer and total welfare, although they cannot exclude a more efficient entrant from more than half the market. Thus, loyalty discounts without buyer commitment can also be anti-competitive even if they cover a minority of buyers. Further, these anti-competitive effects result even if the entrant is more efficient, and all loyalty discounts are above cost. Lastly, we show that the incumbent can accomplish this with a loyalty discount without any upfront payment to the buyers.

Our paper is related to the literature on ordinary exclusive dealing. Rasmusen et al. (1991) and Segal and Whinston (2000) showed that exclusive dealing can deter entry if there are many buyers and economies of scale in production.[7] Simpson and Wickelgren (2007) extend these

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[3] See, .e.g., Hovenkamp (2005), Lambert (2005), Hovenkamp (2006).

[4] Compare, e.g., Concord Boat v. Brunswick Corp., 207 F.3d 1039, 1061–62 (8th Cir. 2000) (must be below cost), with LePage's v. 3 M, 324 F.3d 141, 147–52 (3d Cir. 2003) (en banc) (need not be); ZF Meritor, LLC v. Eaton Corp., 696 F.3d 254, 269, 275 277 (3d Cir. 2012) (loyalty discounts need be below cost only if "price is the clearly predominant mechanism of exclusion.").

[5] For articles arguing that, like predatory pricing, loyalty discounts presumptively lower prices and cannot harm consumer welfare in the long run unless they are below cost, see Hovenkamp (2005), Lambert (2005), Hovenkamp (2006). For scholarship arguing that loyalty discounts can create anticompetitive effects similar to exclusive dealing, see Tom et al. (2000, pp. 615, 623–24, 627), Elhauge (2003, pp. 284–92), Spector (2005, pp. 99–101), Whinston (2006, pp. 144–47, 166–67), Kaplow & Shapiro (2007, pp. 1203 n.98 & 106 n.207), Elhauge (2008, pp. 406–412).

[6] In Natchitoches Parish Hosp. Serv. Dist. v. Tyco Int'l, Ltd (see Footnote 2), the buyers were hospitals who buy sharps containers, which is not a product they are reselling at all but rather something they are consuming in the process of selling health care services and that is a very small input to their ability to sell those services. Furthermore, many buyers are in entirely different geographic markets. Similar conditions are generally true for the GPO situations we reference in footnote 1, where the buyers are hospitals buying one of many inputs they consume when providing health care, like syringes or oximetry sensors.

[7] Other articles that find exclusive dealing can have anti-competitive effects include Aghion and Bolton (1987), Mathewson and Winter (1987), Spier and Whinston (1995), Bernheim and Whinston (1998), and Neeman (1999). Innes and Sexton (1994) argue that the Chicago School claim that exclusive contracts are necessarily efficient can be resurrected if one allows all the players to form coalitions and price discrimination is prohibited. Papers that have related loyalty discounts to exclusive dealing include See Tom et al. (2000); Elhauge (2003); Spector (2005); Whinston (2006); Kaplow and Shapiro (2007); and Elhauge (2008).