WHEN DOES EXCLUSIVE DEALING INTENSIFY
COMPETITION FOR DISTRIBUTION?
COMMENT ON KLEIN AND MURPHY

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In a recent article in this Journal, Benjamin Klein and Kevin M. Murphy argue that exclusive dealing contracts are procompetitive because exclusivity intensifies manufacturer competition for distribution and thereby decreases wholesale prices.¹ This is an important procompetitive effect of exclusive dealing, which explains why the practice can benefit consumers. However, it is important to understand when this effect is important, and when it is not.

For that purpose, this note extends the Klein and Murphy model to allow for asymmetric firms, so one firm can be dominant in the market. It is shown that the existence and strength of procompetitive benefits depends on the degree of competition among manufacturers. The larger the market power of the producer that engages in exclusive dealing, the smaller the effect outlined by Klein and Murphy. Hence, the efficiency-enhancing gains from exclusive dealing are least significant precisely when the danger of anticompetitive foreclosure is largest.

I. WHEN DOES EXCLUSIVE DEALING INTENSIFY
COMPETITION FOR DISTRIBUTION?

Klein and Murphy describe the following pricing game. There are two firms with two brands, A and B, which are differentiated from the perspective of consumers. Consumer preferences \( V_A - V_B \) for brand A rela-

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¹ Benjamin Klein & Kevin M. Murphy, Exclusive Dealing Intensifies Competition for Distribution, 75 Antitrust L.J. 433 (2008).
tive to brand B are uniformly distributed between the values of -1 and 1.\textsuperscript{2} Both firms have marginal costs equal to one and sell to retailers, who act as agents for final consumers. It is assumed that retail competition is so intense that changes in wholesale prices are fully passed on to final consumers. The time structure of the pricing game is as follows. First, retailers choose whether to invite offers for exclusive or non-exclusive representation. Next, firms A and B submit pricing offers, taking into account whether or not exclusivity is foreseen.\textsuperscript{3} Finally, retailers decide which quantities to order, given A’s and B’s offers.

Klein and Murphy demonstrate that in the absence of exclusive dealing, firms charge prices $P_A = P_B = 2$, which leads to equilibrium market shares of $Q_A = Q_B = 1/2$ for firms A and B. Under exclusive dealing, on the other hand, both producers charge a price of $P_A = P_B = 1$.\textsuperscript{4} Thus, exclusive dealing indeed decreases wholesale prices. The change in consumer surplus that results from exclusivity in the model is $\Delta U = 3/4$. This positive net effect reflects both the benefit of lower prices (which equals one) and the cost of reduced choice (which equals -1/4).\textsuperscript{5}

In sum, exclusive dealing in the Klein-Murphy model intensifies competition, decreases wholesale prices, and improves consumer surplus, because the decrease in prices more than compensates for the reduction in variety.\textsuperscript{6} This result formalizes the intuition behind Judge Frank Easterbrook’s statement that

\textsuperscript{2} This implies that the relative demands for brands A and B are given by $Q_A = (1 - P_A + P_B)/2$ and $Q_B = (1 - P_B + P_A)/2$, where $P_A$ and $P_B$ denote the price of brands A and B, respectively, and the size of the market is normalized to 1 unit.

\textsuperscript{3} Both manufacturers offer linear wholesale prices. Bernheim and Whinston have shown that exclusive dealing would have no effect if manufacturers could specify optimally designed non-linear contracts. B. Douglas Bernheim & Michael D. Whinston, Exclusive Dealing, 106 J. Pol. Econ. 64, 75 (1998). See also Daniel P. O’Brien & Greg Shaffer, Non-Linear Supply Contracts, Exclusive Dealing, and Equilibrium Market Foreclosure, 6 J. Econ. & Mgmt. Strategy 755, 777–78 (1997).

\textsuperscript{4} Maximizing brand A’s profit $Q_A \times (P_A - 1)$ with respect to $P_A$ and brand B’s profit $Q_B \times (P_B - 1)$ with respect to $P_B$ and then combining the two solutions yields the proposed equilibrium values in the absence of exclusivity. In the case of exclusive dealing, there cannot be an equilibrium with prices above cost because each producer could always slightly undercut its competitor if the latter asked for a price above 1 (i.e., $P_A = P_B = 1$).

\textsuperscript{5} Note, however, that the increase in consumer surplus of 3/4 is smaller than the loss in manufacturer profits of 1, so total welfare decreases with exclusive dealing.

\textsuperscript{6} Daniel Flores and Einer Elhauge have recently argued that Klein and Murphy’s results are not consistent with profit maximization. As the above derivations show, this criticism is unjustified. See Daniel Flores, Exclusive Dealing Intensifies Competition for Distribution: Comment 4, 7 (Jan. 1, 2010) (unpublished manuscript), available at http://ssrn.com/abstract=1542695; Einer Elhauge, The Failed Resurrection of the Single Monopoly Profit Theory, COMPETITION POL’Y INT’L, Spring 2010, at 184, 185.
competition-for-the-contract is a form of competition that antitrust laws protect rather than proscribe, and it is common. Every year or two, General Motors, Ford, and Chrysler invite tire manufacturers to bid for exclusive rights to have their tires used in the manufacturers’ cars. Exclusive contracts make the market hard to enter in mid-year but cannot stifle competition over the longer run, and competition of this kind drives down the prices of tires, to the ultimate benefit of consumers.7

But while exclusive dealing can intensify competition between producers, it is important to highlight when this is the case. To understand better the conditions under which Klein and Murphy’s result is robust, it is important to investigate further the economic mechanism that allows exclusive dealing to decrease prices in their model.

Consider Figure 1, which is adapted from Klein and Murphy.8 It depicts consumer preferences $V_A - V_B$ for brand A relative to brand B, which are uniformly distributed between the values of -1 and 1. The areas A and B in Figure 1 display the degree of product differentiation between brands A and B. They are the respective sources of the two firms’ market power, which allow the firms to charge prices above costs in the absence of exclusive dealing. Because some consumers prefer brand A, while others prefer brand B, both firms are able to earn profits.

Note however that, although A and B are differentiated from the perspective of individual consumers, they are not differentiated from the perspective of consumers overall. In Klein and Murphy’s model, brands A and B are completely symmetric (represented by the equal size of areas A and B in Figure 1). In particular, their model assumes that the same number of customers prefer A to B as prefer B to A and that their preferences are equally intense. Accordingly, if a retailer has to choose between exclusively offering brand A and exclusively offering brand B, it is indifferent as long as both brands charge the same price. Since brand A is equally imperfect for consumers who prefer B as brand B is imperfect for consumers who prefer A, the product differentiation present at the individual level vanishes at the aggregate level. In essence, exclusive dealing in the Klein-Murphy model intensifies competition because it replaces individual preferences for A or B with aggregate indifference between the two brands.

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8 Klein & Murphy, supra note 2, at 446.
However, producers that are accused of anticompetitive exclusive dealing in antitrust proceedings are often not in a symmetric position vis-à-vis their competitors, as assumed in the Klein-Murphy model. Hence, it is important to analyze the competitive effects of exclusive dealing in the case of asymmetric firms. Let consumer preferences \( V_A - V_B \) for brand A now be uniformly distributed between the values of \(-1 + \alpha\) and \(1 + \alpha\), where \(\alpha \geq 0\) denotes the degree of asymmetry between the two firms. If \(\alpha = 0\), this extension of Klein and Murphy’s model is identical to their original formulation. If \(\alpha > 0\), however, then brand A is stronger than brand B in the sense that more consumers prefer brand A and their preferences are more intense. Figure 2 depicts consumer preferences for the special case where \(\alpha = 1/2\) (so \(V_A - V_B\) takes on values between \(-0.5\) and \(1.5\)). In this case, the overall preference of consumers shifts towards brand A. Therefore, if both firms charge the same price, retailers prefer A to B.9

It is straightforward to show that without exclusive dealing, firms charge prices \(P_A = 2 + \alpha/3\) and \(P_B = 2 - \alpha/3\) in this extended model, which leads to equilibrium market shares of \(Q_A = 1/2 + \alpha/6\) and \(Q_B = 1/2 - \alpha/6\), respectively.10 Under exclusive dealing, producer A (the

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9 Note that if \(\alpha > 1\), then all consumers prefer brand A to brand B. Nonetheless, some customers may, in the absence of exclusivity, purchase brand B if it is cheaper than brand A. For an example, see infra note 13.

10 The introduction of asymmetric preferences implies that relative demand functions are now given by \(Q_A = (1 - P_A + P_B + \alpha)/2\) and \(Q_B = (1 - P_B + P_A - \alpha)/2\). Maximizing brand
FIGURE 2: ASYMMETRIC FIRMS

A’s profit $Q_A \times (P_A - 1)$ with respect to $P_A$ and brand B’s profit $Q_B \times (P_B - 1)$ with respect to $P_B$ and then combining the two solutions yields the equilibrium values in the text.

$^1$ This is the maximum price that firm A can charge without the risk of losing the bid to B. With a price of $P_A = 1 + \alpha$, retailers have no incentive to opt for brand B even if firm B decreases its price to cost ($P_B = 1$).
surplus that results from exclusivity in the extended model. It shows that the procompetitive benefits of exclusive dealing, while significant with symmetric firms ($\alpha = 0$), decline at an increasing rate as firms become asymmetric, ultimately turning negative as asymmetry gets large. In other words, while the procompetitive effect that Klein and Murphy highlight is important in markets of the sort described by Judge Easterbrook (where manufacturers of comparable size bid for exclusive representation), it may be a less compelling defense in many monopolization cases (where dominant companies may abuse their market power by foreclosing smaller competitors).

![Figure 3: The Consumer Benefits of Exclusive Dealing](image)

FIGURE 3: THE CONSUMER BENEFITS OF EXCLUSIVE DEALING

Note that the implicit “bribe” that firm A has to pay distributors not to sell products of firm B becomes smaller as the degree of asymmetry $\alpha$ increases (i.e., the price reduction for exclusive dealing becomes successively smaller as firm A becomes stronger). Yet, the benefit to firm A from foreclosing firm B may be substantial even if firm A produces a very dominant brand. Despite a preference of most (or even all) consumers for brand A, manufacturer B may place an important competitive constraint on A. As discussed in the literature on anticompetitive exclusive dealing, foreclosure through exclusive contracts can raise costs, induce exit, or prevent entry of firm B. The extended model therefore suggests that the cost to engage in exclusionary conduct can

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12 This change can be shown to equal $\Delta U = 3/4 - \alpha/2 - \alpha^2/36$.

13 In Figure 3, the change in consumer welfare becomes negative at about $\alpha = 1.4$, which corresponds to a market share of about 73 percent for brand A in the absence of exclusivity.
be relatively modest for a dominant firm, while the potential profit associated with foreclosure may be large.\(^{14}\)

II. CONCLUSION

This note has extended Klein and Murphy’s model of exclusive dealing by allowing for asymmetric firms. It was shown that the procompetitive effect of exclusive dealing is strongest when firms are symmetric, but weaker (or even absent) if the exclusive manufacturer has substantial market power.

This notwithstanding, there should be no ex ante presumption that exclusive dealing is anticompetitive, even if practiced by a dominant firm and even if the procompetitive effect described by Klein and Murphy is small or absent. Indeed, exclusive dealing often has other procompetitive effects, including but not limited to the prevention of free riding and the protection of prior investments.\(^{15}\) The antitrust assessment of exclusive dealing should therefore be based on a rule of reason that carefully assesses likely pro- and anticompetitive effects.

