

VERTICAL MERGERS AND MARKET FORECLOSURE

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ABSTRACT

In recent years, antitrust officials have recognized that vertical arrangements can cause competitive harm through two routes: first, they can facilitate collusion among rivals, and second, they can raise rivals' costs and thereby create barriers to entry or expansion. In this paper, we identify a third and separate pathway: vertical integration allows upstream monopolists to exploit more fully the market power that has already been attained. We explore the implications of this third pathway for antitrust policy.

1. INTRODUCTION

In an earlier paper, published 35 years ago, one of the authors addressed the topic of market foreclosure, and whether it is a useful tool to evaluate the competitive effects of vertical mergers (Comanor, 1967). Relying on Bork's conclusions of a few years earlier (Bork, 1954), he agreed that vertical foreclosure by a multi-stage firm directed against its single-stage rivals could not be used effectively to increase profits or restrict quantities. As a result, foreclosure by itself did not have specific anti-competitive effects.

In this paper, and armed with new findings regarding the stability of positions with market power, we reach different conclusions. While foreclosure achieved through exclusionary actions may not always be an effective tool to achieve a

monopoly position in the first place, we suggest below that it may well serve to retain this position and secure monopoly returns that might otherwise be diminished.

In recent years, we have come to understand more fully the opportunities that arise for opportunistic behavior on the part of customers and suppliers. To contest these tendencies, firms may adopt certain types of exclusionary actions that have the effect of foreclosing certain upstream or downstream rivals from the marketplace. In so doing, they aim to impede the expected development of more competitive results and buttress and maintain the firm's own market power. When used in this context, foreclosure may represent a successful strategy to inhibit rivals and maintain market power.

Antitrust authorities have similarly changed the focus of their concerns. This change is reflected, for example, in the Microsoft litigation (U.S. v. Microsoft, 2000, 2001). What is noteworthy about the relevant conduct that was challenged is that it had little to do with Microsoft's achievement of a monopoly position in the first place.

The story of Microsoft's attainment of that position is well known, and followed directly from its original contract with IBM at the dawn of the personal computer era. Instead, Microsoft's conduct was challenged for its potential impact on preserving a monopoly position that had already been attained. The allegation was that Microsoft feared the future development of new rivals, and moved specifically to divert this threat. The challenged conduct was thus more specifically related to the retention of its monopoly position rather than its attainment in the first place.

2. PRIOR STUDIES OF VERTICAL MERGERS

The modern analysis of vertical mergers begins with Bork's (1954) paper. His discussion derided the importance of foreclosure. He argued that even if the foreclosure of single-stage firms by their multi-stage rivals occurred, final prices would not be raised or consumers harmed. Bork's reason was that in any vertical stream of production, there is only a single monopoly profit that can be earned by a monopolist, whether or not it is vertically integrated. Therefore, the mere fact of vertical integration pursued by a monopolist through a vertical merger cannot have additional anti-competitive effects.

In addition, Bork's analysis went one step further by applying the theory of "successive monopoly." As was already known,¹ where a monopolist sells an input to a firm who in turn has monopoly power, the resulting price is still higher, and the quantity still lower, than that which would be set by a vertically integrated firm that acted as a monopolist. In these circumstances, vertical integration would lead

to lower prices and increased outputs, and therefore represent a pro-competitive event, as compared with the original situation in which both the input producer and the output producer exercise monopoly power. Thus, Bork argued vertical mergers were not likely to be anti-competitive and indeed were more likely to be pro-competitive.

Comanor's 1967 paper responded to Bork. It accepted Bork's critique that higher final prices did not necessarily follow from the foreclosure of single-stage rivals. However, it pointed out that foreclosure could well lead to the displacement of single-stage firms by their vertically integrated rivals. As a result, entry barriers could be increased by the resulting need to enter at multiple stages simultaneously. That result, of course, would depend on the particular circumstances involved.

In the years that followed, and particularly after the publication of the United States Department of Justice *Merger Guidelines* in 1982, the Bork critique became the conventional wisdom. The prospect that vertical integration achieved through vertical mergers could lead to enhanced market power was neglected in policy-making. During that era, there were few antitrust cases brought by the enforcement agencies against vertical mergers.

Although the policy climate changed only gradually, a new set of academic results appeared that questioned Bork's conventional wisdom. In the first place, various studies contested the notion that only a single volume of monopoly profits exists in a vertical stream where firms are limited to a single price. While correct under the assumption that all inputs are used in fixed proportions, the more recent analysis found that where variable proportions were possible, so producers could shift among inputs in response to price differences, integration could lead to higher product prices and reduced consumer welfare.² The limitation of Bork's conclusion to the case of fixed proportions, where producers cannot shift among inputs, opened the door to the view that vertical mergers could lead to increased prices to consumers and enhanced market power.

In addition, further academic research appeared which dealt directly with the competitive effects of market foreclosure. At the heart of this revised evaluation of vertical mergers is an emphasis on the strategic behavior of firms, where the reactions of rivals are taken into account. Those studies dealt with oligopoly markets where there are already restraints on entry, and are in direct contrast to Bork's reliance on more simple models of monopoly and perfect competition. Among the more important papers in this tradition are those of Hart and Tirole (1990), Ordover et al. (1990) and Riordan (1998).³ In the analysis below, we build on these papers and discuss a further set of factors under which vertical mergers may have anticompetitive results.

From the outset, there have been two lines of argument. One line emphasizes that vertical acquisitions can sometimes impose higher costs on non-integrated

rivals and thus permit an integrated firm to reap greater returns. A second line finds that integration can also be used to preserve or better exploit an existing position with market power. The second two papers noted above employ the first approach and conclude that vertical foreclosure is both feasible and can have anti-competitive effects.

Ordovery et al. (1990) employ a two-stage duopoly model within which a vertical merger occurs. The authors investigate prospects that the remaining upstream firm will set a higher price for the intermediate good following the merger. Where that result occurs, the effect is to increase the costs and then the price of the downstream rival, which in turn increases the profitability of the integrated firm. An additional element of their analysis is to identify circumstances where it is not feasible for the remaining non-integrated firms to merge as well.

Riordan (1998) on the other hand, observes that even dominant firms face constraints from the fringe firms that are found in most markets. Such firms set output levels where their marginal costs equal the price charged by the dominant firms, and thus increase their output in response to higher prices. As a result, they can restrain the ability of even dominant firms to achieve monopoly returns.

Riordan's analysis presumes that the fringe firms purchase their necessary inputs from the same suppliers as do the dominant firm; and so long as there is a rising supply curve for these inputs, backward integration by the dominant firm can be used to raise the cost of these inputs to the fringe rivals. In that case, the constraints imposed by these firms are lessened, and the backward integration becomes a strategy for achieving monopoly returns.

3. VERTICAL INTEGRATION AND FORECLOSURE

Among the more important insights associated with the second line of argument is that a firm with market power in an upstream market can profitably exclude or limit competition in a related downstream market in order specifically to realize the full gains from its original market power. That conclusion originated with Hart and Tirole (1990), and was extended by O'Brien and Shaffer (1992), and McAfee and Schwartz (1994).⁴

The analysis below describes this position in more detail. Although we explore the anti-competitive motivations for vertical integration and foreclosure, we acknowledge of course that vertical integration can also be driven by concerns for efficiency that enhance competition and benefit consumers. For this reason, there is no implication here that vertical integration always has an adverse effect on competition.

3.1. Framework of Analysis

We sketch here the basic framework used below to examine the effects of vertical mergers. There are two related markets, A and B. Market A, the upstream market, is dominated by one firm, while Market B, the downstream market, is potentially more competitive. To simplify this structure, let firm M have a complete monopoly in Market A, although it may or may not be originally present in Market B. In the absence of vertical integration, two independent firms compete in Market B. However, firm M may decide to enter that market by acquiring one of the existing firms, in which case it competes with the remaining firm.

For this discussion, let the good or service produced in Market A be used solely as an input into the product produced and sold in Market B. Furthermore, assume that all firms in Market B require access to this input. The output of Market A is thereby an "essential facility" for producers in Market B. Although there is potential competition in the downstream market, it can develop only if all competitors have access to this essential input.

In this structure, assume further that firm M produces the input A at constant unit cost c . The downstream firms transform this input into the final good, B, for which demand is given by $q = D(p)$. To complete the description of this industry, assume that downstream competitors use the same technology, which has constant returns to scale. To simplify the exposition, we normalize to zero the downstream costs of transforming the input into the final good.

3.2. The Old Leverage Doctrine and the Chicago Critique

The original foreclosure doctrine rests on the incentive for a firm such as M to restrict or deny access of its product to some potential buyers, such as B_1 and B_2 ; in order to favor a downstream independent firm or affiliate. An early version of that concern was that the upstream monopolist might seek to "leverage" its market power into the downstream segment by acquiring a downstream competitor and refusing access to its product to all others.

In response, the Chicago critique emphasized that the original monopolist had already extracted maximum profits through its pricing in the monopolized market. Since there was only one source of monopoly returns, there was no way for it to further extend its monopoly power.

To see this result, let p^M denote the industry monopoly price that maximizes industry total profits:

$$p^M = \arg \max_p (p - c)D(p),$$

and let $\pi^M = (p^M - c)D(p^M)$ denote the corresponding (fully integrated) monopoly profit. Suppose first that downstream firms fiercely compete in prices. The upstream monopoly could achieve this profit by charging a wholesale price w equal to the monopoly price:⁵

$$w = p^M.$$

If downstream firms compete instead in quantities (or more generally, if there is imperfect competition downstream), it can still generate downstream monopoly prices by adjusting the price charged for its input, and recover any downstream profit through such means as franchise fees.

More generally, the use of variable pricing methods, of which two-part tariffs are the most common example, can be used to resurrect the Chicago position that there is only one "pot" of monopoly returns to be had. That result, however, requires prices that are akin to those found with perfect discrimination, and still can leave unexploited returns when prices fall short of that ideal. The returns from foreclosing single-stage rivals following integration are thus affected by the pricing methods used prior to integration, as well as the scope for input substitution in the downstream market.

3.3. Foreclosure to Defend Market Power

Using the industrial structure described above, we now turn to circumstances where the upstream monopolist's capacity to extract profits from its original market is insecure.

3.3.1. A Simple Example⁶

The basic idea is suggested by the following example. Suppose there are nine final consumers where each consumes at most one unit of the final good. Let the production of both A and B be costless; and assume that the n th consumer is willing to pay $\$n$. The industry's monopoly price is then \$5, with sales made to five consumers, and profits of $5 \times \$5$, or \$25. Any other price leads of course to lower profits. And finally, suppose that M does not initially participate in Market B.

To reach this monopoly profit of \$25, M could contract with one of the B suppliers to provide five units of its input at a price of \$5 per unit. However, once M collected the \$25, it would now find it profitable to supply additional units to the second B supplier. Indeed, even if this second firm, called B₂, observed the first transaction and knows that the original five units are already available, it is still willing to purchase two additional units at a price of \$3.⁷

Note that this process is analogous to Type II price discrimination, although here the demand is not that of a single consumer. M sells five units at \$5 each to B₁ and two units at \$3 each to B₂. Total revenues (profits) are now \$31, and total quantity is seven units. As is well known, profits and quantities are higher than under a single price regime. Furthermore, having followed this course of action, M will then turn to any third B producer, who would now be willing to purchase an additional unit at a price of \$2, and so on.

When supplying the essential input to new producers, M exerts a negative externality on those who had previously purchased its product, because the earlier sales have the effect of intensifying competition in the downstream market. The fact that M has already sold some number of units at a high price means that it is now willing to sell additional units at a lower price. Its original purchases place the original buyer at a disadvantage as compared with firms who have not yet purchased the input. In effect, M expropriates the original buyer's profits.

To be sure, this effect is anticipated at the outset by all prospective buyers, which include all firms in Market B, so that none is now willing to pay more than \$1 per unit of A. In that case, total profits became $9 \times \$1$, or \$9. With a continuous demand curve, M's profits are even smaller, and converge to zero as the number of firms in Market B becomes large.

This example emphasizes the tenuous nature of monopoly returns whenever buyers recognize that sellers have an incentive to behave opportunistically. In those circumstances, buyers can play on these incentives, and in effect become opportunistic on their own part. Such conduct is likely whenever there are prospects available for secret contracts or renegotiations. As a result, *firms with market power are necessarily concerned with prospects for bargaining behavior on the part of their customers; and their actions are colored by this concern.*

A common strategy to confront this problem is to develop a reputation that its prices are fixed and will not be altered despite prospects for short-term gains. Where that strategy is feasible, and a credible reputation for such conduct can be developed, most sellers will adopt this policy. On the other hand, where the development of this strategy is difficult, a strategy of foreclosure becomes a likely alternative.

To reconcile this use of foreclosure with the earlier Chicago critique, we emphasize circumstances where an upstream monopolist cannot fully exploit its monopoly position without engaging in exclusionary practices. That result is broadly acknowledged in the specific contexts of patent licensing and franchising. Thus, a patent holder receives substantial profits from his invention only if he can commit himself not to behave opportunistically, by not flooding the market with licenses, since intense downstream competition would destroy the profitability of his original licenses. Therefore, a patent holder will generally agree to limit

the number of licenses. However, there is again a commitment problem: once he has granted some licenses, it is profitable to provide additional ones that generate additional profits even as they depreciate the value of the earlier licenses. While expropriation is ex post profitable for the licensor, it reduces his ex ante profits.

Similar results apply to franchising. Franchisees are unlikely to pay much to franchisors without a guarantee that new rivals will not be created on their doorsteps.

3.3.2. A Formal Analysis

The licensing and franchising examples involve binary decisions for input transfer: to grant or not a patent license or franchising agreement. However, the commitment problem raised in those cases is more general. It extends as well to situations where downstream firms purchase variable amounts of an essential input from an upstream monopolist.

To see this result, consider the earlier structure. The upstream monopolist M supplies its essential input at marginal cost, c , to two undifferentiated downstream firms, B_1 and B_2 ; where the final goods market is characterized by a decreasing, concave, inverse demand function $p = P(q)$. The interaction between the firms is modeled as follows:

- Stage 1: M offers each B_i a tariff T_i ; B_i then orders a quantity of intermediate product, q_i , and pays $T_i(q_i)$ accordingly.
- Stage 2: B_1 and B_2 transform the intermediate product into the final good, observe each other's output and set their prices for the final good.

This reflects a situation where M has all of the bargaining power. It makes take-it-or-leave-it offers to the downstream firms, and extracts all of their expected profits. In addition, the upstream supplier produces to order before the final consumers formulate their demands. Downstream firms thereby face a supply constraint when they market the final product.⁸ Given the quantities q_1 and q_2 purchased in the first stage, the downstream firms at the second stage play a standard Bertrand-Edgeworth game of price competition with capacity constraints. Since transformation costs are assumed to be relatively low, each downstream firm sells its capacity output q_i , at the market price, and receives revenues of $P(q_1 + q_2)q_i$.⁹

If the tariffs offered by M are observed by both downstream firms, as in the case of public contracts, M can fully exert its monopoly power and receive the entire monopoly profit. For example, it can supply each firm with half of the monopoly quantity, $q^M/2$, at the monopoly price, p^M . The downstream firms will accept this offer and together sell the monopoly quantity at the monopoly price. They assume correctly that the public nature of their contracts strengthens their enforceability, and have confidence that M will not expand output beyond the agreed-upon levels.

In a world of public contracts, there is little need for foreclosure. The upstream monopolist can exploit all of its monopoly gains without excluding any of its customers.

Offering those contracts, however, is not credible where contracts are secret, or can be privately renegotiated. In that case, the credibility of the original offer changes. Each B_i observes the contract it is offered but not the contract offered to B_j . If M and B_2 agree to contract for half of the monopoly quantity, M and B_1 then have an incentive to agree secretly to a quantity q_1 that maximizes their joint profits:

$$q_1 = \arg \max_q \left[P \left(\frac{q^M}{2} + q \right) - c \right] q = R^C \left(\frac{q^M}{2} \right) > \frac{q^M}{2},$$

where R^C denotes the standard Cournot reaction function. Hence, M now has an incentive to convince B_1 to buy more than $q^M/2$. Anticipating this result, B_2 would refuse the monopolist's offer.

Where secret contracts are possible, the temptation described above creates credibility problems. Equilibrium contracts depend on how downstream firms react to the seller's offers, which in turn depend on their beliefs about offers made to their rivals. It is plausible to assume that, when a firm receives such an offer, it does not revise its beliefs about offers made to its rivals. Secrecy, together with upstream production on order, implies that for the upstream monopolist, B_1 and B_2 comprise two separate markets, even though B_1 and B_2 themselves perceive a strong interdependency. Thus, the upstream monopolist has little incentive to change his offer to B_j when it alters B_i 's contract. Such conjectures are called passive, or market-by-market conjectures.¹⁰

Under passive conjectures, B_i , regardless of the offer received from M , expects B_j to produce the candidate equilibrium quantity, q_j , and is thus willing to pay up to $P(q + q_j)q$ for any given quantity, q . Having the entire bargaining power, M then offers to supply q_i so as to maximize joint profits from their bilateral relationship, which is:

$$q_i = \arg \max_q [P(q + q_j)q - c]q = R^C(q_j).$$

As a result, under passive conjectures, the equilibrium is unique and characterized by Cournot quantities, prices and profits. This insight, due originally to Hart and Tirole (1990) and further examined by McAfee and Schwartz (1994), highlights the commitment problem faced by the upstream supplier. Even though it has a monopoly position, its inability to commit itself credibly creates the prospect of opportunistic behavior first by itself and then by its customers, which actually prevents it from achieving the monopoly returns resulting from its position.

Moreover, the loss of monopoly power that is associated with this credibility problem, becomes more severe as the downstream market becomes more competitive.¹¹ This result has two implications. First, the upstream monopolist's profit grows smaller as the number of downstream firms increases." And second, for a given number of downstream firms, the upstream profit is smaller, the more substitutable are the downstream units.

The upstream seller has a major commitment problem: once he has contracted with a downstream firm for access to his essential input, he has an incentive to provide access to other buyers as well, even though those firms compete with the original one and would reduce its profits. As in the case of licensing or franchising, these prospects for opportunistic behavior reduce the upstream firm's profits, since its downstream customers are then not willing to pay as much for a given quantity.

This commitment problem is similar to that faced by a durable-good monopolist. As emphasized in Coase (1972), that type of monopolist may not be able to maintain monopoly prices because it "creates its own competition." By selling more of the durable good at later dates, it depreciates the value of units sold earlier. As a result, the prospect of further sales makes early buyers wary of expropriation, and therefore more reluctant to purchase the firm's product.

The analogy with the durable goods model also extends to the means that can be used to reinforce its monopoly power. First, a monopolist can attempt vertical integration, which removes the risk of opportunistic behavior. A vertically integrated monopolist no longer has an incentive to "free-ride" on its own subsidiary, and will thereby not supply its downstream competitors. In effect, the upstream division internalizes the negative externality imposed on the downstream division when selling to independent suppliers.

The same result applies to exclusive dealing, which provides a contractual solution to the commitment problem. The point here is that exclusive dealing eliminates downstream competitors by limiting the essential input to a favored buyer. Even where the upstream monopolist cannot unilaterally commit to refrain from selling more to other buyers, it may be able to contractually refuse to sell anything to such firms. This explanation applies when exclusive dealing arrangements are more public, and thereby more enforceable, as compared with contracts that concern the quantities of product to be exchanged.

An industry-wide retail price floor would also solve the upstream monopolist's problem. *M* has no incentive to "flood the market" if downstream firms cannot sell below the monopoly price. Interestingly, O'Brien and Shaffer (1992) show that bilateral price ceilings may also eliminate the risk of opportunism. The idea here is that an upstream monopolist can then squeeze downstream margins, thereby eliminating its temptation to free ride on downstream firms.

Finally, a monopolist can seek to develop a reputation for not acting opportunistically. For example, it can grant a *de facto* exclusive contract to a buyer, and refrain from supplying its competitors, even though it has no formal obligation to do so. The monopolist can also maintain a no-discrimination rule under which it sells at the same monopoly price to all downstream customers.¹²

Even when it is possible for dominant firms to engage in anti-competitive foreclosure in a downstream market, it is not always a rational strategy to follow. In some circumstances, an upstream monopolist can benefit more from a varied distribution system that improves the attractiveness of its product to final consumers. In that case, consumers may become willing to pay more for the product, allowing the upstream monopolist to extract more rent for its input. This result is particularly likely when a monopolist can fully exploit its position and has less fear that its customers will respond to its own incentives for opportunistic behavior. On the other hand, where the upstream monopolist is not able to exploit fully its market power in its home market, foreclosure can become a profitable strategy.

4. IMPLICATIONS FOR ANTITRUST POLICY

The analysis above has three broad implications for antitrust policy. First, when the risk of opportunistic behavior is substantial, the owner of the essential input has an incentive to limit competition among customers in the downstream market – not to export or leverage its market power but rather to exploit more completely the prospective returns from its existing market power. Foreclosure then becomes a profitable strategy, which leads directly to enhanced market shares for the affiliated firms and lower shares for all others.

In many situations, however, an integrated monopolist will not refuse to supply non-affiliated customers as much as to limit their access to the input. If, for example, independent downstream producers offer a higher quality or a lower cost product than that of its own division, or more generally, if they offer differentiated products, foreclosure can be costly because it limits the effective price at which the upstream product can be sold.

Furthermore, the original monopolist may face a competitive threat. If, for example, inferior producers of the input are ready to supply it to independent downstream producers, and buyers are originally unable to discern any differences, both profit maximization and social welfare considerations require that the original firm supply the input. In that case also, the upstream monopolist restricts but does not completely foreclose access to its input by independent producers.¹³

Second, it matters whether the more competitive of the two markets lies upstream or downstream. The risk of opportunism disappears when the essential input is

produced downstream. In that case, the monopolist would enjoy both a monopsony and monopoly position, and would dictate all terms in the industry. It would charge the monopoly price to final customers.

Third, nondiscrimination laws may have the perverse effect of restoring the more complete exercise of monopoly power. While it may be tempting to impose rules that require an upstream monopolist to provide all downstream competitors with the same prices and conditions of sale, such requirements could lead to higher average prices and a more complete exercise of monopoly power. These provisions would benefit the upstream monopolist by forcing it to sell any further units of its product at the same high price as the initial ones. They would help this firm to commit not to expand the market. In effect, nondiscrimination laws *eliminate* the risk of opportunism and restore an upstream monopolist's ability to exert fully its market power.

5. CONCLUDING COMMENTS

In recent years, antitrust officials have recognized that vertical arrangements can cause competitive harm through two routes: first, they can facilitate collusion among rivals,¹⁴ and second, they can raise competitors' costs and thereby create barriers to entry or expansion.¹⁵ In this paper, we identify a third and separate pathway. Whether through vertical integration or by imposing vertical arrangements such as exclusive dealing arrangements, upstream monopolists can defend their original positions. They can employ vertical arrangements to exploit more fully any monopoly power that has already been attained.

On this basis as well, vertical arrangements can have substantial anti-competitive effects. Those prospects must of course be balanced against any efficiency gains that might result. An effective antitrust policy turns on both sets of considerations.

NOTES

1. See Machlup and Tabor (1960).
2. See for example Vernon and Graham (1971), Warren-Boulton (1974), Westfield (1981), Waterson (1982). However, textbook examples sometimes show that total surplus increases with vertical integration even as consumer surplus declines. See Carlton and Perloff (1994, p. 518).
3. See also our prior paper on this subject: Comanor and Rey (2000).
4. See also Carlton and Waldman (2000); and Choi and Stefanadis (2001).
5. If downstream costs were not normalized to zero, they should be subtracted from the relevant wholesale price.

6. This example is borrowed from Rey, Tirole and Seabright (2001).
7. In this limited example, B_2 is indifferent between purchasing two units at \$3 and three units at \$2. Of course, with positive marginal costs, it would prefer the former alternative.
8. The capacity constraint is endogenous to the model in that it reflects how much input the downstream competitors have already purchased.
9. See Tirole (1988, Chap. 5), for more detail.
10. This market separability disappears when downstream competition is not of the Cournot type. Then it is plausible to assume that on receiving an uncertain offer, each downstream firm anticipates that M offers to its rival the contract that is best, given its own offer. These conjectures, called *wary beliefs* by McAfee and Schwartz (1994), coincide with passive conjectures in the case of Cournot competition, but differ from passive conjectures when downstream firms compete in a Bertrand fashion. See Rey and Vergé (2002).
11. For example, Rey and Vergé (2002) show that M receives less profit when downstream competition resembles Bertrand rather than Cournot competition under either passive or wary conjectures.
12. M may find it easier to develop a reputation for abiding by a de facto exclusive arrangement, since supplying a competitor is more readily observable than individual tariffs.
13. For more details, see Hart and Tirole (1990), and Rey and Tirole (1997). Note that vertical integration is then more efficient than alternative foreclosure means such as exclusive dealing. Exclusive dealing does not enable the original firm to supply several downstream firms and would thus completely foreclose efficient downstream producers and reduce consumer choice. In contrast, vertical integration allows this firm to supply non-affiliates while favoring the affiliate.
14. Jullien and Rey (2002), show that resale price maintenance facilitates inter-brand collusion by ensuring more uniform retail prices, thereby facilitating the detection of deviations from a collusive agreement.
15. Pitofsky (1997).

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