

Consumer Promotion, Exclusive Dealings and ‘Hold-Up Defense’

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ABSTRACT

Under incomplete contracts, exclusivity clauses might prevent hold-up behavior and thus sustain specific investments like consumer promotion. However, exclusive dealing might generate a trade-off between the enforcement of incomplete contracts and market foreclosure, in particular when the investor is a dominant firm. A simple model and the analysis of two main US antitrust cases, clarify the nature of such trade-off in presence of investments in consumer promotion.

Keywords: Exclusive arrangements, Consumer promotion, Asset-specificity, Incomplete Contracts.

1. INTRODUCTION

The purpose of this paper is that of investigating the trade-off between the enforcement of manufacturer's specific investments like marketing for consumer promotion (see, *inter alia*, Siguè 2008), through exclusive dealing (a contractual requirement by which retailers or distributors promise a supplier that they will not handle the goods of competing producers) and its associated market foreclosure. In particular, we outline the tension between the use of exclusive dealing to protect such investments involved in incomplete contracts (the "*hold-up defense*") and the anti-competitive impact on the market of retail. Consider a manufacturer stipulating a contract with a dealer (or retailer) regarding the activities targeted at final consumers to sponsor brands and increase sales of complementarity products within a store (cf., *inter alia*, Aiwaldi and Keller, 2004; and Grewal and Levy, 2007); with complete contracts, the dealer will match manufacturer's trade promotions, while with incomplete contract the dealer could try to reach her own strategic goals. In particular, the incompleteness of contract will give rise *ex post* opportunistic behavior of dealer. This circumstance means that the dealer can offer to manufacturer a credible renegotiation of contract (i.e., *hold-up*) on consumer promotion threatening to sell brands of manufacturer's competitors, after that the manufacturer has invested in promotion. Despite institutional arrangements prevent hold-up, the manufacturer is therefore induced to take into account such an opportunistic behavior and underinvest in consumer promotion. In order to align parties' incentives to maximise their expected joint rent, economic agents have to design optimal endogenous enforcement devices ("private orderings"), like the setting of exclusive dealings (Williamson, 1985; Frasco, 1991; Besanko and Perry, 1993; Klein and Murphy 2008).

In accordance with Marvel (1982), exclusive dealing is a device which is used to sustain manufacturer's property rights. In this respect, manufacturers are assumed to

"generate customers for their products through advertising and other promotional and brand-enhancement efforts [...] These customer-generating investments create business from which the dealer can readily profit, but there remains for the manufacturer the problem of charging its dealers for the additional custom. The simplest way to do is by incorporating the charge for the manufacturer promotional effort into the wholesale price of the good. That is, the manufacturer offers the dealer a tie-in sale—the physical product together with a set of likely customers for that product. A problem with the tie-in arises if the dealer is able to benefit from

manufacturer's promotional effort while avoiding the promotional charge. [...] [For instance,] the promotional charge is avoided if the dealer substitutes a similar, but unadvertised, brand for the advertised product. *Exclusive dealing, by preventing this sort of substitution, provides the manufacturer with a property rights to his promotional investment*' (Marvel, 1982, 6-7, italics is added).

This reasoning holds for promotional investments as well as other kinds of specific investments. Indeed, manufacturer can provide information about potential customers, sales training, equipment for servicing and repair, etc. etc.; and the benefits of such provisions are not confined to the manufacturer that offers them, but if dealer carries other brands, the manufacturers of these brands would also benefits from such services.

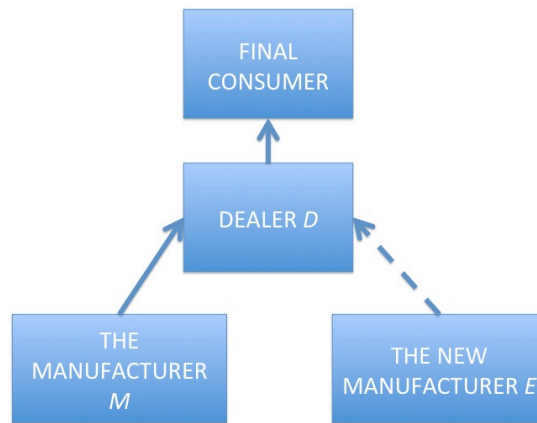


Figure 1

Figure 1 sums up our framework. The arrow between the manufacturer M and the dealer D represents the contractual relationship P , while the dotted arrow denotes a potential contractual relationship between the dealer D and the new manufacturer E . The institutional setting between the dealer and two manufacturers determines the level of investments in promotion and, therefore, the relevant variables for final consumer in the market. The suboptimal level of investments derives from the fact that the dealer D can offer a renegotiation of contract (hold-up) with the manufacturer M because it can “substitute” the specific relationship with a spot market relationship (i.e. selling brands of manufacturer's competitors) with E , after that the manufacturer M has invested in promotion. For this reason, exclusive dealings, increasing costs of substitution of manufacturer M for the dealer D , can safeguard the former from opportunistic behavior of the latter. Such a ‘*hold-up defence*’ however only considers ‘contractual’ efficiency, disregarding the social

costs of exclusive dealing, in terms of as market foreclosure against as efficient or more efficient competitors. Although an attempt to explain supply chain management with the lens of asset-specificity¹ is offered by Williamson (2008), our analysis considers also antitrust implications deriving from such an institutional arrangement.

We begin our analysis by exploring the exclusionary role of exclusive dealing in two well-known US antitrust cases, *United Shoe Machinery* and *Dentsply*. In both case, the defendant raise the ‘hold-up defense’ for exclusive dealing, i.e. as a way to protect specific investments like consumer promotion in incomplete contracts against the opportunistic renegotiation of dealers with outside options (Nicita and Sepe, 2011; Nicita and Vatiello, 2012). Both cases are paradigmatic cases, where entry deterrence was generated by the dominant firm’s strategic behavior through the adoption of high switching penalties. After having surveyed old and recent contributions (Posner, 1976; Bork, 1978; Masten and Snyder, 1993) on the efficiency rationale for exclusive dealing, we argue, through a simple formal analysis, that one thing is to evaluate on the merits contractual provisions, quite another is to compare the *internal* efficiency of contractual terms with the *external* efficiency of the resulting market configuration.

The structure of the work is as follows. Section 2 summarises the economic principles involved in *United Shoe* and *Dentsply* cases. Section 3 proposes a model with a problem of specific investments through the deterring device of breach penalties. Conclusions follow in section 4.

2. THE DEBATE ON EXCLUSIVITY AND ‘HOLD UP DEFENCE’

Incomplete contracts theory starts with the observation that is too costly to describe and enforce all relevant contingencies regarding the exchange in a contract. According to Hart (1987) a contract is incomplete when it involves at least one of the following transactions costs: (i) the cost to each party of anticipating the various eventualities that may occur during the life of the relationship; (ii) the cost of deciding, and reaching an agreement about, how to deal with such

¹ In the influential survey paper of Mentzer et al (2001) the supply chain management is considered “a multiform effort to manage the total flow of goods from the suppliers to the ultimate customer” (Mentzer et al. 2001: 7), including “customer relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, and product development and commercialization”. This *Journal* has devoted many pages on such a theme (e.g. see special issue of Levy and Grewal 2000), because retailers and customers are the end of the supply chain.

eventualities; (iii) the cost of writing the contract in a sufficiently clear and unambiguous way that the terms of the contract can be enforced; and (iv) the legal cost of enforcement. Contracts are therefore incomplete (see also Hendrikse and Jian on this *Journal*). According to Williamson (1985), Klein and Murphy (1988), Grossman and Hart (1986), Hart and Moore (1991) and Hart (1995), when incomplete contracts involve specific assets, investor will be locked-in into the contractual relationship because outside such a relationship – in the spot market – the ex-post value of investments will be lower. Agents who make specific investments are then vulnerable to counterpart's post-contractual opportunism and they might require appropriate safeguards, in terms, for instance, of breach penalties deriving from an exclusive dealing to be induced to invest.

Since the pioneering contribution by Aghion and Bolton (1987), the role of contractual breach penalties as a barrier to entry has been analysed by a wide number of scholars, as Chung (1992), Eaton and Engers (1992), Rogerson (1992), Schwartz (1992) Werin and Wijkander (1992), Leitzel (1993), Hermalin and Katz (1993), Spier and Whinston (1995), Noldeke and Schmidt (1995), Edlin and Reichelstein (1996), among others. While this literature analyzes the deterrent effect of exclusive dealing under a complete contract framework, we contribute to the above literature, by analyzing the optimal contractual penalties in an economic context characterised by the hold-up effect in presence of non-verifiable specific investments like those in consumer promotion. This allows us to outline how the adoption of contractual mechanism to prevent hold-up, may indeed reveal an anti-competitive and exclusionary conduct.²

Let's consider the pivotal case for exclusive dealings: *United States v. United Shoe Machinery Corporation* (110 F. Supp. 295, D. Mass. 1953, aff'd; 347 U.S. 521, 1954). In 1953, United Shoe Machinery Corporation held a dominant position (holding a market share equal to 85%) in the production of shoe machinery. *United Shoe* refused to sell its machines to

² Areeda and Hovenkamp (2002, 72) define exclusionary conduct as acts that: "are reasonably capable of creating, enlarging or prolonging monopoly power by impairing the opportunities of rivals; and that either do not benefit consumers at all, or are unnecessary for the particular consumer benefits that the acts produce, or produce harms disproportionate to the resulting benefits".

However, in the vast majority of cases, exclusion is a result of conduct that has both efficiency properties and the tendency to harm (potential) rivals. This is particularly the case of exclusive dealings where on the contractual party is a dominant firm. In this case, exclusive dealing may lead simultaneously (i) to significant harms for rivals in the relevant market, (ii) to maintain or even enhance the dominant firm's market power and (iii) to protect asset-specificity enhancements in context of contractual incompleteness. From an economic point of view it is crucial then to assess whether exclusive dealing may generate potential Pareto improvements of social or consumer welfare.

customers, according only lease contracts over shoe machinery for a minimum of ten years. Such a policy was evaluated as anticompetitive by the judge Wyzanski, who claimed the exclusionary potential of such lease provisions. Several objections to the court's analysis in *United Shoe*, have been made by Posner (1976), Bork (1978) and Masten and Snyder (1993), among others. In particular, the efficiency rationale for exclusionary provisions in the *United Shoe* case has been emphasized by Masten and Snyder (1993). They stress the enforcement role of the contractual provisions contained in *United's* lease contracts, in an economic context characterised by asymmetric information, potential post-contractual opportunism and not patentable know how. In particular, Masten and Snyder firstly analyse the merits of lease contracts and the economic context in which leasing represents an optimal response to contract (and market) failures and then they show how *United's* practices were aimed to provide such efficiency responses. According to their analysis, lease contracts were efficient where, among others the productive use of machinery requires the *development and dissemination of manufacturer-supplied information*. Still, in order to insure the warranting function of leasing, the primary responsibility and the expenses of repairs, should be carried on by the manufacturer. This means that, under leasing, residual rights of control and claims on residual value of assets should be transferred to the manufacturer – such a circumstance allows for a diminished incentive upon the customers to maintain and use machines with appropriate care (increased customers moral hazard). Hence, to motivate the provisions of information and repair services, these services should be priced implicitly in the rental price of machines.

The trade-off between the safeguard of investment in consumer promotion and competition in the market is more evident in the case *United States v. Dentsply Int'l Inc.* (277 F. Supp. 2d, D. Del. 2003). It is about Dentsply's anticompetitive maintenance of a monopoly (its market share was 75-80% on a revenues basis of the artificial tooth market, about fifteen times its nearest competitor) in prefabricated artificial teeth by preventing current dealers from adding competitive lines of teeth, and requiring prospective dealers to drop most or all competing brands in order to become a Dentsply tooth dealer. Dentsply had always sold its teeth through dental dealer network of about 23 authorized dealers – which resells dental products to end users (the “relevant” consumers are 7,000 dental laboratories) – but since February 16, 1993, Dentsply applied to its authorized tooth dealers the *Dealer Criterion 6* which stated, “In order to effectively *promote Dentsply/York products*, dealers that are recognized as authorized distributors may not add further tooth line to their products offering” (italics is added). However, the United States District Court for the District of Delaware affirmed that an

opportunistic behaviour by dealers was not a credible strategy and exclusive dealing as provided by Dealer Criterion 6 was not justified for protecting investments in promotion of products by Dentsply.

The hold-up defence argument is as follows. Dentsply maintains that, once it won the business of laboratories, it became “vulnerable” to losing that business and was thus entitled to preclude such a loss by adopting Dealer Criterion 6. Dentsply’s experts affirmed that Dealer Criterion 6 was necessary to prevent *free-riding* by dealers. In particular, Dentsply asserted that it increased promotional spending “geared specifically to the dentist” and dealers could engage in “bait and switch” steering of tooth customers. However, the “hold-up defence” was objected as follows. First and most important, the United States District Court for the District of Delaware found ample evidence that dealers stick with Dentsply because no rival can offer total dealer profits (margin × volume) that compares. Indeed, the level of sales that competitors could project in wooing dealers were minuscule compared to Dentsply’s. For instance, when Dentsply threatened Zahn – its dealer with higher market share – with termination if it started selling Ivoclar teeth (the manufacturer with higher market share, about 5%, after Dentsply), Ivoclar’s projected \$ 1.2 million in sales, about 85% lower than Zahn’s \$8 million in Dentsply’s sales. Therefore the fact that that new or existing manufacturer may “steal” a Dentsply dealer by offering a superior product at a lower price is not realistic because potential and actual competitors into the marketplace must confront Dentsply’s power over dealers. Second, even if Dentsply sells teeth to the dealers on an individual transaction basis and essentially the arrangements is “at-will”, the large market share held by Dentsply made such (exclusionary) arrangements as effective as those in written binding contracts. Hence, Dealer Criterion 6 imposes an “all-or-nothing” choice on the dealers and created a strong economic incentive in terms of opportunity costs for dealers; rivals simply could not provide dealers with a comparable economic incentive to switch. For these reasons, Court concluded that such an exclusivity policy imposed by the incumbent manufacturer on its dealers violates Section 2 of the Sherman Act.

A common lesson coming from *United Shoe* or *Dentsply* is that when the defendant is a dominant firm the internal efficiency of contractual provisions (as, for instance, the protection of specific investment through exclusive dealing) has to be compared with the market foreclosure *effect* induced against more efficient potential competitors. In this respect, the work by Aghion and Bolton (1987) shows how a firm can profit from exclusionary practices despite the need to compensate customers for agreeing to exclusionary terms, if the contract can be structured to extract economic rents from third parties (potential rivals or future

customers). The actual counterpart of a dominant firm may be induced to voluntarily accept contractual provisions that increase her exit costs, given that such restrictions will enhance her contractual power *vis-à-vis* the potential competitor of the dominant firm. Even if the nature and the extent of contractual provisions are not imposed by the dominant firm, but agreed by the parties involved in the contract on a voluntary basis, as in the *Dentsply* case, nonetheless they may harm potential competition and market efficiency. In other terms, if the customers free to contract, jointly considered constitutes a group with a dimension lower than the minimum efficient scale, competitors' entry may be still inhibited. According to Salinger (1988) the circumstance that the dominant firm doesn't clear the market by dealing with all the downstream firms, may be the outcome of a profit-maximising strategy.³ Still, as Rasmusen, Ramseyer and Wiley (1991) have shown, the monopolist may not need to compensate every customer in the market to deter competitors entry, but only enough customers to prevent the best rival from becoming a viable competitor. The incumbent supplier may sign up a "minority block" of retailers and use the rents he can then extract from the remaining retailers to bribe the first one.⁴ As Hovenkamp (1994) has argued, exclusive dealing might foreclose competition inefficiently if the upstream firm has a dominant market position and there is some kind of limitation on entry in the downstream market. Contractual provisions that act as breach penalties represent such a limitation on entry in the upstream market.

Hence, competition must be not only "available" or "viable", but also, quoting *Microsoft Corp. v. US*, 253 F.3d 34, 71 (D.C. Cir. 2001), must "pose a real threat" to market power. The exclusive dealing proposed by *United Shoe* and *Dentsply* made *still* available alternatives for rivals, but such alternatives were deemed to be just potential and not a credible "threat" against the incumbent's dominance. For instance, in the *Dentsply*, Court emphasized that rivals sold directly (and not by dealers) their products because was the best channel open to them, *given* Dealer Criterion 6. The channel of dealers was the most efficient way to distribute artificial teeth but *Dentsply's* competitors did not obtain an effective dealer distribution. In *Dentsply*, the dominant supremacy over the dealer implied the firm tied up the key dealers. Hence, Dealer Criterion 6 deprived competitors and dealers of their ability to distribute

³ Salinger (1988) shows that in a Cournot setting the upstream firm may prefer not to deal with a high number of downstream firms, because exclusive dealing contracts will lead to the same price in the final market but will bring additional retail profits that would otherwise go to the free downstream firms. An opposite outcome is reached by Ordober, Saloner and Salop (1990) in a Bertrand setting.

⁴ For a straightforward survey of the strategic aspects of vertical delegation see Caillaud and Rey (1994).

as they thought best. Similarly, in the *United Shoe* case, the circumstance that *United's* competitors were able to propose in advance a switch of the contract to *United's* customers it is not a sufficient condition to allow market access by more efficient competitors given the existence of return charges upon the termination of lease. Again in *United*, the voluntary nature of the agreement signed by customers could not represent a sufficient condition to avoid exclusionary effects. A firm can profit from exclusionary practices despite the need to compensate customers for agreeing to exclusionary terms, if the contract can be structured to extract economic rents from third parties (potential rivals or future customers). Lastly, providing extensive financial concessions to own customers, as in *United* might represent a strategic tool to enhance customers' loyalty, as *target rebates* do. In such a context, the exit costs involved by a contractual switch include the loss of such facilities for switching customers and then represent a surrogate for breach penalties.

Hence, the mere existence of other avenues of distribution, without an assessment of their overall significance to the market, is not a sufficient criteria to evaluate the conduct of a firm in a market. Both *United Shoe* and *Dentsply* showed that the *hold-up defense* – i.e. the use of exclusive dealing to protect incomplete contracts involving specific investments like consumer promotions – but as we demonstrate in the next chapter such a defense can become a defense against competitors and competition more than against opportunistic behaviours by dealers.

3. MODEL

This section presents an incomplete contracting model. At date 0 a dealer D stipulates an agreement P with a manufacturer M for the delivery at some future date T of a promoted good at a price p . At date 1 the manufacturer M makes a relationship-specific investment expenditure, $x \in \mathbb{R}_+$, which influences her cost of promoting the good to final consumer, $c_M(x)$, such that $\frac{\partial c_M}{\partial x} < 0$ at all x . For convenience, assume $c_M(x) \in [0,1]$. Suppose that the consumer promotion is always efficient, that is, $v > p > c_M(x_0)$ where v is the value of promotion for dealer and x_0 is a null level of specific investments.

The optimal level x^* of specific investments is such that

$$\frac{\partial c_M(x)}{\partial x} = -1 \quad (1)$$

Consider a context with complete contracts, i.e. the dealer can not renegotiate unilaterally the agreement P. By a non-cooperative game framework, the manufacturer M can choose between two strategies: *does invest* and *does not invest* in consumer promotion. The dealer D , instead, decides if *does match* or *does not match* M 's trade promotion. Assume that payoffs are defined by a Nash bargaining rule, i.e., given two agents it means *fifty-fifty* on surplus deriving from relationship.

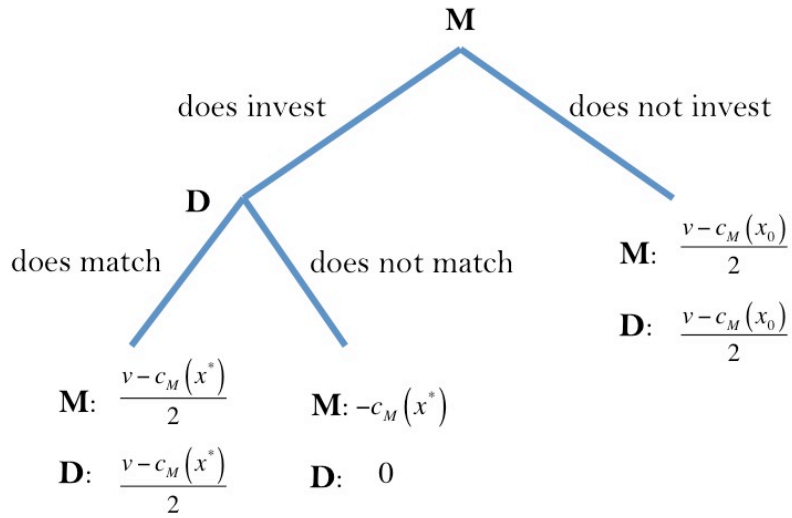


Figure 2

The subgame perfect equilibrium of the extensive form of our game is (*does invest; does match*). Indeed, the dealer will choose *does match* if the manufacturer will choose to invest because $\frac{v - c_M(x^*)}{2} > 0$; and, by backward induction, the manufacturer will decide to invest in consumer promotion given that $\frac{v - c_M(x^*)}{2} > \frac{v - c_M(x_0)}{2}$.

Now, consider the following assumptions.

- A. Each variable is commonly known by private parties, but not by a Court. It means that contracts are incomplete (IC).
- B. At $t = 2$, after the investment and before the delivery, a realization of the random variable s occurs, which is drawn from a density function $f(s)$ that is strictly positive on its support $[0,1]$.

- C. A new manufacturer E can entry at $t = 2$. Her function cost c_E , with $c_E \in [0,1]$ depends on occurrences s as follows $c_E(s) = c_E + s$.

In an extensive form when contract are incomplete and if Nash surplus-sharing rule holds, the hold-up (i.e., *does not match*) determines a positive payoff for the dealer, $\frac{v-c_E(s)}{2}$. It means that the situation (*does invest; does match*) is an equilibrium if and only if $\frac{v-c_E(s)}{2} \leq \frac{v-c_M(x)}{2}$.

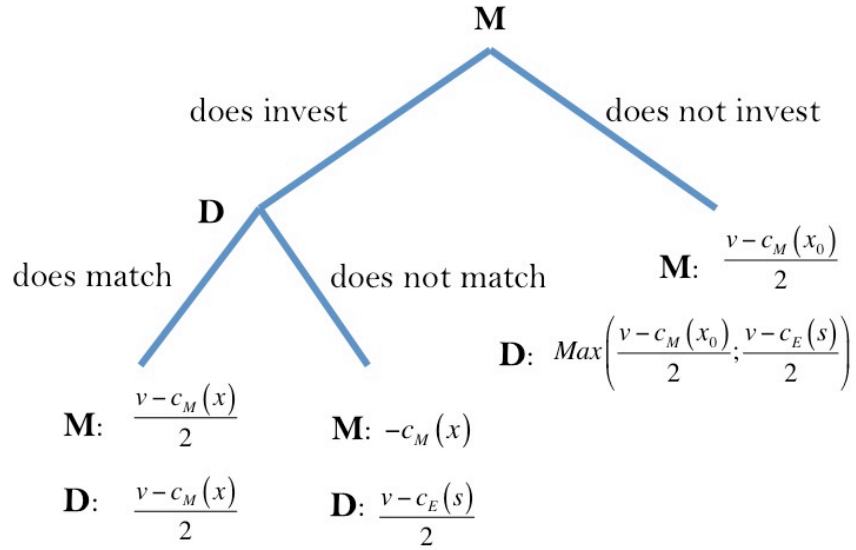


Figure 3

Otherwise, when $\frac{v-c_E(s)}{2} > \frac{v-c_M(x)}{2}$, the manufacturer will choose the strategy *does not invest*. This is the standard problem of under-investment level when contracts are incomplete.

More generally efficiency calls for the entrant to supply the promoted good when $c_M(x)$ exceeds $c_E(s)$, namely $s < c_M(x) - c_E$, and for the incumbent manufacturer to supply it otherwise. Given assumption A-C, the social welfare is given by

$$v - \int_0^{c_M(x)-c_E} (c_M + s)f(s)ds - \int_{c_M(x)-c_E}^1 c_M(x)f(s)ds - x \quad (2)$$

The incumbent's new level of investments (namely with a positive probability of entry) is given by

$$\int_{c_M(x)-c_E}^1 \left[\frac{\partial c_M(x)}{\partial x} \right] f(s) ds = -1 \quad (3)$$

Finally, assume also that,

- D. The agreement P specifies the breach penalties p_0 , with $p_0 \leq p$. Such penalties could be pecuniary sanctions or, more generally, opportunity costs deriving from switching on alternative sellers. In the case of Dentsply those opportunity costs are represented by the fact that the dealer, which chooses to sell artificial teeth supplied by competitors of Dentsply, cannot sell also Dentsply's products.

With incomplete contract and exclusive dealings the extensive form of the game is as follows.

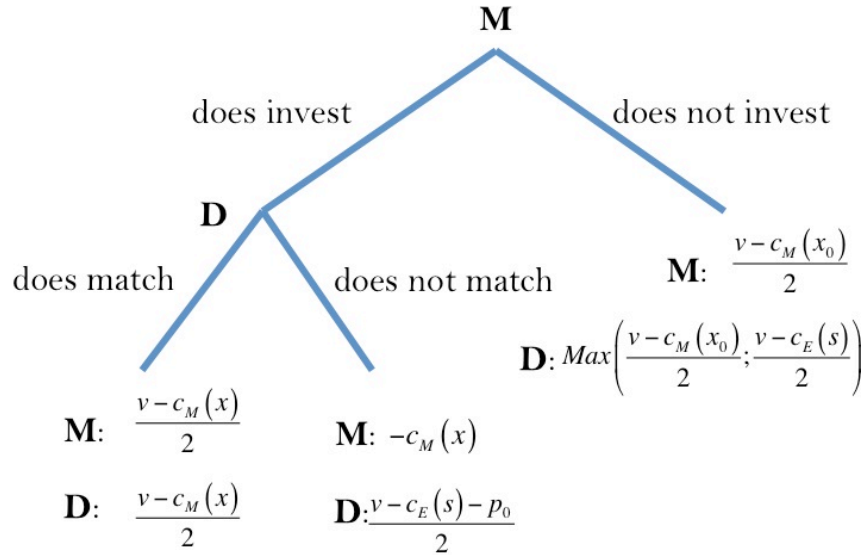


Figure 4

The subgame perfect equilibrium in the game of figure 4 is (*does invest*, *does match*) if and only if $p_0 < c_M(x) - c_E(s)$.

Given assumption A-D, the social welfare in (2) can be rewritten as follows:

$$v - \int_0^{c_M(x)-c_E-p_0} (c_M + s)f(s)ds - \int_{c_M(x)-c_E-p_0}^{c_M(x)-c_E} c_M(x)f(s)ds - \int_{c_M(x)-c_E}^1 c_M(x)f(s)ds - x \quad (4)$$

The incumbent's level of investments maximizing (4), namely with the definition of breach penalties p_0 , is given by

$$\int_{c_M(x)-c_E-p_0}^{c_M(x)-c_E} \left[\frac{\partial c_M(x)}{\partial x} \right] f(s)ds + \int_{c_M(x)-c_E}^1 \left[\frac{\partial c_M(x)}{\partial x} \right] f(s)ds = 1 \quad (5)$$

The following table sums up social welfares and first order conditions for each equilibrium: A) complete contract, B) incomplete contract (IC) and potential entry (i.e. standard hold-up), C) incomplete contract (IC), potential entry and exclusive dealings.

	A) Complete contract	B) IC and potential entry	C) IC, potential entry and exclusive dealings
Social welfare	$v - c_M(x) - x$	$v - \int_0^{c_M(x)-c_E} (c_M + s)f(s)ds - \int_{c_M(x)-c_E}^1 c_M(x)f(s)ds - x$	$v - \int_0^{c_M(x)-c_E-p_0} (c_M + s)f(s)ds - \int_{c_M(x)-c_E-p_0}^{c_M(x)-c_E} c_M(x)f(s)ds - \int_{c_M(x)-c_E}^1 c_M(x)f(s)ds - x$
FOCs	$\frac{\partial c_M(x)}{\partial x} = -1$	$\int_{c_M(x)-c_E}^1 \left[\frac{\partial c_M(x)}{\partial x} \right] f(s)ds = -1$	$\int_{c_M(x)-c_E}^1 \left[\frac{\partial c_M(x)}{\partial x} \right] f(s)ds = -1$

Figure 5

Proposition 1. The probability of entry of competitors discourages the level of investments in promotion by the incumbent manufacturer.

Proof. Comparing (3) with (1) we note that when the probability of entry by an efficient competitor is greater than zero, the incumbent agent will be induced to under-invest.

Proposition 1 is consistent with a work by Chung (1994), which introducing specific investments by the incumbent agent in a contestable market, shows how potential competition always affects the efficient selection of specific investment.

Proposition 2. Exclusive dealings designed to supply inputs increase investments in consumer promotion.

Proof. Comparing (5) with (3), we note that the level of investments with breach penalties is higher than without them.

Proposition 2 is a restatement of one finding originally proved by De Meza and Selvaggi (2007): Breach penalties foster specific investments. In particular, these authors prove that, contrary to earlier findings, investments that are specific to the relationship may be encouraged by exclusivity. This second best governance structure, hence, mitigates the problem of hold-up and therefore is the basic reasoning of hold-up defence.

However, exclusive dealing makes more costly entry and may deter a more efficient new entrant, as well.

Proposition 3. Exclusive dealings may deter the more efficient competitors in consumer promotion.

Proof. With an exclusive dealing such that $c_M(x) - c_E - p_0 < s < c_M(x) - c_E$ the new entrant is more efficient than incumbent but the former is deterred by breach penalties stipulated by the latter.

Propositions 2 and 3 state that the incumbent may use breach penalties as a strategic variable both to enforce her investment and to preserve her market position.

Corollary 3A. The deterrence of competitors by exclusive dealings is a safeguard for the incumbent who invests in asset specificity.

Proof. When exclusive dealings deter the (more efficient) competition, it means for the condition in (3) that the level of incumbent's investments rises because probability of entry decreases.

Hence, by Corollary 3A, exclusivity represents an incentive to invest in consumer promotion because it can block new entrants – even more efficient entrants. Hence, on the one hand, propositions 2 and corollary 3A imply that exclusivity enforces and stimulates specific investments. On the other hand, proposition 3 states that exclusivity may conserve market power of incumbent. As a result, though breach penalties stimulate specific investments, they may reduce social welfare by deterring the entrant of a more efficient competitor.

Corollary 3B. Exclusive dealing fosters an efficient level of specific investments but does not necessary bring to the optimal level of welfare.

Proof. Although exclusive dealings allow to incumbent to choose the efficient level of investments, the most efficient seller-investor's entry can be deterred by the same exclusive dealings. Hence, efficiency can be not achieved.

Corollary 3B implies that breach penalties and exclusive dealings are efficient when (i) stimulate specific investments (ii) without deterring the entry of more efficient competitors. Hence, in order to enforce an incomplete contract, it could not be allowed to deter the entry of efficient competitors, reducing market efficiency. Otherwise, it would be paradoxical for an antitrust authority to inhibit the entry of more efficient competitors to enhance the performance of incomplete contracts signed-up by actual inefficient agents. Our main finding is that the efficiency realized by the enforcement of incomplete contracts has always to be compared by the potential efficiency generated by the market discipline, by new competitors.

4. CONCLUSIONS

In this work we have investigated, through a simple model, the trade-off between the enforcement of incomplete contracts characterised by incumbent's specific investments in promotion and the resulting market foreclosure deriving from the high exit costs imposed to the breaching party. In this respect, the antitrust cases *United Shoe Machinery Corporation* and *Dentsply* represent paradigmatic cases of entry deterrence by a dominant firm through the exclusive clauses, even in an economic context in which contractual provisions were required as optimal response to the incomplete nature of the contract. From an antitrust perspective, when a dominant firm is involved, the internal efficiency of contractual provisions has to be compared with the market foreclosure effect induced against more efficient potential competitors and consequent pricing retail. We have argued that even when the defendant is able to fully demonstrate the internal efficiency rationales underlying the contractual choice (*'hold-up defense'*), the aggregate effect of exclusive dealing restrictions might be socially inefficient when they deter potential competitors in relevant markets. In such a context emerges a new problem of policy prescriptions. Antitrust authorities should evaluate not only the market efficiency induced by the penalty regime adopted but also the impact of the strategic selection of investments in consumer promotions on competitors' access to the market. The enforcement of competition policy should always balance hold-up deterrence devices with the market foreclosure they might generate.

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