

UNIVERSITÀ DEGLI STUDI DI SIENA

QUADERNI DEL DIPARTIMENTO
DI ECONOMIA POLITICA

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Consumers Win-back as Exclusionary Conduct.
Some Insights for Antitrust Law

n. 565 – Agosto 2009



Abstract - Incumbents' winback actions recently received a growing antitrust scrutiny in network industries. These actions refer to incumbents' strategies aimed at regaining, through targeted marketing and selective discounts, former customers who switched to a new entrant. We analyze the impact of winback actions on competition and discuss pros and cons of a temporarily ban on incumbent's side, through the so-called 'winback rules'.

JEL: *D43, K21, L41, L43.*

Keywords: *Entry Deterrence, Exit Inducement, Exclusionary Strategies, Winback, Blockaded Expansion, Holed Bucket Effect.*

I would like to thank participants to the 2008 *American Law and Economics* Conference, HARVARD UNIVERSITY, to the 2008 *International Society for New Institutional Economics* Conference, TORONTO UNIVERSITY, and to the 2008 *European Association of Law and Economics* Conference, HAIFA UNIVERSITY, for helpful comments. We acknowledge financial fund by the Fulbright Program

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1. Introduction

In several liberalized industries, the major competition concern today appears to be not merely that of granting competitors' entry – which is generally assured by asymmetric regulation in network industries – rather that of preventing incumbent's ability to maintain anti-competitively high market share, to 'marginalize' competitors and/or to inhibit entrant's ability to reach the necessary scale economies to become viable competitors (Vickers, 2005). At least in Europe, some recent antitrust decisions on unilateral conducts address, among other things, this issue¹.

Growing after entry, rather than just entering seems the main problem in many liberalized industries. Incumbent's exclusionary conducts against as-efficient rivals could play a role in this case (Whinston, 1990), as the main problem is not given by structural barriers to entry, but by the emergence of endogenous barriers to grow or to increase market penetration by new entrants.

In this paper we suggest that the recent phenomenon of winback or poaching actions adopted by incumbents, massively observed in network industries (Fudenberg and Tirole, 2000), may constitute a new frontier of anticompetitive behaviour adopted by incumbents, aiming at 'marginalizing' new entrants.

Winback actions refer to incumbents' strategies aimed at contacting a former customer who has left for a new entrant, for the purpose of regaining that customer back. These strategies apply to post-entry competition and thus are clearly distinguished from raising rivals' costs, predatory actions (predatory pricing, retention/matching prices, exclusivity and switch penalties clauses upon customers, etc) or any other entry deterrence option (i.e. strategic capacity selection) available to the incumbent prior to the time of entry (Smith, 2003).

Generally, winback strategies take the form of incumbent's marketing calls to competitors' clients promoting selective offers or discount in order to

¹ Case T-340/03, *France Télécom SA v. Commission*, 2007 E.C.R. II-107; Commission Decision of 21 May 2003, COMP/C-1/37.451, 37.578, 37.579 — *Deutsche Telekom AG*, 2003 O.J. (L 263) 9, see also Case T-271/03, *Deutsche Telekom AG v. Commission* (judgment of Apr. 10, 2008); Case COMP/38.784 — *Wanadoo España v Telefónica*.

recover lost customers. These offers are thus selectively tailored to competitors' customers, also on the basis of past information on previous clients held by the incumbent, and typically these offers are not commercialized to incumbents' existing customers.

While it is generally argued that these strategies are merely the result of competition to the benefits of customers, some antitrust and regulatory authorities in telecommunications have recently considered them as anticompetitive conducts. In this paper, we outline the potential anti-competitive rationale for winback actions as strategies aimed at blocking off post-entry competitors expansion to the critical level which enable the entrant to compete on an equal basis against the incumbent. With respect to standard entry deterrence strategies, which generally face problems of post-entry commitment and credible threats by incumbent, we show how blocking off competitors' post-entry expansion could be, in some circumstances, a more profitable strategy in the incumbent's interest, bringing to a higher degree of effectiveness. We name the effect produced by winback strategy as the *holed bucket effect*, since entrant's customers are induced to exit like water pouring in a holed bucket, postponing entrant's ability to cover start up costs.

In particular, we outline the conditions under which (i) incumbent's winback strategy is rational only when exclusionary, i.e. only if the incumbent expects that an entrant is likely to be deterred from entry or from expanding its capacity after entry as a result, (ii) a ban on incumbent's winback may actually increase consumers welfare, even if that encourages short-term inefficient entry.

The paper proceeds as follows. Section 2 outlines the literature and motivation to whom the paper refers to. Section 3 surveys some recent cases in selected countries concerning winback strategies enacted by an incumbent operator in network industries. Section 4, recalls the results of the Gelman and Salop (1983) model on post/entry competition with zero entry cost. Section 5 shows how entry costs may affect incentives to accommodate by the incumbent. Section 6 outlines how, taking entry has granted, the incumbent has strong incentives to accommodate entry followed by winback strategies, then we show the welfare implications of a ban on winback policies. Section 7 further elaborates some motivation surrounding the behavioural assumption on entrant's strategy. Sections 8 and 9 compare the

exclusionary effect generated by winback with those associated to traditional foreclosure strategies. Section 10 draws the main conclusions.

2. Literature and Motivation

The scholarly wide literature on entry deterrence, predation, raising rivals' costs and so on has mainly focused on the impact of incumbent's pre-entry deterrence strategy on competitors' incentives to enter the monopolistic market (Wilson, 1992; Rey and Tirole, 2007). From early theories on entry deterrence on (Spence, 1977; Salop and Scheffman, 1983; Dixit, 1980; Scherer, 1980), the attention has been most entirely devoted to analyze the incumbent's ability to make a credible threat not to accommodate after entry occurred.

Even if inducement of exit is taxonomically identical to entry deterrence (Tirole, 1988), only few models have dealt with analytical frameworks in which entry is taken as granted and the focus is on incumbent's strategies to affect competitors' subsequent behaviour. If we look at the realm of competition policies, especially in network industries, exclusionary strategies are for the most adopted against new entrants that have already established their business and served a significant group of customers. Especially in network industries, entry is somehow granted by the establishment of rights to access to essential facilities and by a regulatory environment which inhibits incumbents to freely set prices or suddenly change their rate card.

Under this perspective, it seems interesting to investigate post-entry exclusionary strategies held by dominant firm in order to 'freeze' competitors markets shares. The distinguishing feature of a winback strategy with respect to standard exclusionary practices is that it is applied to (a portion of) competitors' customers rather than to incumbent's customers. In a sense, winback strategies are a mirror image of standard exclusionary practices such as exclusivity or retention strategies: while the latter imply a policy of rebates and discounts made by the incumbent towards his own customers to retain them from switching towards competitors, the former are based on rebates and discounts made by the incumbent towards competitors' customers in order to induce them to switch and come back to the incumbent's list.

Thus winback strategies are a form of selective price discrimination towards competitors' customers. Typically incumbent's winback offers are tailored to former customers who left for a new entrant thanks to incumbent's knowledge and 'memory' of those customers' profile. To simplicity's sake we do not consider explicitly this competitive advantage generated by private information on consumers' profile and coming to the incumbent due to his previous monopolistic position before entry. We also neglect the role played by switching costs in affecting winback strategies.

Our motivation is to show how, from a theoretical point of view, there seems not being any compelling reason to evaluate winback strategies in a distinct way with respect to any other raising rivals' cost strategies whose ultimate effect is that of generating inefficient exclusion. Of course, the antitrust evaluation of the above practices may differ among countries – and actually it differs between US and EU antitrust policies – but we argue that whenever an antitrust authority deems as anticompetitive exclusionary strategies like network exclusivity clauses, fidelity or target rebates, selective price undercutting or discounts, and so on, it has to include also winback in its warning list.

The approaches followed by antitrust agencies in the treatment of incumbent's winback actions fall into two well-known warring camps of the 'Chicagoan School skeptics' and of the 'Post-Chicagoan activists' (Hovenkamp, 1994).

The *Chicagoan* may believe that winback strategies are simply pro-competitive actions given that when firms cut prices they should not take onto account the effect on competitors' profits but only the hypothetical harm to customers (thus considering as pro-competitive any cut price as long as it is over above the costs threshold for predatory abuse) (Posner, 1976; Bork, 1978; Easterbrook, 1984). Since entry has already occurred and some customers in fact have already left the incumbent, winback strategies, even if carried on by incumbent firms, are merely the effect of competition on the merits. Customers will re-orient their choices towards (what they perceive to be) the best seller and competition will be alive even if competitors may not. Moreover, since winback strategies should be associated to some economic advantage passed on customers in order to induce them to switch back, consumers welfare is about to be enhanced. Finally, if new entrants are driven from the market as a consequence of winback strategies that means

that they were somehow inefficient, i.e. unable to match the incumbent winback offers to retain their own customers.

On the other hand, the *Post-Chicagoan* may tend to consider winback strategies as a sort of selective price undercutting. Since they believe that even above-cost price undercutting or selective discounts may harm competition as well as final customers by inhibiting long-term efficient entry, also winback strategies should consequently receive an antitrust scrutiny. In their view, dominance implies a short-term competitive advantage by incumbent firm. Thus whenever an entrant as efficient as the incumbent cannot effectively replicate the discount policies adopted by incumbents (as long as a critical threshold is reached in terms of capacity, minimum scale or minimum number of subscribers when switching costs or network effects are present) exclusionary practices that raise rivals' cost up to the point to discourage entry or to induce exit should be sanctioned by antitrust authorities.

To our knowledge, ours is the first paper attempting to analyze the economic rationale and effect of winback strategies. Fudenberg and Tirole (2000) analyze a model of consumer poaching, but their framework refers to a symmetric duopolistic market structure, whereas we focus on asymmetric market structure characterized by a dominant firm and by new entrant facing some fixed level of entry costs.

2. Winback actions under antitrust scrutiny in selected countries

In recent years a growing number of winback cases have been filed to antitrust and regulatory authorities. As with many other exclusionary practices, the antitrust consideration of winback strategies is important because "it affects the extent to which dominant firms may defend themselves against competition rather than act to consolidate or even increase their dominance in the market².

² See Jones and Sufrin (2001) p. 343. The point raised here for winback strategies is thus strictly related to that raised by selective discounting or price undercutting.

2.1 The rise and fall of winback rules in Canada

The Canadian Radio-Television and Telecommunications Commission has been one of the first authorities delivering decisions on the matter limiting incumbent's ability to recover lost customers through win-back discounts. Local exchange winback restrictions were first imposed on the ILECs in a letter decision³ stating, among other things, that *“an ILEC is not to attempt to win back a customer for a period of three months after that customer's service has been completely transferred to another local service provider, with one exception: ILECs should be allowed to win back customers who call to advise them that they intend to change local service provider”*.

The Commission stated that without such guidelines, ILECs would potentially be able to win back customers even before local service was effectively transferred to a CLEC because ILECs control and have access to customer specific information. Subsequently, in another letter decision⁴, the Commission imposed winback rules on incumbent cable operators in respect of customers who have chosen to subscribe to the services of a competing broadcast distribution undertaking. Winback activities were defined as *“the offering to customers of discounts, free services or other inducements in order to convince those customers not to change service providers or to revert back to their original service provider”*.

The Commission then imposed⁵ winback restrictions on high-speed (cable modem) Internet access services. In that circumstance, the Commission noted that since the winback rules were first applied in 1998, there had been an increase in the marketing of bundled service offerings by incumbent operator. In this regard, the Commission noted that an attempt by an ILEC to sell a bundle that included optional local services to a lost residential primary exchange customer would generally have constituted a winback activity for primary exchange service since its acceptance would generally mean that the customer, for technical reasons, would have been obliged to switch back to the ILEC's primary exchange service.

³ Commission Decision regarding CRTC Interconnection Steering Committee dispute on competitive winback guidelines, dated 16 April 1998.

⁴ CISC dispute – Rules regarding communication between the customer and the broadcast distribution undertaking, dated 1 April 1999.

⁵ Order CRTC 2001-92, Terms and rates approved for large cable carriers' higher speed access service – Follow-up to Order CRTC 2000-789, dated 1 February 2001

The Commission subsequently interpreted and expanded the winback restrictions in a number of decisions to address specific issues and circumstances. The Telecom Decision CRTC 2006-15 (6 April 2006) declares that *“an ILEC is not to attempt to win back a business customer with respect to primary exchange service or local VoIP service, and in the case of a residential customer of local exchange service), with respect to any service, for a period commencing at the time of the local service request and terminating three months after that customer's primary local exchange service or local VoIP service has been completely transferred to another local service provider, with one exception: ILECs should be allowed to win back customers who call to advise them that they intend to change local service provider”*.

At the end of 2007 CRTC cancelled⁶ winback rules following the argument that, after ten years, there was enough competition in affected relevant markets to end those marketing restrictions.

2.2 The treatment of incumbent's winback strategies in the US

The US federal approach towards winback may certainly be defined as *Chicagoan*, even if at the origins it applied a rule against winback. The Federal Communications Commission (FCC) delivered a decision, in 1998, concerning the use of Consumer proprietary network information (CPNI) for marketing purposes⁷.

The Commission adopted a regulation aimed at preventing telecommunications carriers from using, without customer approval, CPNI to: (1) market customer premises equipment ("CPE") or information services (such as call answering, voice mail, or Internet access services); (2) identify or track customers that call competitors; and (3) regain the business of customers who have switched to another carrier (winback).

As a consequence, the use of CPNI for winback actions was prohibited not only for incumbents but for all carriers. In a later review of the *CPNI order*,

⁶ Telecom Decision CRTC 2007-97

⁷ In particular, CPNI refers to (A) information that relates to the quantity, technical configuration, type, destination, and amount of use of a telecommunications service subscribed to by any customer of a telecommunications carrier, and that is made available to the carrier by the customer solely by virtue of the customer-carrier relationship; and (B) information contained in the bills pertaining to telephone exchange service or telephone toll service received by a customer of a carrier. Except that such term does not include subscriber list information.

the Commission removed the winback prohibition, while concluding that a carrier's use of information regarding a customer's decision to switch carriers derived from its wholesale operations to retain the customer would violate the law prohibitions.

In 1999, the Commission stated that that “*all carriers should be able to use CPNI to engage in winback marketing campaigns to target valued former customers that have switched to other carriers. After reviewing the fuller record on this issue developed on reconsideration, we are persuaded that winback campaigns [...] in most instances facilitate and foster competition among carriers, benefiting customers without unduly impinging upon their privacy*”. Moreover, “*winback restrictions may deprive customers of the benefits of a competitive market. Winback facilitates direct competition on price and other terms, for example, by encouraging carriers to "out bid" each other for a customer's business, enabling the customer to select the carrier that best suits the customer's needs. [...], once a customer is no longer obtaining service from the ILEC, the ILEC must compete with the new service provider to obtain the customer's business. We believe that such competition is in the best interest of the customer and see no reason to prohibit ILECs from taking part in this practice. [...] Because winback campaigns can promote competition and result in lower prices to consumers, we will not condemn such practices absent a showing that they are truly predatory. Thus, we conclude that the statute permits a carrier evaluating whether to launch a winback campaign to use CPNI to target valued former customers who have switched service providers.*”.

Beside, this FCC decision, however, a growing number of US states are considering to adopt or have already adopted rules governing winback/retention activities⁸ including Florida, Illinois, Indiana, Missouri, North Carolina, and South Carolina.

In 2001 a group of new entrants submitted a petition to the Public Utility Commission of Texas in telecommunications alleging that marketing practices by ILECs related to special “winback”. In 2004, the Kansas

⁸ See, e.g., Petition of the Southwest Competitive Telephone Association, IP Communications Corp., XO Texas, Inc., ASCENT, CompTel, Sage Telecom, Inc., Z-Tel Communications, and Birch Telecom of Texas, LLP to Amend PUC Substantive Rule 26.226, Order Denying Petition for Rulemaking and Initiating Investigation, Project No. 24597, Public Utility Commission of Texas (Nov., 8, 2001); Investigation of Winback/Retention Offers by Chapter 58 Electing Companies, Project No. 24948, Public Utility Commission of Texas; In the Matter of the Commission's Discussion of Qwest Corporation's WinBack Promotional Filing, Docket No. N2002.4.44 (May 8, 2002 vote to file a complaint in district court). A variety of other states are considering or have adopted rules governing winback/retention activities including Florida, Illinois, Indiana, Missouri, North Carolina, and South Carolina.

Corporation Commission enforced its "winback" prohibitions, forbidding the incumbent, SBC, from attempting to "winback" customers migrating to other carriers for 30 days after the switch has occurred.

2.3 The scrutiny of winback strategies under European antitrust authorities

In Europe several national antitrust authorities have started investigations concerning winback activities, thus envisaging what we have defined as a *post-Chicagoan* approach at least by recognising that winback actions by incumbent could, under given conditions, perform anticompetitive practices.

In the UK two different regulatory bodies have been recently asked to take a decision regarding the anti-competitive impact of incumbent's winback actions. The first case concerns the electricity sector. The energy regulator, Ofgem, which has concurrent power with the competition authority OFT to apply the Competition Act, received in 2003 a complaint of alleged abuse of dominant position by the incumbent London Electricity (LE). The alleged abuse of dominance regarded the terms of the winback offered proposed to competitors' customers by LE: "consumers switching back to LE would receive a voucher worth £25 after four months and another voucher worth a further £50 after nine months. Although the consumer was entitled to switch at any time, he would have to remain with LE for 13 months in order to benefit from the full £75" (Ofgem, 2003). Abuse of dominance was alleged on two different grounds. First, the economic incentive to switch back to LE was significantly greater than any other discount affordable by competitors to new customers. Secondly, customers switching back to LE were asked to remain with LE for 13 months. LE's winback discriminated in terms of offering different prices to different customer groups: in particular Ofgem retained that an offer targeted towards LE's competitors' customers may have had an anti-competitive effect on LE's competitors. The Authority first used cost data already available and determined that the offer price was below cost. Then, it initiated an investigation to assess the effect of the offer on competition, by analyzing: "how many customers had been contacted with the aim of making the offer; how many had taken up the offer; and the duration of the offer" (Ofgem, 2003). The investigation offer was limited in terms of the number of customers contacted by LE, the number of customers taking up the offer and the length of time for which the offer was made to customers. The

circumstance that there was a quite limited take up of the offer meant that the price discrimination between former LE customers who had switched and LE customers who had not switched did not have an anti-competitive effect.

The second case in the United Kingdom was opened in 2004 and refers to the telecommunication sector. Ofcom, the communications regulator, received a complain by the new entrant Tele2 against the incumbent British Telecom (BT) regarding the winback calls made by BT to a Tele2 CPS customer. Tele2 in particular alleged those calls to be a breach of BT's obligations under General Condition 1.2 of the Communications Act 2003, which “prohibits the use of certain information provided in the context of negotiating Network Access and/or interconnection arrangements for purposes other than for which the information was supplied” (Ofcom, 2004). In particular, Tele2 alleged that a call made by BT to one of Tele2's existing customers was an anti-competitive attempt by BT to winback the customer. However, the investigation held by Ofcom confirmed that BT did not used information from other communications providers in order to identify and contact customers for winback purposes.

In Italy, in 2006, the Court of Appeal in Milan decided in favour of the plaintiff Fastweb S.p.A against dominant's winbacks (Telecom Italia S.p.A) in the Italian telecommunication market for fixed lines. Upholding the application for an interim remedy brought by the applicant against the defendant, the Court ordered the incumbent not to continue in the forms of abusive conduct considered in the judgment, and in particular comprising the use of information on former customers by its commercial divisions for targeted winback activities, such activities conducted particularly through the use of repeated telephone calls to former customers who have moved over to Fastweb; the use of information supplied by former customers to the new operator at the time of the former clients' termination of their then-current contracts, with a request for number portability; the incentive scheme contracted upon its sales network through increased commissions and other forms of incentives selectively connected exclusively with the winning back of Fastweb customers; the offering of services upon favourable terms selectively reserved to Fastweb's current customers to persuade them to return to Telecom; and denigratory activities to Fastweb's harm. The Court defined the amount of EUR 500.00 that Telecom Italia shall pay to Fastweb for each breach or failure to comply that is subsequently identified in the performance of the prohibition.

In 2007 the Italian Antitrust Authority opened an investigation alleging abuse of dominance by the incumbent operator in the telecommunication sector (Telecom Italia) through winback and retention strategies. The Authority accepted commitments by Telecom Italia not to engage in winback for a period of 4 months towards former customers, unless the initiative is taken by them; to provide to an independent society the list of customers to be contacted in order to grant a full separation between the retail and the network division.

In France, in 2003 Neuf Telecom, recovered €7 million in damages from France Telecom as compensation decided by the Paris Court for revenues lost as a result of France Telecom's anti-competitive practices to win-back customers lost to the new entrant operator in telecommunication sector. In Spain in 2004 the Servicio de Defensa de la Competencia has sanctioned Telefonica for its winback strategies against Astel. In the Netherlands, Pretium Telecom, a provider of Carrier (pre-)select telephone services, filed a complaint with the Dutch Competition Authority ("NMa") for winback as abuse of a dominant position by Dutch telecom incumbent KPN. In Sweden, in 2005, the Competition Authority has imposed a sanction for its winback actions against. In Greece, in 2007, the National Competition Authority has delivered a decision against the incumbent operator in telecommunication services OTE for its winback actions.

The decisions above vary in their meaning and applications, and fail, in our view, in clarifying the economic rationale for incumbent's winback strategies and the real meaning of their anticompetitive nature. In the next sections we provide a simple modelling of anticompetitive winback strategies.

4. A Model of Post-Entry Competition: Baseline

In this section we illustrate a simple model of post-entry competition without on the basis of Gelman and Salop (1983)⁹. This model is the baseline we will use in order to analyze the conditions under which incumbent's winback actions turn to be anti-competitive.

⁹ We refer here to a reduced form as in Shy (1995).

Let us consider a market in which a leader firm I sells the quantity q^I on the market and a follower firm E covers the residual demand on the market selling a quantity q^E . To the sake of simplicity let us assume that:

- firms have identical cost structure and production costs equal to zero;
- the incumbent firm has unlimited capacity and both the firms produce an homogenous good with a demand curve given by $p = 100 - Q$ where $Q = (q^I + q^E)$;
- all consumers prefer the less expensive demand; moreover consumers prefer the incumbent's brand name when prices are matched.

Let p^I and p^E respectively be prices charged by the leader and the follower on the market, and let k be the capacity invested by E (which is assumed as a proxy of the group of customers served), with k^o being the observable entry's capacity. The quantities demanded on the market are:

$$q^I = \begin{cases} 100 - p^I & \text{if } p^I \leq p^E \\ 100 - k - p^I & \text{if } p^I > p^E \end{cases} \quad q^E = \begin{cases} k & \text{if } p^E < p^I \\ 0 & \text{if } p^E \geq p^I \end{cases}$$

Market demand is shared between the leader and the follower according to the value of the prices.

Let us define k^* as the value of entrant's capacity-market share which induces a matching price strategy by the incumbent. In order to derive the value of k^* we have to compare the incumbent profit in the case of 'undercutting' or price undercutting Π_U^I with the profit level Π_A^I the one associated with the accommodation strategy. If the accommodation strategy is that chosen by the incumbent firm it must be that:

$$(1) \quad \Pi_U^I = p^E(100 - p^E) < \Pi_A^I = p^I(100 - k - p^I)$$

and first order conditions lead the following results:

$$(2) \quad p_A^I = \frac{(100 - k)}{2} \quad q_A^I = \frac{(100 - k)}{2} \quad \Pi_A^I = \frac{100 - k^2}{4}.$$

As we can see, the incumbent profitability decrease as the Entrant's capacity or market share k increases, $d\Pi_A^I/dk < 0$.

Given these values we define the market share k^* of the entrant which is compatible with an accommodation strategy upon entry by the incumbent as the value which equalizes Π_U^I and Π_A^I . We assume that the value of k^* is observable by both parties.

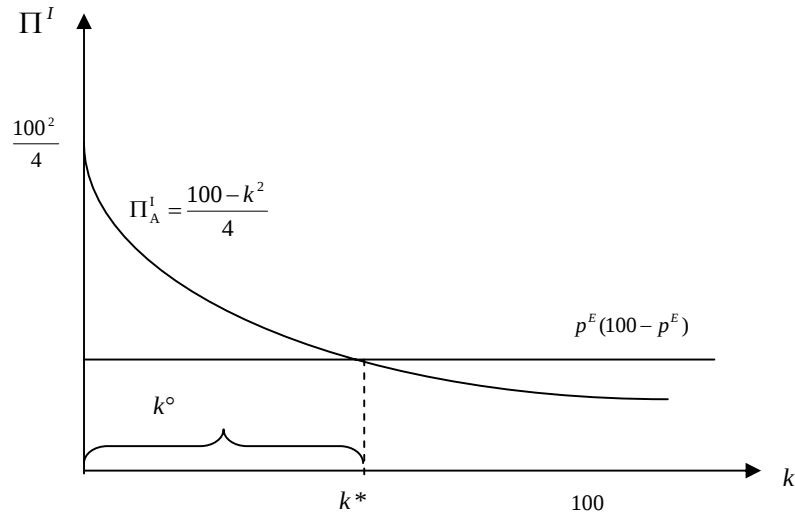


Figure 1 - (Shy, 1995)

Now let us consider the competitor's profit function which is a linear function of market share (capacity) k :

$$(3) \quad \Pi^E = p^E k$$

Thus we have the following three stages game structure.

1. At $t=0$, the entrants sets prices and starting capacity (market share) $k=k^o$;
2. After entry the incumbent observes k^o and decides whether accommodate undercutting;

When the accommodating equilibrium in the post-entry scenario strictly dominates the undercutting price equilibrium as long as the competitor commits not to enter with a market share greater than k^* . When $k^o > k^*$ the

market equilibrium will be characterized by a matching price at the competitive price p^E . Then we have the following proposition (Gellman and Salop, 1983)¹⁰:

Proposition 1

In the game below there exists a sufficiently limited capacity level k and a price p^E set by the entrant that ensure that the incumbent will find it profitable to accommodate entry.

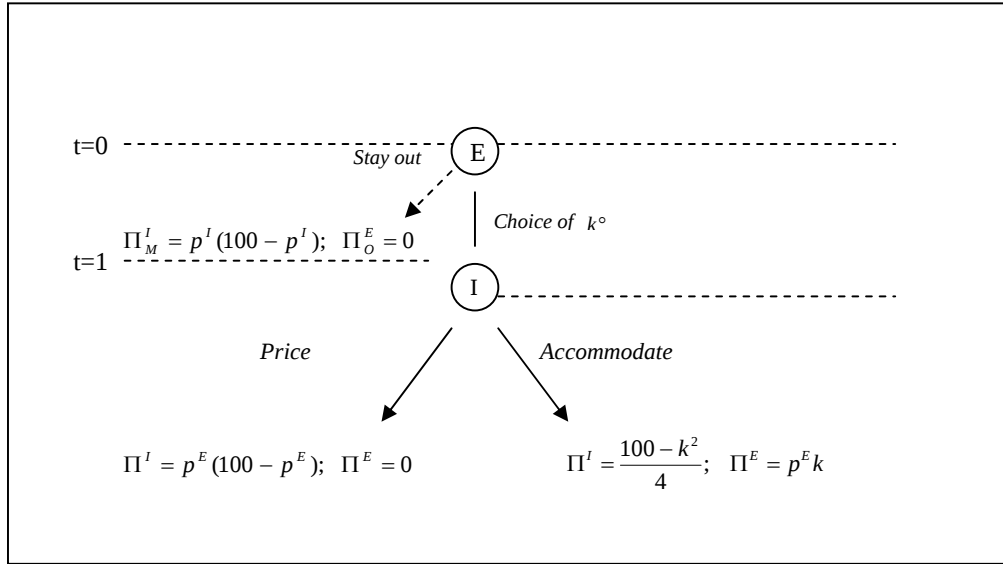


Figure 2

Proof.

Given the agents' payoff, there is a critical threshold k^* which assigns to entrant a payoff $\Pi^E = p^E k$ greater than that associated to price matching $\Pi^E = 0$. Thus a post-entry scenario with at most k^* capacity and accomodation is sub-game perfect equilibrium.

□

¹⁰ See also Shy (1995) which the reduced model form is derived.

Proposition 1 is very helpful in explaining why entry could be observed without price undercutting by incumbent operators in many industries. However it doesn't go further in explaining the nature and dynamics of post-entry competition. In the next section we extend the above model by assuming that entrant has to sustain some fixed entry cost.

4. An Extension: Post-Entry Competition with Entry Costs

Let us now extend the previous model by assuming that:

- the incumbent firm has unlimited capacity, while the entrant firm has to sustain some start up costs indicated by $h > 0$, after this sunk cost has been recouped the follower can compete on an equal basis against the leader, given that both the firms produce an homogenous good with a demand curve given by $p = 100 - Q$ where $Q = (q^I + q^E)$;
- all consumers prefer the less expensive demand; moreover consumers prefer the incumbent's brand name till the follower's brand has reached a valuable market reputation (here associated with a given market share, $\bar{k}$).

Let p^I and p^E respectively be prices charged by the leader and the follower on the market, and let k be the capacity invested by E (which is assumed as a proxy of the group of customers served), with k° being the observable entry's capacity and $\bar{k}$ be the minimum capacity needed in order to replicate incumbent's choices and challenge on an equal basis his leadership.

We assume that $k^\circ \leq \bar{k}$ and $k^\circ \leq k^*$, where k^* is the value at which the incumbent firm decides whether or not to accommodate entry (see below). We assume that while k° and k^* are common knowledge, $\bar{k}$ is E 's private information upon entry, which will be revealed ex-post. The quantities demanded on the market are now:

$$q^I = \begin{cases} 100 - p^I & \text{if } p^I \leq p^E \text{ and } k \leq \bar{k} \\ 100 - k - p^I & \text{if } p^I > p^E \text{ and } k \leq \bar{k} \\ \alpha(100 - p^E) & \text{if } p^I = p^E \text{ and } k > \bar{k} \\ 0 & \text{if } p^I > p^E \text{ and } k > \bar{k} \end{cases} \quad q^E = \begin{cases} k & \text{if } p^E < p^I \text{ and } k \leq \bar{k} \\ (1 - \alpha)(100 - p^E) & \text{if } p^E = p^I \text{ and } k > \bar{k} \\ 100 - p^E & \text{if } p^E < p^I \text{ and } k > \bar{k} \\ 0 & \text{if } p^E \geq p^I \forall k \end{cases}$$

Market demand is shared between the leader and the follower according to the value of the prices as well as to the follower's scale k . When the follower has reached just a small scale $k^\circ < \bar{k}$ (which corresponds to the associated market share) then the incumbent has full incentives to accommodate and to let the follower cover a quota k° of the total market¹¹ at a price p^E while firm I will cover the residual demand at the monopolistic price p^I .

This equilibrium holds as a sub-game perfect equilibrium only if k° lower than k^* defined as above as the value of entrant's capacity-market share which induces a matching price strategy by the incumbent.

Now let us consider the competitor's profit function:

$$(3b) \quad \Pi^E = p^E k - h, \text{ with } d\Pi^E / dh < 0 \text{ and } d\Pi^E / dk > 0.$$

Since we have assumed that $k^\circ < \bar{k}$, for the competitor to survive in the market and to compete on an equal basis against the incumbent firm, she must increase the entry's market share k° reaching at least a market share of

$$(4) \quad \bar{k} \geq k^\circ + \frac{h}{p^E}$$

where $h > 0$ is the entry fixed cost, $\bar{k}$ being E 's private information to be revealed only after accommodation.

Thus we have the following three stages game structure:

¹¹ We assume that $k^\circ < (1 - \alpha)(100 - p^E)$.

1. At $t=0$, the entrants sets prices and the starting capacity (market share) $k=k^o$;
2. After entry the incumbent observes k^o and decides whether accommodate or undercutting;
3. At $t=1$, if the incumbent has accommodated, then the entrant reveals his private information on the value of $\bar{k}$, i.e. the expansion or not of the starting capacity k^o .
4. At $t=2$ if the entrant has decided to expand, then the incumbent has to decide whether to accommodate (which means reducing to a his market share) or not.

Let us assume first that the entrant is able to credibly commit not to increase the starting capacity k^o (and market share) after entry has occurred, i.e. to send a credible signal to the incumbent on maintaining a capacity k^o .

In this case, the game lasts just one period. At $t=0$, the entrants sets prices $p^E < p^I$ and starting capacity (market share) $k=k^o$ and after entry has occurred the incumbent observes k^o and decides whether accommodate or undercutting $p^I = p^E$. If he undercuts then the entrants is induced to exit. If the incumbent accommodates then the entrant will serve k^o customers at a price $p^E < p^I$, while the residual demand $q^I = 100 - k - p^I$ is served by the incumbent at price p^I .

The above is exactly the outcome of the Gelman and Salop (1983) model, who assume a credible commitment on entrant's side. The following figure illustrates the Nash equilibrium of this game.

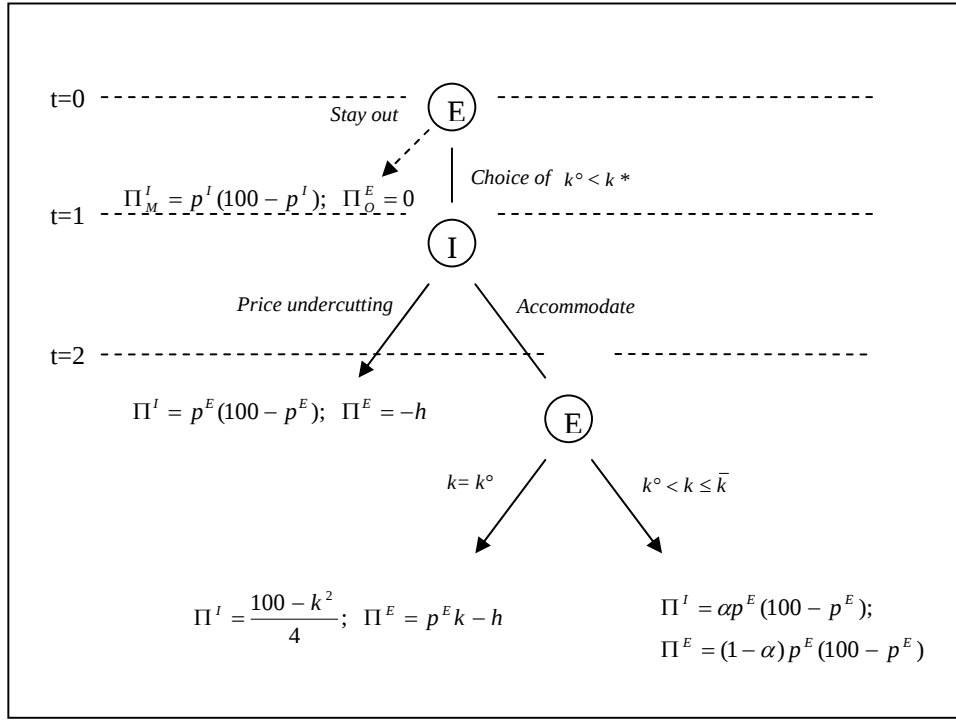


Figure 3

If $\Pi^I_U = p^E(100 - p^E) < \Pi^I_A = p^I(100 - k - p^I)$, then the unique equilibrium is one in which the incumbent accommodates since by assumption $k^o < k^*$. Thus if $h=0$ we have here one Nash equilibrium in accommodating strategy.

Proposition 2

When entry fixed costs are zero, the above game has a unique NE in accommodating strategy as long as $\Pi^I_U = p^E(100 - p^E) < \Pi^I_A = p^I(100 - k - p^I)$.

Proof

It is trivial to see how when $h=0$, $\bar{k} = k^o \leq k^*$, then Proposition 1 applies.

□

However when $h>0$, the entrant maintains strong incentives to increase her capacity after entry in order to reach the long-term capacity that it is needed in order to compete on an equal basis against the incumbent.

Let us define as g as the probability that I attributes to E 's decision to extend her capacity to the level $\bar{k}$, $g(\bar{k}) = \text{prob}\{k \geq \bar{k}\}$, with $g \in [0,1]$. Then we have the following proposition.

Proposition 3

After E 's entry occurred, if $h>0$ and if $g=g(\bar{k})$ is sufficiently high the above game will have a unique Nash Equilibrium associated with I 's price undercutting.

Proof

We can actually imagine five different equilibria in the game depicted in figure 3 according to the assumptions made on the level $\bar{k}$ and on asymmetric information on E 's capacity and I 's belief over g :

- a. blockaded entry when $h>0$, and when $g(\bar{k})$ is high and observable by I with profit levels $\Pi_M^I = p^I(100 - p^I)$; $\Pi_O^E = 0$;
- b. entry with price undercutting when $h>0$ and when $g(\bar{k})$ is high and not observable by I with profit levels $\Pi^I = p^E(100 - p^E)$; $\Pi^E = -h$;
- c. entry with accommodating strategy when $h=0$ or when $g(\bar{k})$ is very low and observable by E with profit levels $\Pi^I = \frac{100 - k^2}{4}$; $\Pi^E = p^E k - h$;
- d. entry with accommodating strategy and expansion by E to $k=\bar{k}$ when $h>0$ and $g(\bar{k})$ is very low and observable by E or E 's entry at $k^o=\bar{k}$ with duopolistic market sharing profits $\Pi^I = \alpha p^E(100 - p^E)$; $\Pi^E = (1 - \alpha)p^E(100 - p^E)$.

□

Proposition 3 clearly shows that when there are entry costs, the entrant's commitment not to expand capacity after entry is far to be credible. The assumption of positive entry costs thus modifies the result of Gelman and Salop (1983), given that the incumbent maintains in this context strong incentives not to accommodate entry and thus to choose price undercutting. As a consequence, the circumstance that $k < k^*$ is neither a necessary nor a sufficient condition to induce accommodation by I . What is relevant here is the probability that the entrant may reach a capacity level equal to $\bar{k}$, once entry has occurred. Thus the presence of entry fixed costs negatively affects the credibility of entrant's commitment.

On the other hand, the post-entry price undercutting equilibrium in proposition 3 derives however from the assumption that we are taking entry has granted, i.e. that I 's belief on E 's decision is not observable by the entrant (section 7 will discuss this assumption). If we relax this assumption and consider $g(\bar{k})$ were observable by I before entry we should expect no entry at all.

Summing up, with full information and rational agents, we should expect two alternative equilibria: (i) no entry or (ii) if entry is actually observed, we should expect a case in which entry occurs immediately at the level $k^o = \bar{k}$ bringing to duopolistic market sharing. As a consequence, the circumstance in which we observe markets with entry costs characterized by accommodation by I coupled with entrant's inability to expand her capacity should be quite difficult to understand in our framework as the outcome of rational agents in a strategic game with full information and common knowledge. Nonetheless this is precisely what we observe in many post-liberalized network industries at least in Europe. How we can thus conciliate the fact of observing entry by rational agent characterized by post-entry 'blockaded expansion' in her capacity? Next section tries to address this point.

5. Post-Entry Competition with Entry Costs and Winback Strategies

In this section we extend the above framework by introducing two further assumptions:

- (i) we extend the strategy toolkit of the incumbent, conceding that the incumbent may adopt, after E 's choice to expand capacity over k° , some ex-post strategy (i.e. winback) in order to block the expansion of the entrant towards the break-even value $\bar{k}$;
- (ii) we assume that entrant either cannot anticipate at $t=0$ incumbent post-entry decisions to block the entrants' expansion towards the break-even value $\bar{k}$ or deem winback being an exclusionary conduct, forbidden by antitrust law (section 6 discusses this assumption);

In particular we analyze here the effect of winback strategies as exclusionary practice. A winback strategy is here defined as follows.

Definition 1 - *A winback is a strategy enacted by the dominant firm to regain former customers, i.e. customers who already have switched to and are receiving service from another competitor.*

In fact, incumbent's winback is a strategy of selective price discrimination towards competitors' customers, implemented by a policy of discounts, rebates, promotional prices and so on. As a consequence for a winback strategy to be implemented we should assume that in some way the incumbent knows the profile of the customers to be regained. The distinguishing feature of a winback strategy is that it is applied only towards the competitors' customers and it is not extended to the incumbent's customers, while standard exclusionary strategies generally imply a policy of rebates and discounts made by the incumbent towards his own customers to retain them from switching towards competitors.

In order to outline the emergence and the economic rationale for winback strategies by an incumbent operator we should add another stage ($t=3$) in our previous game structure. That means that at $t=3$, given that the entrant has revealed her decision at $t=2$ to expand the capacity towards $k = \bar{k}$, the incumbent has to decide whether to accommodate or adopt a winback strategy.

Here, the adoption of a winback strategy requires the incumbent to apply selective price undercutting or discounts to regain the proportion of competitor's customers which is deemed to be decisive in order for the entrant to reach a capacity $k = \bar{k}$. The incumbent's payoff associated with a 'successful' winback strategy is then given by the following equation:

$$(5) \quad \Pi_w^I = p^I(100 - k - p^I) + p^E \phi(\bar{k} - k^\circ)$$

where $p^I(100 - k - p^I)$ is the payoff coming from the actual residual demand served by the incumbent at $t=3$, while the component $p^E \phi(\bar{k} - k^\circ)$ identifies the additional returns to the incumbent coming from winning back the $\phi(\bar{k} - k^\circ)$ group of customers, with $0 < \phi \leq 1$ at the matching price undercutting the entrant's price p^E .

We name the successful incumbents winback policy on regaining $\phi(\bar{k} - k^\circ)$ customers as the *holed bucket effect*: when winback policy is at stake, entrant's customers pour like water in a holed bucket. As long as winback strategies inhibit the entrant to stably reach and exceed the critical threshold $k = \bar{k}$, the entrant cannot replicate on an equal basis the incumbent policy.

Under this assumption the entrant's profit are given by:

$$(6) \quad \Pi^E = p^E[k - \phi(\bar{k} - k^\circ)] - h$$

Thus we have the following proposition.

Proposition 4 – *winback as raising rivals' cost strategy*

Under incumbent's winback strategy the entrant's critical threshold to compete against winback is endogenously put forward with respect to the ex-ante level $k = \bar{k}$.

Proof.

From (3), (4), (5) and (6) it derives that the ex-post entrant critical threshold to compete on an equal basis against the incumbent depends on the winback rate and is given by:

$$(7) \quad \ddot{K} = \bar{k} + \underbrace{\phi(\bar{k} - k^o)}_{\text{holed bucket effect}}$$

□

Corollary 1– *exclusionary effect of a winback strategy*

A successful winback strategy implies the adoption of a rate of regain $\ddot{\phi}$ such that $k(\ddot{\phi}) < \ddot{K}$ is satisfied.

The above corollary clearly outlines that for a winback strategy to produce anticompetitive effects, it is not sufficient that the incumbent is just regaining some customers back, rather it must be that the rate of regaining has a dimension large enough to substantially block off competitor's expansion.

Proposition 5. *Winback as a rational choice*

A winback strategy $\ddot{\phi}(\bar{k} - k^o)$ is rational only when $k(\ddot{\phi}) < \ddot{K}$ is satisfied.

Proof.

Suppose not. Then, if $k(\ddot{\phi}) \geq \ddot{K}$, that means that the competitor has unlimited capacity to expand her market share at the price determined. In other words, the competitor is able to immediately match every winback strategy with the result that the incumbent's payoff will be rapidly equal to that of market sharing at price $\Pi_s^I = p^E \alpha(100 - p^E) < \Pi_U^I < \Pi_w^I$ which is lower than the undercutting price strategy upon entry. Since by our assumption the undercutting strategy is available just after entry in $t=0$, it would be irrational for the incumbent to select a strategy to obtain Π_s^I when another strategy bringing to Π_U^I was available in the first instance.

□

Corollary 2

From proposition 3, 4 and 5 it derives that a winback strategy is an incumbent's rational choice only when it produces exclusionary effects on competitors.

The above corollary implies that when winback is not effective it would be simply irrational for an incumbent to adopt it, given that it would produce a continuous rebate on market prices. If the entrant were able to match any price proposed by the incumbent through winback actions, any winback would simply decrease the price of entrant's customers, attracting new customers towards the entrant and thus rapidly decreasing market price in a contagious way. If entrants match any discount proposed as a winback strategy, incumbent's price cuts no longer produce the 'holed bucket effect' as they would otherwise. As a consequence, when winback strategies result to be ineffective to generate exclusion they would never be adopted by a rational incumbent.

We are now ready to analyze the three stages game of post-entry competition when winback strategies are in place. If at $t=2$, the competitor has expanded her capacity so as to reach $k = \bar{k}$, at $t=3$ the incumbent will react either accommodating or enacting winback strategies. When the conditions for a successful winback $\hat{\phi}(\bar{k} - k^o)$ are satisfied, winback strategy will be chosen if the payoffs associated to successful winback (thus implying $k < \bar{k}$) are greater than that associated to duopolistic market sharing:

$$(8) \quad \Pi_w^I = p^I(100 - k - p^I) + p^E \phi(\bar{k} - k^o) > p^E \alpha(100 - p^E) = \Pi_s^I$$

Since the above always holds by definition¹², then at $t=3$ winback is a dominant strategy in the subgame.

In order to analyze whether the winback strategy is a perfect subgame NE, we should move from $t=3$ to post-entry at $t=0$ and consider the expected value of the payoff under the probability g of entrant choosing to expand post-entry market share to $k = \bar{k}$.

¹² It is sufficient to show that when $k = \bar{k}$, by assumption $p^I = p^E$ and thus $p^E(100 - \bar{k} - p^E) = p^E \alpha(100 - p^E)$.

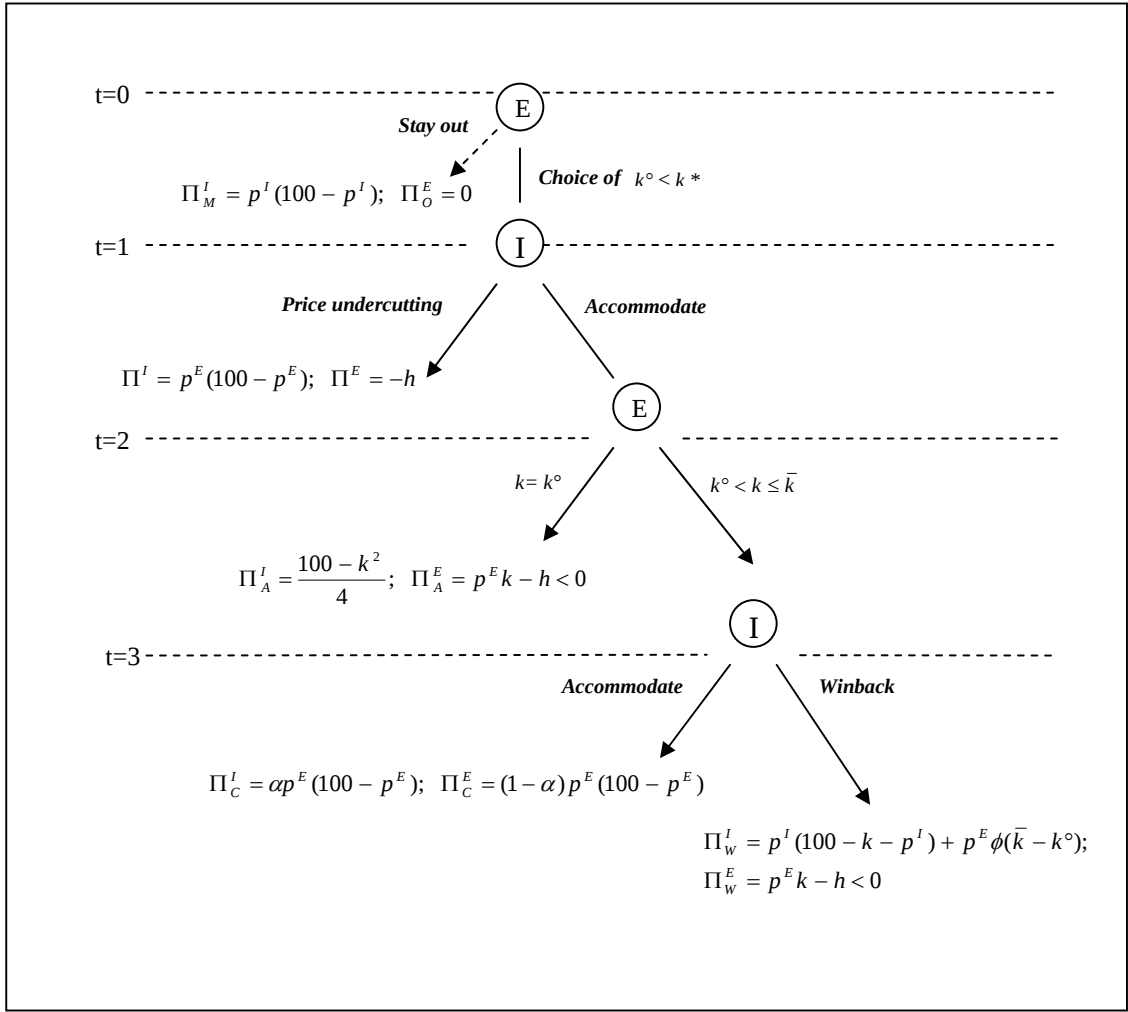


Figure 5

In the above figure, payoffs are defined as follows: Π_M^I =pre-entry monopolistic profits; Π_U^I =post-entry undercutting monopolistic profits; Π_A^I =post-entry accommodating profits; Π_W^I =winback profits; Π_C^I =post-entry duopolistic profits. In the above game we have: $\Pi_M^I > \Pi_W^I > \Pi_A^I > \Pi_U^I \geq \Pi_C^I \geq 0$.

Let us define ϑ as the value according to which $(1 - \hat{g}) \frac{100 - k^2}{4} \leq p^I(100 - k - p^I) + p^E \phi(\bar{k} - k^o)$. Then we have the following proposition.

Proposition 7. *Winback as a Nash equilibrium in the post-entry game*

For a sufficient high probability $g \geq \bar{g}$ of entrant choosing to expand post-entry market share to $k = \bar{k}$, the winback decision $\bar{g}(\bar{k} - k^o)$ is a dominant strategy in the post-entry game.

Proof.

From the game structure in figure 5 it is easy to show by backward induction (and recalling the assumption on E's belief about the illegitimate adoption of winback by incumbent) that, since $\bar{g}$ is such that $(1 - \bar{g}) \frac{100 - k^2}{4} \leq p^I(100 - k - p^I) + p^E \bar{g}(\bar{k} - k^o)$ then winback strategy $t=3$ dominates the accommodate strategy at $t=2$ and post-entry price undercutting after $t=0$.

□

Proposition 6 outlines that in a post-entry game, when there are entry fixed costs and when a successful winback is ex-post possible for the incumbent, the rational behaviour by an incumbent firm is always that of accommodating first entry and then eventually adopt winback strategy, since for any value of capacity chosen by the entrant the associated payoff for the incumbent are always greater under initial accomodation than that those associated to price undercutting upon entry.

This is a remarkable conclusion since it shows that an incumbent may have strong incentives to accommodate entry having future anti-competitive purposes to exclude competitors and/or to maintain a monopolistic or leadership position on the market. Thus observing entry in market characterized by monopolistic or dominant position should not be automatically deemed as an evidence of competitive entry, especially when competitors face difficulties in expanding their market penetration.

What about the welfare implications of winback strategies? Under our assumptions (equal production costs for both the incumbent and the entrant

and homogenous products), consumers welfare is enhanced at the lowest post-entry price. This brings some ambiguity in the results: when post-entry price is the same upon entry and at $t=2$ and at $t=3$ then it is indifferent for the consumers if the entrant remains or not in the market. However, if post-entry price equilibrium in the market, after the entrant has reached her critical threshold $k = \bar{k}$ are lower than those associated with matching price equilibrium, then consumers welfare is enhanced with entry and with a ban on winback strategy.

In the game structure outlined above, consumers welfare is ranked in the following way: $W_M < W_A < W_W < W_U^I \leq W_C$. Thus consumers welfare is inversely related to incumbent's payoffs. In particular, consumers' welfare under winback strategies is dominated by consumers' welfare under price undercutting equilibrium and ex-post duopolistic competition. Let us now consider the welfare implications of a ban on winback strategies.

Proposition 8. *Consumers welfare under a ban on winback strategies*

Given the game structure outlined above, a ban on winback strategy is welfare-enhancing for any value of the entrant's capacity or market share k .

Proof.

With a ban on winback strategies there are only two possible outcomes in the game depicted in figure 5: price undercutting equilibrium or market sharing equilibrium. Given that $W_M < W_A < W_W < W_U^I \leq W_C$, independently on the conditions which induce one or the other equilibrium, consumers welfare is enhanced in any case.

□

Proposition 8 shows a remarkable result. Independently of the effective decision on k by the entrant, a ban on incumbent's winback strategies (under the assumption of substantial entry costs) always enhances consumers welfare since in one case (*price undercutting*) immediate exit (or entry deterrence) by competitor is associated to a monopolistic configuration with lower prices with respect to pre-entry prices; in the other, ex-post prices bring to a duopolistic market equilibrium also characterized by lower prices with respect to pre-entry prices.

What is important here to stress is that this result, and the consequent efficiency of a ban on incumbent's winback strategies, is appreciable both by 'Chicagoan Skeptics' (defending consumers welfare independently of the degree of competition in the market) and by 'Post-Chicago Activists' (defending consumers welfare through an increase in the degree of competition).

However, as Armstrong and Vickers (1993) have outlined in a similar framework, a ban on selective price discrimination in the form of winback strategies, may induce too much entry in the market, i.e. inefficient competitors might be induced to enter the market, pushing the incumbent to accommodate at a price higher than that associated with efficient entry.

Another important conclusion to outline here is that the same result here obtained applies in industries with consumers searching costs or with network effects because also in those cases the entrant has to reach a minimum amount of customers in order to be able to fully replicate the incumbent's policies.

6. Discussion

Proposition 7 strictly depends on the assumptions we made on entrant's behaviour. In particular, we have taken entry has granted and focused on post-entry competition.

According to the assumptions made, entrants cannot anticipate at $t=0$ incumbent post-entry decisions to block the entrants' expansion towards the break-even value $\bar{k}$ or believe that incumbent will not or cannot influence,

after entry has occurred, entrants' ability to expand own capacity, because winback actions are deemed to violate the antitrust law. It is for this reason that entry occurs and winback is adopted by the incumbent after having accommodated.

We are aware this is an *ad hoc* assumption. In some respect, this assumption recalls the long-debated and criticized hypothesis of limit pricing models under which the prospective entrant was assumed to believe that the incumbent would have maintained the same behaviour after entry. In this section we try to clarify the motivations surrounding this *ad hoc* assumption.

A first motivation relies on the idea that even if competitors know that winback strategies are possible (and legitimated under antitrust scrutiny) they may have favourable beliefs on the *rate* of winback: they could expect that the rate at which the put water on their bucket is higher than that at which water is poured out. One reason for that could be the incumbent's inability to perfectly observe $k = \bar{k}$ or the penetration rate of new entrants, reacting thus with a lag to entrant's expansion.

Another motivation relies on entrant's belief that the incumbent's inability to perfectly observe $k = \bar{k}$ may induce a prudential attitude not to start a war price and to accommodate towards a duopolistic market sharing collusion. From corollary 2, we know that with uncertainty over the real value of $k = \bar{k}$ and on the entrant's compared efficiency the incumbent may prudentially accommodate and signal his intent to move towards a duopolistic collusive equilibrium.

Finally, an additional motivation to focus on post-entry strategy, regardless of entrant's incentives to enter the market in the first instance, might be based on the idea that at least in some liberalized industries, incumbent's price undercutting policies just after entry or winback strategies are deemed as an abuse or dominance. In this case it is the institutional framework that induces entry by competitor in the first instance. The next section compares the effect generated by winback with that produced by standard exclusionary strategies.

7. Comparing Winback and Standard Exclusionary Practices

Winback strategies are just one of the possible exclusionary practices that an incumbent may adopt in order to affect post-entry competition and blocking off entrant's ability to expand her capacity towards the level $k = \bar{k}$. In this section we show the conditions under which standard exclusionary strategies produce the same effect of winback in the market.

In particular we focus here on those strategies aimed at enforcing pre-emption or retention of incumbent's customers through¹³:

- (a) the adoption of legal/contractual rules such as exclusivity or breach penalty clauses upon customers;
- (b) the design of incentives to customers aimed at increasing the opportunity costs of switching towards competitors, through the assignment of rebates, discounts and price cuts which selectively retain 'marginal customers'.

These actions may produce, under certain conditions, horizontal foreclosure effects against competitors and, when coupled with selective discounts or price cuts, vertical discriminatory effects among different groups of incumbent's customers. Even if the conditions under which the above practices are deemed to be anticompetitive may differ from one country to another (especially between US and EU¹⁴ antitrust policies), it is possible to define a minimum set of conditions according to which these practices have been considered as an abuse of dominance which harms both competitors and customers.

¹³ We are not considering here below cost predatory pricing

¹⁴ See Hovenkamp 1994; Facey et al 2003; Motta, 2005; Parcu, 2005.

a. Pre-emptive Exclusivity Clauses

When exclusivity clauses are signed between the incumbent and his clients, they can take the form of long-term exclusivity contracts including a penalty clause p° for clients' contractual breach and switch to competitors. That means that in order to replicate the incumbent price, the entrant has to decrease her price so as to repay the penalty to the switching customer (Brodley and Ma, 1993).

In the case of total foreclosure, p° is set at a highly prohibitive level so that any efficient entry is actually inhibited. In other cases, efficient entry could be reduced (Aghion and Bolton, 1987). Any decrease in entrant's price induced by the emergence of exit penalties implies an endogenous extension of the minimum capacity or market share necessary for the entrant to compete on an equal basis against the entrant.

Under the framework outlined above, this means that with exclusivity clauses entrants payoffs are given by:

$$(9) \quad \Pi^E = (p^E - p^\circ)k - h$$

The penalty p° thus generates an endogenous extension of the minimum capacity or market penetration for the entrant (a raising rivals' cost strategy), for given values of h and p^E as in (4):

$$(10) \quad \tilde{k} = \frac{h}{p^E - p^\circ} > \bar{k} = \frac{h}{p^E}$$

thus winback strategies appear to restrict competition more than exclusivity clause would do. Moreover, as Rasmusen, Ramseyer and Wiley (1991) have shown, in order to foreclose the market the incumbent need not to sign an exclusive deal with all customers but it is sufficient to block off a portion of customers just sufficient to inhibit the entrant's ability to reach $k = \bar{k}$. Thus the blocking off penalty clause $p^\circ(\bar{k})$ is given by that value that implies $\Pi^E(p^\circ) < 0$. They show that actual customers, being unable to coordinate their behaviour, would accept to be locked in such a contract.

Aghion and Bolton (1987) show how customers may bargain exclusivity clause in exchange of a reduction in actual prices. The actual incumbent sacrifice, represented by applying a price $\tilde{p}^I < p^I$, is rational whenever:

$$(11) \quad \tilde{p}^I (100 - \tilde{p}^I) \geq p^E (100 - p^E) > \alpha [p^E (100 - p^E)]$$

which always holds by definition. Again, the payoff associated to anti-competitive breach penalties are comparable to those associated to winback strategies.

Even if some remarkable differences exist between the competition policies adopted by US and EU antitrust authorities, network exclusivity clauses have been generally considered as an abuse of dominance when the effect produced on the market has been that of increasing efficient rivals' costs to a level sufficient to deter entry or to induce exit.

b. Rebates, Price undercutting, Selective discounts, Most favoured customers clauses

Another exclusionary strategy that the incumbent may adopt consists, rather than on imposing penalties on exit, on assigning appropriate incentives to induce customers retention through a policy of rebates (Greenlee, Reitman and Sibley, 2004).

In the case of *fidelity rebates*, the incumbent assigns fidelity rebates as rewards or discounts to customers who purchase all or a specified portion of their requirements for a given product or service from a dominant firm. They may include also sales target-based over-rider discounts and so on. In the case of *target rebates* the incumbent assigns rebates conditional on a company meeting a sales target that is higher than previous purchases. Both the types of discounts have been in some case deemed as anticompetitive when they seemed exclusively aimed at excluding competitors rather than at transferring efficiency improvements to customers (as in the case of quantity rebates).

Whatever is the nature of incumbent's rebates, formally they simply equal the effect of a price undercutting strategy with incumbent setting upon entry an effective discounted price $p^I = p^E$, which, according to the assumptions made in section 3, will block off entry or induce exit.

As we have outlined above, in some cases, it is not necessary for the incumbent to adopt a price undercutting towards all the customers served. It might be sufficient to adopt a selective price undercutting towards the

portion of customers actually contested by the entrant. This form of retention requires the incumbent having access to information on the identity of customers contested by an entrant.

One way for the incumbent to enforce such a strategy without sustaining information costs is that of including in contracts the so-called ‘most favoured customer clause’ or ‘English clause’, often depicted as a *de facto* exclusivity (Lave, 2005), which implies that “the customer is allowed to switch suppliers without penalty if the dominant undertaking cannot or will not match more favourable terms offered by another supplier”. In this case, the incumbent applies a selective discount or price undercutting strategy just to the ‘marginal’ customers with a payoff given by $\Pi^I = p^I(100 - p^I) - p^E k$ where k are the customers contested by the entrant. However when the incumbent has the information sufficient to match just the proportion of customers sufficient to block off the entrant, then we can have the same payoff of winback strategies $\Pi^I = p^I(100 - k - p^I) + p^E \phi(\bar{k} - k^\circ)$.

Again the strategy of selective price undercutting is rational for the incumbent as long as:

$$p^I(100 - k - p^I) + p^E \phi(\bar{k} - k^\circ) \geq p^I(100 - p^I) - p^E k \geq p^E(100 - p^E) > \alpha[p^E(100 - p^E)]$$

which reproduces the same outcome we have shown for winback strategies. Such forms of rebates have been valued as anticompetitive, especially in Europe, when the existence of start up costs sustained by efficient entrants inhibited competitors’ ability to replicate price undercutting so as to induce the needed amount of customers to switch.

In Europe selective price undercutting by an incumbent have been considered as anticompetitive because they produced discrimination against competitors and against customers (O’ Donoghue and Padilla, 2006). In the US the approach has been more prudential (Posner, 2004), pointing out the absence of substantial consumer harm, given that price undercutting, even when selective, generally enhances consumers welfare (Vickers, 2005; Rey and Tirole, 2007).

Some US scholars, however, have repeatedly pointed out the anticompetitive nature of above-cost price undercutting (Edlin, 1997; 2002). In order for these strategies to be exclusionary it must be that they increase rivals’ cost of entry. If that is not the case, because for instance the entrant can immediately

replicate any discount or rebate, then it would be rational for the incumbent just to accommodate entry. Thus raising rivals' costs strategy are held in an economic environment in which there is a clear competitive advantage held by the dominant firm and an asymmetry in the competitive capacity between the incumbent and the entrant.

Whatever is the antitrust attitude towards the above strategies (Facey, and Assaf, 2002), the point that we would raise here is that they produce the same anticompetitive effect of winback strategies, thus there seems not being any compelling reason not to treat winback strategies, as we have defined them above, in the same way in which we deal with standard exclusionary practices whose ultimate effect is that of generating inefficient exclusion (Salop, 2005).

As a consequence, when a competition authority considers as an abuse of dominance incumbent's strategies such as *exclusivity clauses*, *fidelity or target rebates*, *selective price undercutting* and so on, it should also include winback strategies in its warning list.

8. Winback vs. Non Discriminatory Price Undercutting Strategies

Proposition 8 has shown how, under the game structure assumed, a ban on winback strategy is welfare-enhancing for any value of the entrant's capacity or market share k . However, given the structure of the game, a ban on winback strategy simply implies that the equilibrium in the post-entry game outlined in figure 5 will be one characterized by price undercutting, thus with inducement of competitor's exit.

From the consumers welfare point of view, a ban on winback certainly constitutes an improvement with respect to the equilibrium associated with winback strategies. However, it could also be interesting to compare the welfare consequences of price undercutting equilibrium with that associated with entry and duopolistic market sharing equilibrium. If we assume that the matching price selected by the incumbent p^E is equal to the level associate to duopolistic market sharing equilibrium, consumers welfare will be exactly the same in the two cases.

However, since by assumption the entrant has to cover start up costs upon entry, it might be the case for the price matched by the incumbent to be higher than that, say $\tilde{p}^E$, fixed by duopolistic firms after the entrant has reached her crucial threshold $\bar{k}$.

When this is the case, in order to maximize consumers welfare a ban on winback strategies should be coupled with a ban on undercut pricing (since ban on winback is equivalent to a ban on discriminatory selective pricing a joint ban here simply implies forbidding any form of price rebates aimed at foreclosing the market). The following proposition examines the case for a joint ban on winback and on post-price undercutting.

Proposition 9

Let us assume that, once the entrant reaches a capacity like $k = \bar{k}$, the duopolistic equilibrium price on the market $\tilde{p}^E$ is lower than that (p^E) associated to post-entry matching price by the incumbent, with $\tilde{p}^E < p^E$. Then the most efficient consumers welfare configuration requires both a ban on incumbent's winback strategies a ban on post-entry price undercutting.

Proof.

It is easy to see how, in the game in figure 6, with $\tilde{p}^E < p^E$, $W_U^I < W_C$. However, since $\Pi_U^I > \Pi_C^I \geq 0$, by backward induction, with a ban on winback strategies the incumbent is induced to undercut upon entry. Thus in order to enforce an aggregate outcome like W_C a ban on winback should be coupled with a ban on post-entry price undercutting.

□

However, when, as in the European antitrust tradition, competition authorities encourage entry so as to ensure a long-term mechanism of competition in the market even at the expenses of short-term benefits on

customers, then a joint ban would probably be selected, independently of the differential between prices $\tilde{p}^E, p^E$.

On the other hand, when there is uncertainty on the price level associated with the duopolistic equilibrium¹⁵ the joint ban outlined by Proposition 9 could be equally associated with a price level higher than that determined by price undercutting strategies. In that case a joint ban would reduce consumers welfare. Besides, it should be pointed out that some antitrust authorities are considering as anticompetitive ant form of selective price undercutting or matching because of their discriminatory and foreclosing nature (O' Donoghue and Padilla, 2006).

As a consequence they are inclined to judge as pro-competitive discounts, rebates and price undercut which are destined to the whole set of customers. Under this respect it would be problematic to couple a ban on winback with a ban on price undercut. However, in Europe, there have been some antitrust cases in which price undercutting or matching even when non discriminatory among customers (and thus uniformly applied to all customers) have been nonetheless judged as anticompetitive (O' Donoghue and Padilla, 2006). Edlin (2002) proposes a theory based on the anticompetitive effect of price undercutting even when prices are above costs. For a critique see Elhauge (2003).

9. Conclusions

In this paper, we have outlined the potential anti-competitive rationale for winback actions as strategies aimed at blocking off post-entry competitors expansion to the critical level which enable the entrant to compete on an equal basis against the incumbent.

We have shown how with respect to standard entry deterrence strategies, which generally face problems of post-entry commitment and credible threats by incumbent, we show how blocking off competitors' post-entry expansion could be, in some circumstances, a more profitable strategy in the incumbent's interest, bringing to a higher degree of effectiveness.

¹⁵ Edlin (1997) surveys the literature on the anticompetitive effects of price matching, especially of selective discriminatory price matching, showing the ambiguous results associated with the price level of price matching which will depend on ad hoc assumptions.

The example of winback strategies suggests that the adoption of an economic approach may help in detecting an abuse of dominant position by an incumbent operator pursued throughout the so-called winback strategies in relevant markets characterized by entry costs. If from one side, these strategies are clearly the result of competition to the benefits of customers, from the other, as some antitrust and regulatory authorities recently pointed out, they may generate substantial anticompetitive effects.

We have argued that incumbent's winback strategy is rational only when it is exclusionary. Under given conditions, winback strategies might block off competitor's expansion after entry, thus generating the same outcome raised by standard exclusionary practices. We have finally discussed the consumers welfare effects of a temporarily ban on incumbent's winback against new entrants.

However, the discussion on consumers welfare has outlined some of the persistent antitrust dilemmas such as the choice between short-term equilibria which improve actual consumers welfare to the detriment of actual competitors, and long-term competitive equilibria which sacrifice actual consumers welfare.

These dilemmas seem to go beyond our, relying on the specific aims pursued by the competition policy authorities.

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