

ARE EXCESSIVE PRICES REALLY SELF-CORRECTING?

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ABSTRACT

Excessive pricing by a dominant firm is considered as one of the most blatant forms of abuse. Despite this, competition authorities frequently refrain from intervening against excessive prices. The non-interventionist approach is based, among others, on the premise that high prices encourage new entry and thereby should be feared less. According to this view, in many cases, excessive prices are likely to be competed away and make intervention redundant. This paper questions this conventional view and reconsiders whether excessive prices are indeed self-correcting. It illustrates how, in the majority of cases, excessive prices will not attract new entry of viable competitors, whether entry barriers are high or low. Furthermore, it shows how, at times, the prohibition of excessive prices may encourage, rather than discourage, entry. By doing so, this paper narrows and focuses the arguments against intervention. Accordingly, it concludes that if excessive pricing is not to be prohibited, it should not be because it is thought to be “self-correcting,” but rather for reasons such as the need to stimulate investment or difficulties of implementation, which should be assessed on a case by case basis.

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I. INTRODUCTION

In the consumers’ eyes, excessive pricing by a dominant firm is one of the most noticeable and blatant forms of abuse. In many ways, it is regarded as a classic economic evil, a clear exploitation that transfers wealth from consumers to powerful undertakings and directly causes the inefficiencies that competition laws are meant to prevent.

Despite this, competition authorities are frequently reluctant to intervene against alleged excessive prices. Such a non-interventionist approach is often based on the premise that the “invisible hand” of the competitive process

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will bring about lower prices and better products. Competition law is therefore regarded as an ill-suited vehicle for price regulation, a task more suitable for specific regulators of problematic markets, in which competition does not “work.”¹

More specifically, one can identify three main grounds that stand at the heart of this non-interventionist approach. First, it is often argued that the prohibition of excessive prices might chill down firms’ incentive to innovate or invest *ex ante*.² Second, practical difficulties in measuring the competitive price and identifying excessiveness make the prohibition of excessive prices difficult to implement in practice.³ Lastly, it is argued that regulation of excessive pricing is often redundant because excessive prices would be competed away by new entry, invited by the high price.⁴ Even more, it is at

¹ See, e.g., *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 294 (2d Cir. 1979) (“Judicial oversight of pricing policies would place the courts in a role akin to that of a public regulatory commission.”)

² See, e.g., M. Motta & A. de Stree, *Exploitative and Exclusionary Excessive Prices in EU Law* (available online), p. 15 (2006); ROBERT O’DONOGHUE & JORGE ATILANO PADILLA, *THE LAW AND ECONOMICS OF ARTICLE 82 EC* (Hart Publishing, 2006), p. 626; *Verizon Communications, Inc. v. Trinko LLP*, 157 L. Ed. 2d 823, 836 (2004).

³ See, e.g., O’DONOGHUE & PADILLA, *Id.*, p. 627.

⁴ See AREEDA & HOVENKAMP, *ANTITRUST LAW* (Aspen Publishers, 2nd ed. 2001) at para. 720b: “[W]hile permitting the monopolist to charge its profit-maximizing price encourages new competition, forcing it to price at a judicially administered ‘competitive’ level would discourage entry and thus prolong the period of such pricing.” This argumentation is also adopted by U.S. case law. See, e.g., *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 294 (2d Cir., 1979) (“Indeed, although a monopolist may be expected to charge a somewhat higher price than would prevail in a competitive market, there is probably no better way for it to guarantee that its dominance will be challenged than by greedily extracting the highest price it can”); See also RICHARD WHISH, *COMPETITION LAW* (LexisNexis, 5th ed. 2003) pp. 688–689 (“if normal market forces have their way, the fact that a monopolist is able to earn large profits should inevitably, in the absence of barriers to entry, attract new entrants to the market. In this case the extraction of monopoly profits will be self-detering in the long run and can act as an important economic indicator to potential entrants to enter the market. If one accepts this view of the way that markets operate, one should accept with equanimity periods during which a firm earns monopoly profit: the market will in due course correct itself and intervention by the competition authorities will have the effect of undesirably distorting this process.”); VALENTINE KORAH, *EC COMPETITION LAW AND PRACTICE* (Hart Publishing, 6th ed. 1997) p. 113 (“The cost price approach ignores the function of pricing as a signal encouraging new entrants. If prices and profits are high, new firms may be attracted into the market over, at least, modest entry barriers.”); ROBERT O’DONOGHUE & JORGE ATILANO PADILLA, *THE LAW AND ECONOMICS OF ARTICLE 82 EC* (Hart Publishing, 2006) pp. 635–636 (“The key consideration is to limit intervention to cases in which entry barriers are very high and, therefore, where there is a reasonable prospect that consumers could be exploited. The need for a strict enforcement policy is less obvious in circumstances where the market is contestable, since high prices would ordinarily attract new entrants that would compete away the excessive margins.”); M. Motta & A. de Stree, *Exploitative and Exclusionary Excessive Prices in EU Law* (available online), p. 15 (2006) (“exploitative practices are self-correcting because excessive prices will attract new entrants.”); Economic Advisory Group on Competition Policy, *An Economic Approach to Article 82*, Report for the DG Competition, p.11 (July 2005) (“...Such a policy intervention [against

times argued that intervention by competition agencies might risk affecting the prospects of new entry into the market as the market force, according to which excessive prices invite new entry, would be handicapped if excessive pricing is prohibited.

In this paper, we question the validity of the third ground for non-intervention, namely, that excessive prices are self-correcting, because they attract entry. We do so by showing that in the majority of cases, excessive prices, in themselves, do not attract new entry, whether entry barriers into the market are high or low. We also show how in some cases, contrary to the conventional view, the prohibition of excessive pricing may encourage, rather than discourage, entry.

By narrowing the validity of the third ground for non-intervention, we shift the focus to the first two grounds. Accordingly, if a competition authority decides not to attack a dominant firm for excessive pricing, it should do so for reasons such as the need to stimulate investment, or because of difficulties in implementation.

The exclusion of the third ground from the “non-intervention equation” assists in drawing attention to circumstances in which enforcement of excessive prices may be merited; in some cases, the competition authority may decide that stimulation of investment is not a compelling issue. This could occur, for example, when the level of investment required in the particular industry in question is relatively low, when the dominant firm has presumably recouped its investments in the past (as in the case in which the dominant firm had enjoyed a patent and the patent expired or the case in which the dominant firm received a government-protected monopoly position for a considerable period and recouped most of its investments), or when the competition authority has found a way to take account of the investment consideration when assessing what an excessive price is. In addition, the competition authority could hold that it is able to overcome the problems of implementation in a particular case. For example, there could be reliable benchmarks that show that the dominant firm’s prices were excessive. In other cases, recent and reliable cost studies could be available and could reveal whether prices were considerably above cost.

When a competition authority decides that the first (stimulation of investment) and second (difficulties of implementation) grounds for non-intervention are not compelling, our paper suggests that intervention may be

monopolistic pricing] drastically reduces, and may even forego the chance to protect consumers in the future by competition rather than policy intervention); *See also* Office of Fair Trading, Decision of the Director General OFT CA98/2/2001 Napp Pharmaceutical Holdings Ltd (2001): “The Director considers that a price is excessive and an abuse . . . where it is clear that high profits will not stimulate successful new entry within a reasonable period.”

merited, because the third ground (excessive prices are self-correcting) offers limited justification for non-intervention.

II. NON-INTERVENTION AS A DOMINANT POLICY

Before focusing on the validity of the third ground, a brief overview of enforcement policies of excessive prices may assist in positioning our arguments in context. The approach towards excessive pricing has taken two different directions on each side of the Atlantic. The U.S. has long championed a non-interventionist approach. In several instances, the United States Supreme Court has held that U.S. antitrust law does not encompass the charge of high prices.⁵ Accordingly, excessive pricing by a dominant firm is not considered a violation in and of itself.⁶

In contrast, in Europe, a more, although limited, interventionist enforcement policy resulted in a number of cases at both the European and Member States' level. Article 82 of the EC Treaty targets any abuse by undertakings of a dominant position and refers to the possibility that such abuse may consist of "directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions."⁷ The wording "unfair" in Article 82(a) was held by the European Courts and Commission to encompass excessive pricing.⁸ EU jurisprudence generally describes excessive pricing as one that has no reasonable relation to economic value.⁹ An excessive price is described as a price that is "excessively" above the price that would have prevailed had the same market been competitive. As the Court of Justice in the United Brands case puts it:

It is advisable therefore to ascertain whether the dominant undertaking has made use of the opportunities arising out of its dominant position in such a way to reap trading

⁵ Note that Section 2, Sherman Antitrust Act (1890), prohibits "Monopolizing trade"; *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 274 n.12 (2d Cir. 1979); *Blue Cross & Blue Shield United v. Marshfield Clinic*, 65 F.3d 1406, 1413 (7th Cir. 1995); *Verizon Communications Inc. v. Trinko*, 540 U.S. 398 (2004).

⁶ See, e.g., *Areeda & Hovenkamp* (above n 4), para 720a, at pp. 254–255; see also *Chi. Prof'l Sports Ltd. P'ship v. NBA*, 95 F.3d 593, 597 (7th Cir. 1996) (overturning a decision that the NBA's telecast fees were too high and noting that "the antitrust laws do not deputize district judges as one-man regulatory agencies"); Fox (1986) p. 985, 993—cited in Motta & Destreel (above n 2); Michal Gal, *Monopoly Pricing as an Antitrust Offense in the U.S. and the EC: Two Systems of Belief About Monopoly?*, ANTITRUST BULLETIN, p.343 (Spring 2004).

⁷ Article 82(a) Treaty of Rome.

⁸ See, e.g., the ECJ decisions in *Sierna v. Eda* [1971] ECR 69; Case 26/75 *General Motors v. Commission* [1975] ECR 1367; Case 27/76 *United Brands v. Commission* [1978] ECR 207; Case 30/87 *Corinne Bodson v. Pompes Funebres* [1998] ECR 2479; Case 110/99 *Lucazeau v. SACEM* [1989] ECR 2811; see also Commission Decisions: COMP/C-1/36.915 *British Post office v. Deutsche Post AG* [2001] OJ L331/40, COMP/A 36.568/D3 *Scandlines Sverige AB v. Port of Helsingborg* [Jul 23, 2004].

⁹ *Id.*

benefits which it would not have reaped if there had been normal and sufficiently effective competition.¹⁰

A review of the European Commission and Courts' decisions reveals only a handful of cases involving excessive pricing.¹¹ Similarly, a review of decisions and judgments at the national level also unravels a relatively small number of cases targeting excessive prices.¹² The small number of cases is a direct result of the three grounds mentioned earlier. It reflects the practical difficulties in establishing the excessiveness of price, the notion that excessive prices are often self-correcting and the fear that their prohibition risks chilling investment incentives.

The reluctance to engage in "price regulation" was echoed in several of the European Commission yearly reports on competition policy:

... The Commission in its decision-making practice does not normally control or condemn the high level of prices as such. Rather it examines the behaviour of the dominant company designed to preserve its dominance, usually directly against competitors or new entrants who would normally bring about effective competition and the price level associated with it.¹³

Illustrative in this respect are comments made by Philip Lowe, Director General of the Commission's Directorate General for Competition, who indicated that the European Commission will only intervene when the pricing abuse is not self-correcting:

... we are obviously aware that in many markets intervention by a competition authority will not be necessary. We are also aware that it is extremely difficult to measure what constitutes an excessive price. In practice, most of our enforcement focuses therefore as in

¹⁰ Case 27/76 *United Brands v. Commission* [1978] ECR 207, para 249.

¹¹ Above n 8.

¹² See, e.g., the Danish Competition Appeal Tribunal decision of Nov. 14, 2006, concerning *Elsam A/S* (alleged excessive pricing in the West Denmark market for electricity); Order of the Hungarian Competition Council of Apr. 2007, concerning termination of proceedings against a power supplier company which allegedly charged excessive prices (Vj-156/2005); The Belgian Competition Council decision No.2006-I/O-12 of Aug. 31, 2006 concerning commitments from the company "Banksys" to freeze the prices for electronic payment services; The Latvian Administrative District Court decision of Feb. 25, 2005, Case No.A42129604 (*Olaines Ķudra*) rejecting allegations of excessive pricing by the Riga Stock Exchange; The Dutch Competition Authority (NMa) finding excessive pricing by Interplay (case 2910/Interpay, Apr. 2004) [For a review of these cases, see generally: I. KOKKORIS, *COMPETITION CASES FROM THE EUROPEAN UNION* (SWEET & MAXWELL 2007)]; Also note OFT CA98/2/2001 *Napp Pharmaceutical Holdings Ltd*, on appeal: *Napp Pharmaceutical Holdings Limited and Subsidiaries v. Director General of Fair Trading* (Case No. 1001/1/1/01, Jan. 2002).

¹³ European Commission, *XXIVth Commission Report on Competition Policy 1994*, para 207 (1994); See also, European Commission, *Vth Commission Report on Competition Policy 1975*, para 76 (1975); European Commission, *XXVIIth Commission Report on Competition Policy 1997*, para 77 (1997).

the US on exclusionary abuses, i.e. those which seek to harm consumers indirectly by changing the competitive structure or process of the market.

It is not in our power to change the Treaty. And in my view, we should continue to prosecute such practices where the abuse is not self correcting, namely in cases where entry barriers are high or even insuperable. It probably makes also sense to apply these provisions in recently liberalized sectors where existing dominant positions are not the result of previous superior performance.¹⁴

A similar approach to excessive pricing may be found in the United Kingdom Office of Fair Trading Guidelines on Assessment of Individual Agreements and Conduct. These Guidelines provide a more elaborate account on the scope of the third ground for non-intervention, namely, the self-correcting nature of excessive pricing:

The Director General will be mindful of the need not to interfere in natural market mechanisms where high prices will encourage new entry or innovation and thereby increase competition. In such markets, excessive prices will be regarded as an abuse only where it is clear that high profits will not stimulate successful new entry within a reasonable period.¹⁵

Excessive prices may be considered to be an abuse only if they have persisted in the absence of continuing successful innovation and/or without stimulating successful new entry or a significant loss of market share.¹⁶

In what follows, we examine the weight that should be attributed to the “self-correcting” nature of excessive pricing as a variable that justifies non-intervention. Our aim is not to advocate intervention as such, but rather to show that if a competition authority is to refrain from intervening against excessive prices in a particular case, it should be mainly because of the other two reasons for non-intervention: the need to stimulate investment or difficulties of implementation.

III. ARE EXCESSIVE PRICES SELF-CORRECTING?

The notion that excessive prices can be self-correcting is based on two sub-arguments. The first sub-argument is that excessive prices attract new entry (when entry is profitable) and therefore should be feared less. The second sub-argument is that because of the prospects of new entry, dominant firms will lower prices and refrain from charging excessive prices.

¹⁴ Philip Lowe, *How Different Is EU Anti-Trust? A Route Map for Advisors—An Overview of EU Competition Law and Policy on Commercial Practices*, Speech at the ABA 2003 Fall Meeting (available online).

¹⁵ Office of Fair Trading, Competition Act Guideline, *Assessment of Individual Agreements and Conduct*, OFT 414 (1999), para 2.13.

¹⁶ Office of Fair Trading, Competition Act Guideline, *Assessment of Individual Agreements and Conduct*, OFT 414 (1999), para 2.19.

A. The Post-Entry Price and the Pre-Entry Price

High prices, in and of themselves, do not *attract* new entry. It is the post-entry price, and not the pre-entry price, that potential entrants consider when deciding whether to enter. Because the dominant firm can usually cut prices immediately upon entry, its excessive pre-entry prices do not affect the potential entrants' decision whether to enter,¹⁷ unless they somehow signal to potential entrants that entry is profitable (for example, because the dominant firm is relatively inefficient).¹⁸

Had the new entrant been able to secretly enter the market, without the incumbent anticipating such entry, high pre-entry prices may have been able to attract entry. In such a case, the entrant could have slightly undercut the incumbent's high prices and served the customers he managed to secretly "steal" from the incumbent for a relatively high price and profit. Yet, in practice, such "secret" entry is highly unlikely. Once the incumbent detects the first steps of entry, it is expected to react immediately, and the resulting price war is expected to bring prices down to competitive levels very quickly. The entrant, for its part, expects such competitive pricing to prevail almost immediately upon entry, and it contemplates whether to expend the costs of entry into the market given these competitive and modest post-entry profits. Another possibility is that the entrant wishes to remain a fringe competitor, with a very small market share. Such fringe entry would usually not stimulate a price war and would therefore be attracted by excessive prices. But the entrance of insignificant fringe firms, which cannot restrain the incumbent's excessive price in the long run, is not the sort of entry that would alleviate concerns from excessive prices.

This is the case even where natural or legal entry barriers other than the fear of low post-entry prices seem to be low. The ultimate entry barrier, in such cases, is the fear of low post-entry prices. This entry barrier is particularly acute if the entrant perceives the dominant firm to be more efficient or attractive to consumers than the potential entrant is (which is often the case, because of the advantages of incumbency: experience, economies of scale, brand recognition, consumer loyalty, and so forth).

Accordingly, if a potential entrant has sufficient information regarding the incumbent's advantages, and particularly the incumbent's marginal costs¹⁹

¹⁷ See, e.g., JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* (The MIT Press 1988) ch. 9, p. 368, who stresses, on a related point, that "[o]ne possibility is that the price of the established firm has commitment value. That is, the entrants expect the pre-entry price to prevail after entry. However, such a theory is not very convincing. Entry into many markets is a decision that covers a period of many months or years, whereas a price can often be changed within a few days or weeks."

¹⁸ Even when the role of the pre-entry price as an informative signal is acknowledged, however, we show below that excessive pricing does not attract entry in a way that alleviates policy concerns.

¹⁹ A firm's marginal cost is its cost of supplying an additional unit.

(or at least regarding the relation between the incumbent's marginal costs and the entrant's marginal costs) and the entrant perceives the incumbent to be more efficient than it is, it is unlikely to enter, even if the incumbent is charging an excessive price. Conversely, if a potential entrant perceives the incumbent to be less efficient than it is, it is likely to enter (absent other entry barriers), but, again, not *because* of the excessive price. Such an entrant would have entered regardless of the level of pre-entry prices. Again, when entrants have sufficient information about the relative efficiency (or advantages) of incumbents, it is the expected *post-entry price* and not the pre-entry price that affects the entrant's decision of whether to enter.

As documented by the game-theoretic literature, at times, high prices may invite new entry if they can credibly signal to *uninformed* new entrants that the dominant firm is inefficient.²⁰ But as shall be explained in Section IV, non-regulation of excessive prices could actually lessen the signaling virtue of pre-entry prices. In a nutshell, for a credible signal to be sent to uninformed potential entrants, it is not necessary that prices be excessive. All that is needed is that an inefficient incumbent charges a higher price than an efficient incumbent would have charged had he been in the efficient incumbent's place. This could also occur when excessive pricing is prohibited, as long as an inefficient incumbent is allowed to charge a higher price than an efficient incumbent: a potential entrant could infer from pre-entry prices whether the incumbent is relatively inefficient. Accordingly, even when the signaling virtue of pre-entry prices is taken into account, it cannot be said that excessive prices will necessarily invite entry. In many instances, it could even be to the contrary; that better signaling and more entry are expected if excessive pricing is prohibited than if excessive pricing is allowed.

Another possibility worth mentioning is that an excessive price will attract entry because it signals how high the collusive (cartel-like) price could be following entry. If consumers are willing to pay the incumbent's excessive price, as the argument goes, they would be willing to pay such a price also after entry, if collusion between the entrant and incumbent evolves. But entry of a firm that places a high probability on stable collusion over a cartel price is not the type of entry that would significantly alleviate the concerns

²⁰ See Jean Tirole (above n 17); The leading paper identifying this point is Paul Milgrom & John Roberts, *Limit Pricing and Entry Under Incomplete Information: An Equilibrium Analysis*, 50 *ECONOMETRICA*, p. 443 (1982). See also David J. Cooper, Susan Garvin & John H. Kagel, *Signaling and Adaptive Learning in an Entry Limit Pricing Game*, 28 *RAND J. ECON.*, pp. 662–683 (1997), for an experimental study exploring these theories. Note that the analysis in the text discusses the possibility that the potential entrant does not know the incumbent's costs. It could be argued that if a potential entrant does not know the costs of the incumbent, how can the competition authority know them to determine whether prices are excessive or not. However, the competition authority is able to obtain information from the incumbent during its investigation, whereas the potential entrant cannot access this information.

from excessive prices. In other words, entry induced by high and rational hopes for collusion does not *correct* the excessive price. Excessive prices are likely to remain, because of the likely lack of price competition among rivals. All that consumers would benefit from is more variety—not competitive pricing. Accordingly, in what follows, we shall focus on the ability of excessive prices to signal the inefficiency of the incumbent. After describing in some detail the theory according to which such signaling could occur, we show why the possibility of such signaling does not necessarily mean that excessive prices are self-correcting.

B. The Signaling Virtue of Pre-Entry Prices

Let us first explain when pre-entry prices can signal to uninformed entrants whether the dominant firm is inefficient, thereby at times attracting entry. Suppose that a monopoly firm (hereinafter “the incumbent”) could be either “efficient” (that is, with low marginal costs, of £8 per unit) or “inefficient” (that is, with high marginal costs, of £10 per unit).²¹ A potential entrant does not know whether the incumbent monopolist is efficient or inefficient. Suppose further that an efficient incumbent’s monopoly price is £24 per unit and an inefficient incumbent’s monopoly price is £30 per unit. Indeed, the monopoly price of a firm with higher marginal costs is higher than the monopoly price of a firm with lower marginal costs.²² Suppose excessive pricing is permitted and there is a potential entrant, for which entry is profitable if the incumbent is inefficient, but unprofitable if the incumbent is efficient.

To continue, we need to make an assumption regarding what the entrant will decide to do if the entrant receives no credible signal from pre-entry prices. That is, what is the entrant’s prior tendency if he remains in the dark as to the incumbent’s relative efficiency—to enter or not to enter? Let us first assume that the entrant’s prior tendency is not to enter; absent additional information or signals about whether the incumbent is efficient or not, the entrant decides not to enter, just as the case would be, had the entrant become aware that the incumbent is efficient²³ (we shall later see that our results remain intact under the opposite assumption according to

²¹ For simplicity, it is assumed that the marginal cost is the same per each unit.

²² See, e.g., Tirole (above n 17), at p. 66.

²³ This prior tendency could stem from the entrant placing a high enough probability on the possibility that the incumbent is efficient and its factoring in of this probability with the costs of entry and expected profits after entry. This is a reasonable assumption when the costs of entry are substantial, so that a mistake on the part of the entrant is too costly, as facing an efficient incumbent would not allow the entrant to recoup these costs of entry. Note that the entrant’s prior tendency of whether to enter is a function of the entrant’s *prior* beliefs about the profitability of entry. The entrant could update these beliefs if the incumbent signals its efficiency through pre-entry pricing, or keep these beliefs unchanged if the incumbent does not signal its efficiency through pre-entry pricing. Also note that we are not assuming any

which the entrant's prior tendency, if it does not receive credible signals from pre-entry prices, is to enter).

Despite the entrant's prior tendency not to enter, if the entrant learns from pre-entry prices that the incumbent is inefficient, it does enter. In such a case, if an efficient incumbent wishes to deter entry, and the incumbent knows about the entrant's prior tendency not to enter,²⁴ the incumbent can set a price lower than its monopoly price to signal to the potential entrant that the incumbent is indeed efficient. Such pricing is often called "limit pricing"—setting a price lower than the monopoly price to deter entry. For example, instead of charging its monopoly price of £24 per unit, an efficient incumbent might charge a somewhat lower price of £16 per unit.

For limit pricing to convey accurate information, however, the signal that it conveys must be credible. That is, it must be unprofitable for an inefficient incumbent to disguise itself as an efficient incumbent by charging the limit price of £16 per unit, thereby trying to "fool" the entrant and deter its entry, despite it being actually profitable for the entrant to enter. The limit price has to be set by an efficient incumbent low enough so as to make such mimicking behavior on the part of an inefficient incumbent unprofitable. For example, the limit price of £16 per unit grants an inefficient incumbent, in our example, a profit per unit of only £6 (because such an incumbent's marginal costs are £10 per unit). It might be more profitable for an inefficient incumbent not to charge the limit price of £16 per unit, but rather to charge its monopoly price of £30 per unit. This way, the incumbent would make more profits before entry, and this could more than offset the fact that such a price exposes the incumbent's inefficiency and attracts entry (causing lower profits after entry). Note that the story is different for an efficient incumbent: a limit price of £16 per unit may be profitable for it, because it can still make a profit per unit of £8, although signaling that it is efficient and keeping the entrant out of the market.

If such a limit price exists, then only an efficient incumbent would charge it, and the entrant could understand whether the incumbent is efficient or not by looking at the pre-entry price (this type of equilibrium is called a

kind of irrational behavior on the part of potential entrants. When it comes to profit-maximizing firms, we believe this to be a reasonable assumption.

²⁴ Because we are focusing on the incumbent's pre-entry pricing behavior, what really matters is what the incumbent thinks about entrants' prior tendency, and not necessarily entrants' actual prior tendency. Thus the case analyzed in the text in which the entrant's prior tendency is not to enter actually applies whenever the incumbent believes the entrant to be of such prior tendency. In reality, there could be several potential entrants. The incumbent's decision whether to signal its efficiency via the pre-entry price hinges on how the incumbent thinks such signaling will affect entrants' behavior. For example, if the incumbent places a high enough probability on the possibility that most potential entrants' prior tendencies are not to enter, the incumbent will behave in the manner described in the accompanying text and following two paragraphs.

“separating equilibrium” in the literature). This is a particular case in which the high price of an inefficient incumbent that cannot disguise itself as an efficient incumbent does invite entry.

Such a case does not always occur, however, because it might be that an inefficient incumbent does find it profitable to disguise as an efficient incumbent and charge the same limit price an efficient incumbent would be willing to charge. In a particular case, it might be that the lowest limit price that is profitable for an efficient incumbent to charge is also profitable for an inefficient incumbent to charge. For example, suppose, as before, that an efficient incumbent would be willing to charge a limit price of £16 per unit, but no lower. Suppose that charging lower than £16 per unit is not profitable even for an efficient incumbent because deterring entry is not worth sacrificing so much pre-entry profits. Suppose also that an inefficient incumbent too would be willing to charge this limit price of £16 per unit, because an inefficient incumbent too is willing to sacrifice pre-entry profits by charging £16 per unit instead of £30 per unit to deter entry.

In such cases, where an inefficient incumbent wants to mimic an efficient incumbent’s limit price (a type of equilibrium called a “pooling equilibrium” in the literature), entry will not occur in our example because of the entrant’s prior tendency not to enter and the entrant’s fear that the incumbent might be efficient. When an inefficient incumbent cannot mimic an efficient incumbent’s limit price (a “separating equilibrium”), entry will occur.

Accordingly, high prices (particularly the inefficient incumbent’s monopoly price) invite entry in a separating equilibrium, whereas in a pooling equilibrium, even if prices are well above the competitive level (and may well be excessive according to the competition authority’s standards),²⁵ they do not invite entry. In our example, in a pooling equilibrium, the incumbent charges £16 per unit, which is 100 percent higher than its marginal costs if it is efficient and 60 percent higher than its marginal costs if it is inefficient. Had there been viable competition in the market, price might have been closer to the incumbent’s marginal costs (for example, £12 per unit).²⁶

Even in a separating equilibrium, if the incumbent is efficient, it can charge the limit price of £16 per unit, which again could be well above competitive levels and excessive by the competition authority’s standards. This price will deter entry, as the entrant becomes aware that the incumbent is efficient and because it fears that post-entry prices will be too low to justify the costs of entry.

²⁵ We are purposely abstracting from problems of assessment of the excessive price because we are focusing only on the claim that excessive prices are self-correcting, under the assumption that in certain cases, the competition authority could overcome problems of assessment.

²⁶ It is well known that even under viable competition (among only a few firms), competition may be imperfect and prices do not go all the way down to firms’ marginal costs. *See, e.g.,* Tirole (above n 17), at ch. 5, 7.

Hence, even when pre-entry prices have the ability to signal the incumbent's efficiency, it is not necessarily the case that excessive prices invite entry, because the type of prices that *deter* entry could also be "excessive" according to some pre-defined standard. All that can be said in the case of a separating equilibrium is that prices that invite entry are even higher than those that deter it.

We have assumed that the entrant's prior tendency is not to enter, that is, when the entrant does not receive signals from pre-entry prices regarding whether the incumbent is efficient or not, it refrains from entering, because of its prior beliefs about the profitability of entry. But our conclusions remain intact under the opposite assumption, according to which the entrant's prior tendency is to enter, that is, the assumption that when the entrant does not receive signals from pre-entry prices regarding whether the incumbent is efficient or not, it enters.²⁷ In a nut shell, when the entrant's prior tendency is to enter,²⁸ and the incumbent is inefficient, the incumbent has no use in trying to disguise itself as an efficient incumbent and creating a pooling equilibrium. This is because when the incumbent disguises as an efficient incumbent, the entrant receives no signals from pre-entry prices and acts on its prior tendency: it enters even if the incumbent charges the limit price. Conversely, if the incumbent is efficient, it has no point in charging a limit price, because, as noted, an inefficient incumbent does not wish to disguise as an efficient one. Hence, as has been shown in formal models,²⁹ when the entrant's prior tendency is to enter, the incumbent (whether efficient or inefficient) does not engage in limit pricing and charges its monopoly price. In such models, entry occurs when the incumbent is inefficient, but not because the pre-entry price is excessive. As noted, entry would have occurred even if the incumbent had charged a limit price, however low this price may be. Conversely, in such models, entry does not occur when the incumbent is efficient, despite the fact that the incumbent charges its monopoly price, which may well be excessive, according to the competition authority's standards.

As we can see, the notion that pre-entry prices can attract entry by signaling the incumbent's efficiency to the entrant is based on complex theories, which in turn hinge on various assumptions about the sophistication of the incumbent and the entrant and on what each of them knows or does not know. For example, they assume that although the entrant does not know how efficient the incumbent is, he knows enough about market conditions to deduce from pre-entry pricing whether the incumbent is efficient or not.

²⁷ The entrant's prior tendency will be to enter when it places a high enough probability on the possibility that the incumbent is inefficient so that, given the costs of entry and expected profits after entry, the entrant believes entry to be profitable.

²⁸ That is, the incumbent places a high probability on the possibility that most potential entrants' prior tendency is to enter.

²⁹ See Tirole (above n 17), at p. 371 for a formal presentation of this type of case.

To summarize the rather complex analysis of the previous paragraphs, recall that we are interested in examining the claim that excessive prices invite entry (and are therefore self-correcting). We have seen that this claim is incorrect. First, if the entrant is informed about the incumbent's efficiency, the pre-entry price has no effect on entry. It is only the expected post-entry price that matters. Second, even when potential entrants are not informed about the incumbent's relative efficiency, the "very" high price of an inefficient incumbent could attract entry, but only if a so called "separating equilibrium" exists and only under the game-theoretic literature's restrictive assumptions. Moreover, even then, the somewhat lower limit price of an efficient incumbent, which deters entry, also may well be excessive under some pre-defined standard, only less "excessive" than the pre-entry price of an inefficient incumbent.

More importantly, as will be shown in Section IV, even if excessive pricing were prohibited, pre-entry prices could have equal, or even better, "entry-attracting" signaling value. Pre-entry prices need not be excessive in order for them to attract entry by signaling that the incumbent is inefficient. It is enough that inefficient incumbents charge different pre-entry prices than efficient ones.

This analysis also shows that the prospects of new entry will not necessarily induce the incumbent to refrain from excessive pricing. Our analysis of the game-theoretic literature revealed two scenarios in which the prospects of new entry induce the incumbent to engage in limit pricing to deter entry. Both occur when the new entrant is uninformed about the incumbent's costs and its prior tendency is not to enter. The first occurs under the so-called "separating equilibrium," provided that the incumbent is efficient relative to new entrants, and the second occurs under the so-called "pooling equilibrium," in which whether the incumbent is efficient or not, it engages in limit pricing. This limit pricing, however, could constitute pricing well above the competitive level. Accordingly, not only are the circumstances under which limit pricing evolves limited, limit pricing itself does not necessarily mean that prices are not "excessive," under some pre-defined standard.

It is interesting to note that when potential entrants are uninformed not only about the incumbent's costs, but also about their *own* expected costs, and they believe their own expected costs to be correlated with the incumbent's costs, at least one study has shown, under certain (admittedly, quite restrictive) assumptions, that excessive pricing by the incumbent could even *deter* entry. This is because such excessive pricing may signal to the uninformed entrants that the costs of operating in the market are high, thereby making entry less profitable.³⁰

³⁰ See J. Harrington, *Limit Pricing When the Potential Entrant Is Uncertain of His Cost Function*, *ECONOMETRICA* (1986); Tirole, (above n 17), at p. 372.

It is important to note that if one dismisses the signaling theories analyzed in this section as highly theoretical, and the assumptions they are based upon as restrictive, this only strengthens the claim that excessive prices are not self-correcting. In such a case, pre-entry prices have no effect on entry. It is only the entrant's belief as to post-entry prices that matters. Naturally, then, excessive prices could not be self-correcting: the incumbent is expected to charge the highest price the market can bear, because it knows that pre-entry prices have no effect on entry. The entrant, for its part, knows that the post-entry price may be considerably lower than the pre-entry price and that however high the pre-entry price is, entry may be unprofitable. Conversely, given the entrant's expectation as to the post-entry price and profits, it could believe entry to be profitable, but, again, regardless of the pre-entry price.

C. The Prohibition of Excessive Pricing in Markets with Low Entry Barriers

Our analysis has shown that in the majority of cases, excessive prices are not self-correcting, because they do not attract new entry. Current literature does acknowledge that where entry barriers into a market are sufficiently high, new entry will not occur, despite excessive pricing.³¹ In the same spirit, however, the literature implies that when entry barriers into the market are *low*, excessive prices *are* self-correcting.³² In what follows, we show that this is not necessarily the case.

To be sure, if new entry of viable firms occurs, the dominant firm's dominance will be eroded, and prices will go down. It remains to be asked, however: if entry barriers into the market are low, should a dominant firm be able to defend itself against a claim that it had charged excessive prices for a significant period, while its dominance persisted? That is, could the dominant firm claim that because entry barriers into its market are low, it cannot be that its prices were excessive?

Our analysis in Section III(B) implies that the answer is no. We have shown that easy entry into a market does not induce the dominant firm to lower its prices. On the contrary, the only case in which a dominant firm ever wishes to charge a limit price (a price somewhat lower than its

³¹ See, e.g., Motta & de Streel (above n 2), p. 16 ("The first necessary but not sufficient condition is static and relies on the presence of high and non-transitory barriers to entry. In such a case, it is extremely unlikely that market forces would be able to challenge the dominant firm and that the abusive practices will be self-correcting. In practice, the investigated firm should enjoy a monopoly (or near monopoly), or control an essential facility whose position may not be contestable." See also ROBERT O'DONOGHUE & JORGE ATILANO PADILLA, *THE LAW AND ECONOMICS OF ARTICLE 82 EC* (Hart Publishing 2006) pp. 635–636.

³² As O'Donoghue & Padilla, Id: "...The need for a strict enforcement policy is less obvious in circumstances where the market is contestable, since high prices would ordinarily attract new entrants that would compete away the excessive margins."

monopoly price) is when this limit price can act as an entry barrier in and of itself. This is clearly a case in which an entry barrier does exist: it takes the form of the entrant's fear that the incumbent is too efficient and post-entry prices are too low to make entry profitable.

We have seen that when no significant entry barriers exist, including the fear of the incumbent being too efficient, even the prospects of the dominant incumbent engaging in limit pricing disappear. The incumbent has nothing to lose, because it knows that its pricing behavior will have no effect on entry; entry might occur at any time. The incumbent might as well charge monopolistic prices for as long as it can. If it is lucky, such excessive prices and profits could persist for significant periods. Accordingly, if the competition authority shows that a dominant firm in a market with low entry barriers indeed priced excessively *for several years*, it seems wrong to let such a dominant firm go without sanctions just because entry barriers are low. As noted, it is precisely these low entry barriers that could have induced the dominant firm to price so excessively, because limit pricing, when entry barriers are low, will not occur.³³

It could be claimed that it might take competition authorities several years to bring a case against the dominant firm, and that by the time the case is brought, entry will have occurred and the excessive price will have been dissipated. One must not disregard, however, the deterrent value of competition law. The aim is not merely to stop the dominant firm from charging an excessive price, but to deter it from doing so in the first place. If the dominant firm is not deterred from doing so, the inefficiencies involved in the excessive price, in the form of sub-optimal consumption of the product or service, would persist for the several years in which the excessive price had lasted.

If indeed the dominant firm's dominance persisted for a long period, another possibility, other than the dominant firm merely being "lucky," is that entry barriers of some sort do exist, but went undetected by the competition authority. In such a case, as noted earlier,³⁴ the prospects of entry could not alleviate excessive pricing, because there are no prospects of entry.

IV. COULD THE PROHIBITION OF EXCESSIVE PRICES MAKE ENTRY MORE LIKELY?

In Section III, we have seen how pre-entry prices could sometimes signal, under certain game-theoretic models, to uninformed entrants whether the

³³ Note, *e.g.*, the Estonian Supreme Court judgments in *AS Eesti Telefon v. Estonian Competition Board* (Dec. 2002, no. 3-3-1-66-02) in which the court rejected an argument that enforcement is redundant as an excessive price would lead to market entry. The court held that even if this was the case, consumers' welfare would be damaged in the interim period. For an overview of this case, see I. KOKKORIS, *COMPETITION CASES FROM THE EUROPEAN UNION* (Sweet & Maxwell 2007).

³⁴ See above n 30.

incumbent is efficient. The analysis there examined the signaling virtue of pre-entry pricing assuming there is no prohibition of excessive pricing and the incumbent can charge as high a price as it likes. One might claim that, in this subtle sense, it is a bad idea to prohibit excessive pricing, because when excessive pricing is allowed, substantially excessive pre-entry prices could, at least, sometimes signal that the incumbent is inefficient, thereby attracting entry.

However, such a claim ignores the fact that even when excessive prices are prohibited, pre-entry prices could have equal, or even better, signaling value. For signaling to take place, prices need not be excessive. All that is needed is that the pre-entry price an inefficient incumbent charges is higher than the pre-entry price it would have charged had it been efficient.

To illustrate, let us turn to the case where excessive pricing is indeed prohibited, so that the incumbent can charge not more than its marginal costs plus a “competitive” profit k .³⁵ Note that this type of prohibition of excessive pricing does not demand an inefficient incumbent charge a “competitive” price that an efficient incumbent would charge. Because an inefficient incumbent’s marginal costs are higher than an efficient incumbent’s marginal costs, the incumbent is allowed to charge a higher price if it is inefficient.

What does such a prohibition do to the signaling virtue of pre-entry prices? Will an inefficient incumbent more often mimic the pre-entry price of an efficient incumbent, thereby keeping the entrant in the dark about the incumbent’s costs and possibly deterring entry, or will it more often stick to the higher pre-entry price it is allowed to charge, thereby inviting more entry by signaling to the entrant that it is inefficient? The answer depends on the particular circumstances of each case.

Suppose, for example, as before, that an efficient incumbent’s marginal costs are £8 per unit and an inefficient incumbent’s marginal costs are £10 per unit. Accordingly, under the prohibition of excessive pricing assumed earlier, an efficient incumbent is allowed to charge £8 + k per unit and an inefficient incumbent is allowed to charge £10 + k per unit. If the cost advantage of an efficient incumbent over an inefficient incumbent is greater than k (the “competitive” profit margin the competition authority allows), an inefficient incumbent cannot mimic the price of an efficient incumbent (unless it is prepared to suffer substantial losses), because it would then have to price below its own marginal costs. In our example, if k , the permissible profit margin, is only £1 per unit, an inefficient incumbent, whose marginal costs are £10 per unit, cannot disguise as an efficient incumbent.

³⁵ Note that we are abstracting here from difficulties of assessing what such a permissible competitive profit is or what the incumbent’s marginal cost is. This is because, as noted in the introduction, we are focusing on cases in which the competition authority believes it can overcome such difficulties.

This is because it would have to charge £9 per unit (the price an efficient incumbent is allowed to charge), which is lower than its own marginal costs of £10 per unit.³⁶ In such a case, it is clear that there will be no mimicking behavior by inefficient incumbents. While excessive pricing is allowed, there could be some mimicking, as shown in Section III(B). Mimicking can deter entry.³⁷ Accordingly, when the permissible profit margin (k) is smaller than the cost difference between an efficient and inefficient incumbent, there will be more entry under the prohibition of excessive prices than in the absence of such a prohibition.

Suppose now that the cost advantage of an efficient incumbent over an inefficient incumbent is not greater than k . For example, the permissible profit per unit is £3. Here it might be that an inefficient incumbent would want to disguise as an efficient one by charging £11 per unit (the permissible price of an efficient incumbent, given that an efficient incumbent's marginal costs are £8 and the permissible profit is £3) instead of £13 per unit (the permissible price of an inefficient incumbent, such an incumbent's marginal costs of £10 plus the permissible profit of £3).³⁸

It is interesting to consider when mimicking by an inefficient incumbent is more likely: when excessive pricing is prohibited, as in the latter example, or when it is allowed. Again, the answer depends on the characteristics of each particular case. To see why, note that an inefficient incumbent's decision to mimic an efficient incumbent affects both its pre-entry and post-entry profits. On the one hand, mimicking sacrifices pre-entry profits, because it involves charging a price lower than that without such mimicking. On the other hand, mimicking raises post-entry profits, such that it deters entry, enabling the incumbent to remain a monopoly. In this light, let us explore the profitability of mimicking when excessive prices are prohibited versus the profitability of mimicking when excessive prices are allowed.

Suppose first that excessive prices are prohibited. As noted, to mimic an efficient incumbent, the inefficient incumbent charges £11 per unit (the

³⁶ Even if the inefficient incumbent is willing to suffer losses by pricing below its marginal costs, it would then be likely to be prosecuted for predatory pricing.

³⁷ Note that if uninformed entrants' prior tendency is to enter (that is, they place such a high probability on the incumbent being inefficient that they enter even when an inefficient incumbent mimics the pricing of an efficient one), there would be entry whether or not excessive pricing is prohibited. Hence, this case does not affect the comparison between the two regimes described in the text. The comparison is meaningful under the opposite assumption, according to which an uninformed entrant's prior tendency is not to enter (that is, when faced with such mimicking, the entrant is pessimistic about the incumbent's costs and decides not to enter).

³⁸ We are assuming here, for simplicity, that the allowable profit margin is low enough so that to mimic an efficient incumbent's pre-entry price, an inefficient incumbent simply charges the price an efficient incumbent is allowed to charge (£11). If k , the permissible profit, is large enough, an efficient incumbent could engage in limit pricing, charging less than £11, to try and credibly reveal that it is efficient. This assumption does not affect the conclusions. See Section III(A) for more on the theory of limit pricing.

permissible price of an efficient incumbent) instead of £13 per unit (the permissible price of an inefficient incumbent). Suppose now that excessive prices are not prohibited. Then, to mimic an efficient incumbent, the inefficient incumbent charges the limit price (£16 per unit in the example of Section III(B)) instead of its monopoly price of £30 per unit. The question of which sacrifice of pre-entry profits is larger is not trivial. On the one hand, cutting the price from £30 per unit to £16 per unit (when excessive pricing is allowed) involves a larger price cut than cutting from £13 to £11 (when excessive pricing is prohibited). This may imply that mimicking is more profitable when excessive prices are prohibited. But, on the other hand, profits depend not only on price, but also on the quantity consumers demand. The product's demand structure may be such that the increase in demand, when price goes down from £13 to £11, is smaller than the increase in demand when price goes down from £30 to £16. This could tip the result in favor of mimicking when excessive prices are allowed.

Moreover, as noted, the profitability of mimicking also depends on the post-entry profits involved in deterring entry. If excessive prices are prohibited, deterring entry (by mimicking) is less attractive because post-entry profits are constrained anyway by the prohibition of excessive pricing. In our example, whether entry is deterred or not, the incumbent can make a profit of only £3 per unit. The only profitability in mimicking and deterring entry, then, stems from protecting the incumbent's market share. The incumbent cannot charge a profit margin above £3 even if he deters entry. On the other hand, when excessive prices are not prohibited, deterring entry (by disguising as an efficient incumbent) becomes more attractive for an inefficient incumbent. This is because if entry is deterred, the incumbent not only protects its market share, but also is able to continue charging an excessive price rather than the competitive price that would have evolved had entry not been deterred.

Hence when excessive prices are prohibited, mimicking of an efficient incumbent by an inefficient incumbent could involve either less or more of a sacrifice of pre-entry profits, but certainly involves less of an increase in post-entry prices. It then remains dependent on the characteristics of each case whether mimicking (that jams the signaling virtue of pre-entry prices) is more likely when excessive prices are prohibited than when excessive prices are allowed.

Accordingly, the effect of prohibiting excessive prices on the signaling virtue of pre-entry prices is ambiguous. That is, thanks to the signaling virtue of pre-entry prices, there could be more signaling, and more entry, under the prohibition of excessive prices than under non-prohibition of excessive prices.

Note that our purpose is to contradict the notion that excessive prices are self-correcting. That is, it is not necessarily the case that excessive prices invite more entry (through signaling) than legally constrained prices. We do

not claim that the prohibition of excessive prices *always* promotes more entry (by improving the signaling virtue of pre-entry prices). What we have shown is that the answer to these questions is ambiguous and depends on the characteristics of the case.

This analysis exposes an interesting policy implication. There is an important downside to “punishing” an inefficient dominant firm by requiring it to charge the lower “competitive price” that an efficient firm would have charged. Some courts seem to have ruled in this manner.³⁹ The preceding analysis provides a policy reason to object to such a rule. This is because if an inefficient incumbent is forced to charge the competitive price of an efficient incumbent, the signaling virtue of pre-entry prices disappears and entry is deterred more often. Such a legal rule actually forces an inefficient incumbent to create a “pooling equilibrium” and mimic the pricing of an efficient incumbent. Without such a legal rule, the inefficient incumbent might have preferred to charge the higher price suitable to its higher costs, thereby signaling to potential entrants that it is inefficient and that entry could be profitable. This policy reason to object to such an “efficient dominant firm” rule could be added to the extreme difficulty in the implementation of such a rule, demanding from the court or competition authority the ability to verify not only what the “competitive price” charged by the dominant firm under investigation would have been (a task which is often difficult in itself) but also what the “competitive price” of a hypothetically efficient dominant firm would have been.⁴⁰

Finally, the prohibition of excessive prices could at times encourage entry in another way. Suppose that a possible benchmark for showing that the incumbent’s pre-entry prices were excessive is to show that the difference between the incumbent’s pre-entry prices and its post-entry prices is “excessive” (assuming, as before, that the competition authority is equipped in a particular case to assess what “excessive” is). That is, if an incumbent “excessively” cuts prices after entry has occurred, it faces a great risk of being prosecuted for pricing excessively before entry. This would discourage such an incumbent from aggressively cutting price after entry, and,

³⁹ See, e.g., the cases cited by Motta & De Streel, (above n 2), p. 5; Lucazeau/SACEM (SACEM II) 110/88, 241/88, 242/88 [1989] ECR 2811, para 29; Tournier (SACEM I) 395/87 [1989] ECR 2521, para 42; Case 273 & 906, *Vereniging Vrije Vogel v. KLM* and *Stewart v. KLM* (2000) Dutch Competition Authority; and *Report on Schipol’s Tariffs* (2001), cited in O’Donoghue & Padilla (above n 2), p. 629.

⁴⁰ To illustrate the difficulty of implementing such a rule, note that the dominant firm is naturally engaged in high levels of production, given its high market share. Accordingly, the “efficient firm” benchmark should be calculated only according to an “efficient” firm with production levels as high as the dominant firm, because even an efficient firm might, in many circumstances, have a production function in which costs rise as a function of the quantity produced. For other accounts of the difficulties in implementation, see also O’Donoghue & Padilla (above n 2), p. 630–631, and Decision of the Finnish Market Court of Oct. 11, 2002 (117/690/2000).

accordingly, it encourages new entry. Potential entrants would be less hesitant to enter, because they are less concerned about post-entry price cuts.⁴¹

V. CONCLUSION

The literature, case law, and agencies' guidelines identify three main grounds for not intervening against a dominant firm's excessive price. First, difficulties in measuring the competitive price and identifying excessiveness make the prohibition of excessive prices difficult to implement in practice. Second, it is often argued that the prohibition of excessive prices might chill down firms' incentive to innovate or invest *ex ante*. Third, it is argued that excessive prices are often self-correcting, making the prohibition of excessive pricing redundant.

In this paper, we challenged the validity of the third ground for non-intervention. We show that excessive prices are not self-correcting, whether entry barriers into the market are high or low and whether potential entrants are informed about the incumbent's relative efficiency.

Our claim does not necessarily support an interventionist approach, nor does it promote a policy that excessive pricing should always be prohibited. It does, however, shift the focus from the alleged self-correcting nature of excessive pricing to the other two grounds for non-intervention. Accordingly, if a competition authority decides not to intervene, it should do so predominantly because of its belief that in a particular case excessive prices stimulate investment, or because of difficulties in implementation. When the competition authority finds that the risk of undermining investment and problems of assessment are not compelling, intervention should be considered as a viable option.

⁴¹ Interestingly, in the United States, Aaron Edlin proposed to ban severe post-entry price-cuts as predatory pricing, and he points out that one of the benefits of such a ban is that there will be more entry. See Aaron S. Edlin, *Stopping Above-Cost Predatory Pricing*, 111 YALE L. J. 941, 947 (2002). See also Einer Elhauge, *Why Above-Cost Price Cuts to Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power*, 112 YALE L. J. 681 (2003); for a critique of Edlin's proposal, see Oliver E. Williamson, *Predatory Pricing: A Strategic and Welfare Analysis*, 87 YALE L. J. 284 (1977), who proposed to prevent a monopolist from expanding output after entry. Of course, rules that may "punish" a dominant firm for significantly cutting price following entry could also have drawbacks. In particular, under such rules, post-entry prices are expected to be higher than that without such rules.