

# ESMT White Paper

## DOMINANT AND EFFICIENT

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ON THE RELEVANCE OF EFFICIENCIES IN ABUSE OF DOMINANCE CASES

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# Contents

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1.	Introduction and summary	6
2.	The EU Commission's approach to dominance cases and recent trends	9
2.1.	Dominance assessment and balancing	9
2.2.	Types of conduct under Article 102 TFEU	11
2.3.	Recent trends in EU enforcement priority	15
3.	Efficiency defences and other objective justifications in the EU Commission's practice	23
3.1.	Efficiency defences and other objective justifications according to EU soft law provisions	23
3.2.	Efficiency defences and other objective justifications in past EU decisions	25
4.	Business perspective on efficiency defences and objective justifications for the example of low price strategies	30
4.1.	The problem of non-separability for the example of low price strategies	31
4.2.	Business justifications for low price strategies	33
4.3.	A glance at the negative effects of low price strategies for deterrence purposes from a business angle	35
4.4.	Evidence on anticompetitive low price strategies	36
4.4.1.	Theoretical results regarding the rationale of anticompetitive low price strategies	37
4.4.2.	Experimental evidence on anticompetitive low price strategies	40
4.4.3.	Evidence on anticompetitive low price strategies from case re-examinations	41
4.4.4.	Survey evidence on the frequency of use of anticompetitive low price strategies	43
4.4.5.	Summary	45
4.5.	Survey among EMBA students on the relevance of pro- and anticompetitive motives behind low price strategies	45

4.5.1.	Description of the survey	46
4.5.2.	Survey results	47
5.	Conclusions	51
	Appendix	52
	References	55
	About ESMT	59

## Tables

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Table 1:	Classification of the types of exclusionary conduct under Article 102 TFEU	14
Table 2:	Recent EU decisions (opened investigations and final decisions), 2009-2012	20
Table 3:	Potential objective justifications and efficiencies mentioned by the EU Commission	24
Table 4:	Article 102 TFEU Commission decisions since 2009 in which objective justifications were raised	25
Table 5:	Types of conduct according to motives and effects	32
Table 6:	Entry deterrence strategies - Frequency of use (in percent)	44
Table 7:	Possible objectives of predatory pricing considered in the survey	46

## Figures

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Figure 1:	Reported frequency of use of advertising and aggressive pricing as entry deterring strategies for new products	44
Figure 2:	Respondents' rating of how advisable they regard very aggressive pricing as a business strategy in general in order to achieve specific objectives	48
Figure 3:	Advisability of aggressive pricing (first and third row) and very aggressive pricing (second and fourth row) as a business strategy in general and as a business strategy for a leading company in a growing market in order to compete against an existing or new rival	49
Figure 4:	Screen shot of first question of the survey with varying context	52

# 1. Introduction and summary

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Article 102 of the Treaty on the Functioning of the European Union (hereafter “Article 102 TFEU”) is aimed at preventing abusive exclusionary and exploitative conduct by dominant undertakings. In 2005, the European Commission began a review process on the policy underlying Article 102 TFEU and the way in which it should enforce that policy, focussing on exclusionary abuses. In line with the advice given by the Economic Advisory Group on Competition Policy (EAGCP), the EU Commission rejected in a comprehensive staff discussion paper the former legalistic approach for assessing abusive exclusionary conduct by dominant undertakings in favour of an effects-based approach.

The subsequent Guidance Paper, which was adopted in 2009, is however less explicit about the role of economic analysis in the EU Commission’s practice. Nevertheless, the Guidance Paper acknowledges the relevance of actual or likely effects for the overall assessment. Most importantly for the topic at hand, it explicitly foresees a balancing of anti- and procompetitive effects (i.e. efficiencies and other objective justifications), comparable to the approach taken under the EC merger guidelines or under Article 101 (3) TFEU.<sup>1</sup> This approach has also been endorsed by the European Court in the case *Post Danmark*.<sup>2</sup>

In this paper, we discuss the actual relevance of efficiency considerations in the EC practice of Article 102 TFEU cases. We first review final Commission Decisions published since 2009 as well as investigations opened during that period to identify enforcement priorities and the actual relevance of efficiency considerations and other objective justifications in the EU Commission’s practice. Thereafter, we contrast this practice with the business view on the actual relevance of pro- and anticompetitive motives, with a focus on low price strategies.

We come to the following conclusions:

**Regarding current EU enforcement priorities** we identify four main enforcement clusters. First, a focus is on refusal to supply/margin squeeze abuses in regulated network industries, that is, in the energy, transportation and telecommunication

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<sup>1</sup> In the Background Note by the Secretariat of the OECD the view is taken that Article 102 TFEU “appears to establish an absolute prohibition of an abuse of dominance, thereby depriving dominant firms of a possibility to justify their conduct” (paragraph 161). However, in Europe “this restrictive approach has started to gradually relax; [t]he European Commission’s Guidance of 2009 on its enforcement priorities in applying Article 102 also recognises efficiencies as a possible defence [...]” (paragraphs 170 and 176).

<sup>2</sup> ECJ 27 March 2012 - Case C-209/10 (*Post Danmark A/S/ Konkurrencerådet*).

sectors. Here the EU Commission takes the role of a regulator of last resort. Second, a significant number of cases relate to the IT software industry and to the financial data service industry. Here the main focus is on interoperability issues, that is, on tying and bundling and/or refusal to supply. Third, we find a significant number of cases in which Intellectual Property Rights (IPRs) play an important role. The main concern here is exploitation of downstream customers. With respect to the manufacturing industries, the EU Commission focuses on aftermarkets or exclusive dealing concerns.

By comparing the EU Commission's closing and opening decisions it can be inferred that these enforcement priorities will persist. The high percentage of cases related to the IT sector, in which innovation plays a decisive role, is remarkable.

**Regarding the relevance of efficiency considerations** for final Article 102 TFEU Commission Decisions since 2009 the review shows that in 42 percent of these decisions (in five out of 12) an efficiency defence or another objective justification was put forward and reported. We consider this number to be low given that in Article 102 TFEU cases anticompetitive behaviour and objective justifications are intrinsically linked.

By reviewing past EU decisions, we also observe that in the majority of cases in which efficiencies or other objective justifications were put forward by the dominant companies, the companies were active in the IT sector, whereas in the majority of cases in which no objective justifications were put forward, the dominant companies were active in the energy sector.

Overall, the review of past Article 102 TFEU cases shows that efficiency defences are of limited importance under the current practice. They played a role mainly in cases related to the IT sector but not in others. The shift in emphasis towards cases related to the IT sector implies a growing importance of a well-conceived approach towards efficiency considerations within Article 102 TFEU.

**Regarding low price strategies** we explore the motives behind these strategies from a business perspective to assess to what extent competition authorities should take a negative presumption once a low price strategy is robustly established. We find that low price strategies are frequently used. The motives are diverse, often procompetitive and in line with antitrust compliance as low price strategies are rarely considered advisable for leading firms.

The paper is structured as follows: Section 2 reviews the EU Commission's overall approach to dominance cases and explores enforcement priorities with respect to industries affected and theories of harm put forward. Section 3 discusses the EU Commission's practice with respect to efficiencies and other objective

justifications in Article 102 TFEU cases. A business perspective on efficiencies and other objective justifications is offered in Sections 4 and 5. The existing empirical literature is discussed and the results of a survey on low price strategies among EMBA students are presented. Section 6 summarizes several issues that require further considerations.



## 2. The EU Commission's approach to dominance cases and recent trends

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In the following we briefly describe the standard practice of assessing an Article 102 TFEU case in the EU, focusing on efficiencies and other objective justifications.

### 2.1. Dominance assessment and balancing

The objective of Article 102 TFEU is the protection of competition on the market as a means of enhancing consumer welfare. To achieve this objective Article 102 TFEU prohibits abusive exclusionary and exploitive conduct by dominant undertakings.

The first step in the application of Article 102 TFEU is the assessment of dominance. Dominance has been defined under Community law as a position of economic strength enjoyed by an undertaking, which enables it “to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers,”<sup>3</sup> a definition which can only hardly be reconciled with economic thinking as also a firm with significant market power will keep a strong customer orientation and will price in accordance to external rivalry.

Despite this conflict in legal and economic notion there is a common understanding between law and economics of the factors which need to be assessed in a dominance assessment. It is necessary to look inter alia at the market position of the allegedly dominant company, the market position of competitors, barriers to expansion and entry, and the market position of buyers.

The second step in the application of Article 102 TFEU is an assessment of the abusive conduct. As established under Community law, dominant undertakings may not “recourse to methods different from those which condition normal competition.”<sup>4</sup> The focus of the EU Commission is on the effect on competition and consumer welfare. If the EU Commission finds that a practice is likely to exclude an equally or more efficient competitor or to result in anticompetitive exploitation of consumers, the dominant undertaking can rebut by putting forward explanations of why the conduct in question is efficient and justified by procompetitive

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<sup>3</sup> Case 85/76 *Hoffmann-La Roche & Co. v Commission* (1979) ECR 461, paragraph 38.

<sup>4</sup> *Ibid.*

considerations. That is, the positive and negative effects of the conduct are balanced against each other in order to come to an overall assessment.

#### **Judgment on Post Danmark**

In a recent judgment the European Court endorsed the approach set out in the Commission's Article 102 Discussion and Guidance Paper. It acknowledged the relevance of actual or likely effects for the overall assessment. Moreover, it acknowledged the necessity of a balancing of anti- and procompetitive effects (i.e. efficiencies and other objective justifications). In the following we briefly summarize the underlying case and the judgment.

In Denmark, Post Danmark and Forbruger-Kontakt are the two largest undertakings in the unaddressed mail sector (brochures, telephone directories, guides, local and regional newspapers etc.). Post Danmark has a monopoly in the related addressed mail sector. It therefore maintains a distribution network covering the entire national territory.

Until 2004, Forbruger-Kontakt had established a distribution network itself, which covered almost the entire national territory. Forbruger-Kontakt also had major customers in the supermarket sector, namely the SuperBest, Spar and Coop groups.

The Coop group entered contract negotiations with both, Post Danmark and Forbruger-Kontakt, in 2003. Post Danmark offered marginally lower prices than Forbruger-Kontakt and thus won the Coop group as customer. Moreover, Post Danmark won the SuperBest and Spar groups as customers.

In what follows, Forbruger-Kontakt complaint to the Danish competition council Konkurrencerådet that Post Danmark had abused its dominant position by not putting its customers on an equal footing in terms of rates and rebates and charging Forbruger-Kontakt's former customers rates different from those it charged its own pre-existing customers without being able to justify those significant differences in its rate and rebate conditions by considerations relating to its costs.

In the following decisions it was found that Post Danmark had priced to the Coop group below its "average total costs" but above its "average incremental cost." Notably, Post Danmark argued that the contract concluded with the Coop group enabled it to achieve economies of scale, leading to cost reductions of DKK 0.13 per item. The authorities assessed that the prices offered to the Spar and SuperBest groups were higher than average total costs. It could not be established that Post Danmark had intentionally sought to eliminate competition.

## 2.2. Types of conduct under Article 102 TFEU

A distinction is made between exclusionary and exploitative conduct. Exclusionary conduct describes conduct whereby a dominant company prevents or hinders competition in the market, whereas exploitative conduct means conduct whereby a dominant company takes advantage of its market power to exploit its customers.<sup>5</sup> Both types of conduct are linked as exclusion is pursued with the motive of exploitation once the exclusionary objective is achieved. The opposite is not true though, as the root of exploitation may also rest in procompetitive behaviour. In fact, as is pointed out by Röller (2007) “if there was no possibility to ever exploit ones market power, there would be no incentive to compete. Thus, pro-competitive behavior must also involve exploitation (‘positive effects’).”

Regarding exclusionary conduct, the EU Commission gives priority to the most commonly encountered forms: exclusive purchasing agreements and conditional rebates, tying and bundling, refusal to supply, margin squeeze and predatory pricing. The EU Commission defines these forms of exclusionary conduct as follows:<sup>6</sup>

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<sup>5</sup> A comprehensive overview on excessive pricing and competition policy is offered in OECD (2012a).

<sup>6</sup> Discussion Paper paragraphs 93, 96, 135-137, 177, 209 and Guidance Paper paragraphs 33 and 37.

**Judgement on Post Danmark (continued)**

The European Court was addressed with the following questions:

Is Article 102 TFEU to be interpreted as meaning that selective price reductions on the part of a dominant postal undertaking that has a universal service obligation to a level lower than the postal undertaking's average total costs, but higher than the provider's average incremental costs, constitutes an exclusionary abuse, if it is established that the price was not set at that level for the purpose of driving out a competitor?

If the answer to question 1 is that a selective price reduction in the circumstances outlined in that question may, in certain circumstances, constitute an exclusionary abuse, what are the circumstances that the national court must take into account? The European Court pointed out that Article 102 TFEU "prohibits a dominant undertaking from, among other things, adopting pricing practices that have an exclusionary effect on competitors considered to be as efficient as it is itself and strengthening its dominant position by using methods other than those that are part of competition on the merits" (ECJ judgement, par. 25). It made clear that "to the extent that a dominant undertaking sets its prices at a level covering the great bulk of the costs attributable to the supply of the goods or services in question, it will, as a general rule, be possible for a competitor as efficient as that undertaking to compete with those prices without suffering losses that are unsustainable in the long term." The European Court also pointed to the fact that Forbruger-Kontakt had not been foreclosed; Forbruger-Kontakt managed to maintain its distribution network and won back the Coop and the Spar groups as customers in 2007.

Further, the European Court emphasized that a dominant undertaking is open to provide justification for an alleged exclusionary conduct under Article 102. A dominant undertaking "may demonstrate, for that purpose, either that its conduct is objectively necessary (see, to that effect, Case 311/84 CBEM [1985] ECR 3261, paragraph 27), or that the exclusionary effect produced may be counterbalanced, outweighed even, by advantages in terms of efficiency that also benefit consumers (Case C-95/04 P British Airways v Commission [2007] ECR I-2331, paragraph 86, and TeliaSonera Sverige, paragraph 76)" (ECJ judgement, par. 41). Further, the European Court stressed that an efficiency defence is also valid even if the considered efficiencies did not appear in the schedules of prices. In conclusion the court establishes that "In order to assess the existence of anti-competitive effects in circumstances such as those of that case, it is necessary to consider whether that pricing policy, without objective justification, produces an actual or likely exclusionary effect, to the detriment of competition and thereby, of consumers' interests." Hence, the European Court endorsed the approach set out in the Commission's Article 102 Discussion and Guidance Paper. It acknowledged the relevance of actual or likely effects for the overall assessment. Moreover, it acknowledged the necessity of a balancing of anti- and procompetitive effects (i.e. efficiencies and other objective justifications).

**Exclusive purchasing agreements and conditional rebates, together referred to as exclusive dealing:** An exclusive purchasing obligation requires a customer to purchase exclusively or to a large extent only from the dominant undertaking. Conditional rebates are rebates granted to customers to reward them for a particular form of purchasing behaviour.<sup>7</sup>

**Tying:** refers to situations where a supplier makes the sale of one product (the tying product) conditional upon the purchase of another distinct product (the tied product). Only the tied product can be bought separately.

**Bundling:** refers to situations where a package of two or more goods is offered. Cases where only the bundle is available, and not the components, are referred to as pure bundling. Cases where both the bundle and the components are available on the market are referred to as mixed bundling if the bundle is sold at a discount to the sum of the prices of the components.

**Refusal to supply and margin squeeze:** Refusal to supply refers to situations where a dominant company denies a buyer access to an input. The concept covers a broad range of practices, such as the refusal to supply products to existing or new customers, refusal to license intellectual property rights, including when the licence is necessary to provide interface information, or refusal to grant access to an essential facility or a network. A particular behaviour, which can amount to a refusal to supply, is a “margin squeeze.” This may occur when a dominant company that is vertically integrated charges a price for the product in the upstream market which, compared to the price it charges in the downstream market, does not allow an equally efficient downstream competitor to trade profitably.

**Predatory pricing:** refers to situations where a dominant company lowers its price and thereby deliberately incurs losses or foregoes profits in the short run so as to eliminate or discipline rivals or prevent their entry in the long run.

The types of conduct can be distinguished as being price vs. non-price-based,<sup>8</sup> leading to exclusion of an upstream vs. a downstream rival (see Table 1).

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<sup>7</sup> In contrast, unconditional rebates differentiate the purchase price between customer groups or comprise unconditional volume rebates.

<sup>8</sup> Note that specific forms of price conduct can have comparable effects than non-price related conduct. For instance, a so-called ‘English clause,’ requiring the buyer to report any better offer and allowing it only to accept such an offer when the supplier does not match it, can *de facto* also result in concentrating the purchases with one supplier as a single branding obligation does. See Lear (2012) for a comprehensive discussion of these kinds of pricing policies, linking its own price to prices charged by others for the same product.

**Table 1: Classification of the types of exclusionary conduct under Article 102 TFEU**

	Horizontal foreclosure	Vertical foreclosure
<b>Non-price-based exclusion</b>	Exclusive purchasing agreements Tying	Refusal to supply
<b>Price-based exclusion</b>	Conditional rebates Bundling Predatory pricing	Margin squeeze

Source: DG Comp Discussion Paper, Table 1.

For the assessment of alleged price-based exclusionary conduct the EU Commission examines economic data relating to cost and sales prices in order to infer whether an as efficient competitor can compete with the dominant company. If the EU Commission finds that the dominant company is not engaging in below-cost pricing, that is, that the price is above the average total costs of an as efficient competitor (typically the incumbent's costs are taken), it will reach the conclusion that the dominant company's conduct is not abusive (safe harbour). If, on the other hand, the as efficient competitor test suggests that the price-based conduct causes non-negligible concern for anticompetitive foreclosure effects, the EU Commission will initiate case-by-case considerations and will also take other relevant quantitative and/or qualitative evidence into account.<sup>9</sup>

For the assessment of alleged non-price-based exclusionary conduct the EU Commission makes use of similar principles. To assess tying it will inquire whether (i) the tying and tied goods are two distinct products and (ii) whether the tying practice is likely to have a market distorting foreclosure effect. To infer whether the conduct has a market distorting foreclosure effect the EU Commission will investigate which customers are "tied" in the sense that competitors to the dominant company cannot compete for their business. Then, it will inquire whether these customers "add up" to a sufficient part of the market being tied.<sup>10</sup>

<sup>9</sup> Guidance Paper, paragraphs 25-27, 43, Discussion Paper, paragraph 66 and ECJ 27 March 2012 - Case C-209/10 (Post Danmark A/S/ Konkurrencerådet), paragraphs 40-43. For the price being below average total costs (or long-run incremental costs for business operations comprising common costs), but above average variable costs (average avoidable costs for business operations comprising common costs) the burden of proof is with the EU Commission to show that the behaviour is anticompetitive; for prices below average variable costs (average avoidable costs) it is for the incumbent to disprove this concern.

<sup>10</sup> Discussion Paper, paragraph 183 and 188.

With regard to exclusive purchasing agreements the EU Commission focuses on cases where the number of customers, that is, the degree of downstream competition, is high as in these cases the likelihood of a market distorting foreclosure effect is high.<sup>11</sup> For the assessment of a potential foreclosure effect it will take into account *inter alia* the competitive constraint exercised by competitors, whether competitors can compete on equal terms for each individual customer's entire demand and the duration of the exclusive purchasing agreements.<sup>12</sup>

Finally, for the assessment of refusal to supply, as a first step the EU Commission will inquire whether the refusal relates to a product or service that is objectively necessary to be able to compete effectively in a downstream market.<sup>13</sup> As a second step, the EU Commission will determine a vertical foreclosure effect, taking into account the market share of the dominant undertaking in the downstream market, the capacity of the dominant undertaking relative to that of competitors in the downstream market, the substitutability between the dominant undertaking's output and that of its competitors in the downstream market, the proportion of competitors in the downstream market that are affected, and the demand that is diverted away from the foreclosed competitors to the advantage of the dominant undertaking.<sup>14</sup>

### 2.3. Recent trends in EU enforcement priority

In this section, we review Article 102 TFEU cases for which the EU Commission opened an investigation or came to a final decision between 2009 and 2012. Overall, 28 cases are examined; some of which are closely linked.<sup>15</sup>

We distinguish between three broad industries: first, regulated network industries, including energy, transportation and telecommunications; second, manufacturing industries, particularly IT hardware manufacturing; third, service industries, including financial services as well as IT software provision. Regarding classification of conducts, we follow the nomenclature of the EU Commission in its Discussion and Guidance Paper. We add exploitative abuses as a further category.

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<sup>11</sup> Guidance Paper, paragraph 34.

<sup>12</sup> *Ibid.*, paragraph 36.

<sup>13</sup> *Ibid.*, paragraph 81.

<sup>14</sup> *Ibid.*, paragraph 85.

<sup>15</sup> There are three Google cases which address the same conduct in different niche markets, two IP cases related to Motorola and two Microsoft cases. The latter Microsoft case relates to non-compliance with the remedies imposed in the earlier Microsoft case.

When classifying the cases, the problem arises that single cases may comprise several theories of harm. For instance, refusal to supply often inheres tying/bundling elements and margin squeeze often inheres predatory pricing elements. This applies, for instance, to the MathWorks case, where MathWorks, a specialised software provider, allegedly refused to provide competitors with certain software licenses and/ or interoperability information in relation to its Simulink and MATLAB product families, thereby potentially hindering competition. Preventing interoperability can be seen as a refusal to supply as interoperability is essential for competitors to be able to compete in the market. At the same time, by preventing interoperability MathWorks tied its flagship products to its own applications. Suppressing interoperability is also the key issue in Reuters Instrument Codes and has been dealt with in an earlier Microsoft case.

Multiple theories of harm may also arise for conduct related to aftermarkets. Aftermarkets comprise complementary products (or “secondary products”) that are purchased after the purchase of another product (the “primary product”) to which it relates.<sup>16</sup> Examples include after-sales services and spare parts. A company may abuse its dominant position by excluding competitors from the aftermarket, either through tying or refusal to deal.

Further, the problem of multiple theories of harm may arise for cases concerning exploitative conduct as exploitation is often a consequence of exclusion.

For the classification of cases we focussed on what we considered to be the main theories of harm; some ambiguity remains though. The classification of cases by industry and type of conduct is provided in Table 2.

Before discussing the insights of Table 2 we briefly describe the substantial issues of the cases classified therein:

**EDF (2007; 2010)** - The EU Commission was concerned that the scope, duration, and exclusive nature of EDF’s supply contracts with large electricity consumers hindered the entry and expansion of EDF’s competitors in the French electricity market.

**ENI (2007; 2010)** - The EU Commission’s main concern was that the Italian energy company ENI abused its dominant position on the Italian gas supply markets by refusing to grant competitors access to capacity available on the transport network (capacity hoarding), by granting access in an impractical manner (capacity

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<sup>16</sup> Discussion Paper, paragraph 243.



degradation) and by strategically limiting investment (strategic underinvestment) in ENI's international transmission pipeline system.

**RWE Gas (2007; 2010)** - The EU Commission was concerned that RWE abused its dominant position on its gas transmission network through refusal of access to its network and through a margin squeeze strategy aimed at lowering the margins of RWE's downstream competitors in gas supply.

**Gaz de France (2008; 2009)** - The EU Commission's concern was that GdF Suez abused its dominant position by foreclosing access to gas import capacities in France. In particular, the EU Commission was investigating whether GdF Suez's long term reservations for most of France's gas import capacity, as well as its behaviour relating to investment and capacity allocation at two liquefied natural gas import terminals in France might have closed off access to the French gas market to other potential gas suppliers.

**E.ON Gas (2010; 2010)** - As in the Gaz de France case the EU Commission was concerned that E.ON abused its dominant position in the gas transport markets in several market areas in Germany by foreclosing access to entry capacity into its gas transmission grid.

**ČEZ (2011)** - The EU Commission's concern was that ČEZ restricted entry by excessive capacity reservations on electricity transmission networks in the Czech market for the generation and wholesale supply of electricity.

**Swedish Interconnectors (2009; 2010)** - The EU Commission's concern was that Svenska Kraftnät, the state-owned Swedish electricity grid operator, limited transmission capacity at Swedish interconnectors for exports to the benefit of domestic consumption, thereby discriminating between different network users and segmenting the internal market.

**ARA (2011)** - The EU Commission was concerned that ARA was refusing to supply access to waste collection infrastructure, which would put pressure on customers not to contract with ARA's competitors.

**Deutsche Bahn (2012)** - The EU Commission is investigating whether the German railway incumbent Deutsche Bahn AG and several of its subsidiaries are operating an anticompetitive pricing system for traction current in Germany. Traction current is a type of electricity used by trains on the railway network. In particular, the EU Commission is investigating whether the volume discounts applied by Deutsche Bahn's infrastructure subsidiary lead *de facto* to higher electricity prices for its downstream competitors in the rail freight and passenger markets relative to its own downstream subsidiary.

**TP (2008; 2010)** - The alleged anticompetitive conduct of TP, Telekomunikacja Polska, consisted of refusing to supply its wholesale broadband products, hindering alternative operators from efficiently accessing its network and using its wholesale broadband products.

**Slovak Telekom (2009)** - The EU Commission investigated into Slovak Telekom's behaviour in broadband Internet access markets. The suspected infringements concerned a possible refusal to deal, margin squeeze and other exclusionary behaviour with respect to wholesale local loop access, other wholesale broadband access services and retail broadband access services.

**Reel/ Alcan (2008)** - The EU Commission investigated whether Alcan acted abusively by tying its aluminium smelting technology (primary market) with handling equipment for aluminium smelters (secondary market).

**Honeywell/ DuPont (2011)** - The EU Commission is investigating, among others, whether Honeywell engaged in deceptive conduct during the evaluation of a new refrigerant known as 1234yf, which is intended for use in future car air conditioning systems. It is claimed that Honeywell did not disclose its patents and patent applications while the refrigerant was being assessed as a suitable global replacement for the previous refrigerant R134a and then failed to grant licences on fair and reasonable (so called "FRAND") terms.

**IBM (2010; 2011)** - The maintenance subsidiary of IBM, IBM Maintenance Service, allegedly imposed unreasonable supply conditions with regard to certain spare parts (secondary market product) required for maintenance of IBM mainframes (primary market product) on its competitors in the maintenance market, thus putting them at a competitive disadvantage.

**Intel (2007; 2009)** - The EU Commission was concerned that Intel abused its dominant position in the market for CPUs (x86 central processing units) by incentivising computer manufacturers and a European retailer to exclusively purchase Intel's CPUs through a conditional rebate scheme. The EU Commission also objected to other measures which allegedly aimed at preventing or delaying the launch of competing products.

**Rambus (2007; 2009), Samsung (2012) and Motorola (2012), (2012)** - The Commission concerns that the companies abuse their dominant position by charging excessive licencing fees for the use of standard essential patents (SEPs). In the Rambus case, this was preceded by a so-called patent ambush, which describes a strategy where an ex ante non-dominant member of a standards setting organisation (SSO) intentionally conceals a patent that reads on the ultimate

standard, thereby becoming ex post dominant, and subsequently in a position to apply unfair license terms.

**Microsoft (2008; 2009) and (2012)** - The Microsoft case concerns Microsoft's allegedly illegal tying of its web browser Internet Explorer to its dominant client personal computer operating system Windows. Microsoft submitted commitments in 2009. In 2012, the EU Commission opened new proceedings against Microsoft to investigate possible non-compliance with these commitments.

**S&P (2009; 2011)** - The EU Commission held that S&P, Standard & Poor's, abused its dominant position by charging excessive licensing fees for the supply of US International Securities Identification Numbers ("ISINs") within the EEA.

**Foundem/ Ciao/ 1plusV vs. Google (2010)** - Following several complaints, the EU Commission investigated whether Google abused a dominant position in general online search by discriminating against specialised search engine providers - so-called vertical search engines - in its unpaid and sponsored search results, while favourably placing its own vertical search services.

**Servier (2009)** - In this case the main theory of harm concerns pay-for-delay settlements between the French pharmaceutical company Servier and several of its generic competitors. Pay-for-delay settlements are usually dealt with under Article 101 TFEU (see also Lundbeck (2010), Johnson & Johnson and Novartis and Sandoz (2011) and Cephalon and Teva (2011)). In addition, the EU Commission is concerned that Servier's acquisition of key competing technologies were aimed at delaying or generic entry, in violation of Article 102 TFEU.



<b>Exploitative abuses</b>					Honeywell, DuPont (2011)	Rambus (2007; 2009)	S&P (2009; 2011)	
						Samsung (2012)		
						Motorola (2012)		
						Motorola (2012)		
<b>Others</b>					Swedish Interconnectors (2009; 2010)			Servier (2009)

Source: Authors' review of past EU decisions.

Notes: In brackets are the opening dates of the investigations and the final decision dates, given the case has already been decided.

Table 2 identifies four main enforcement clusters (marked in different grey tones):

First, a focus is on refusal to supply/ margin squeeze abuses in regulated network industries, that is, in the energy, transportation and telecommunication sectors. Here, the EU Commission takes the role of a regulator of last resort.

Second, a significant number of cases relate to the IT software industry and to the financial data service industry (which are closely related, as financial data providers supply data which feeds into financial analytics software). Here the main focus is on interoperability issues, that is, on tying and bundling and/ or refusal to supply.

Third, we find a significant number of cases in industries in which Intellectual Property Rights (IPRs) play an important role. The EU Commission's main concern here is exploitation of downstream customers.

Fourth, with respect to manufacturing industries the EU Commission focusses on aftermarket or exclusive dealing.

By comparing the EU Commission's closing and opening decisions it can be inferred that these enforcement priorities will persist. The high percentage of cases in the IT sector, in which innovation plays a decisive role, is remarkable.

### 3. Efficiency defences and other objective justifications in the EU Commission's practice

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In the following we briefly describe efficiency defences and other objective justifications according to EU soft law provisions and in past EU decisions.

#### 3.1. Efficiency defences and other objective justifications according to EU soft law provisions

If the EU Commission finds that the conduct causes non-negligible concern for anticompetitive effects, the dominant company can rebut by proving objective justifications for its conduct, for instance, by demonstrating that its conduct produces substantial efficiencies or is objectively necessary and proportionate so that the positive effects outweigh the negative effects. These dominant companies' explanations of why the conduct in question is efficient and justified by procompetitive considerations are referred to as objective justifications.

O'Donoghue and Padilla (2006) distinguish between three types of objective justifications:<sup>17</sup>

- **Defences of objective necessity:** In a case of refusal to supply, examples would be capacity limitations or concerns about quality, security, or safety at a facility.<sup>18</sup>
- **Meeting-competition defence:** Applies to situations in which a dominant firm takes reasonable steps to protect its commercial interests.
- **Efficiency defence:** Applies to situations in which the dominant firm's conduct is justified by market expanding or other efficiencies.

For an efficiency defence to be accepted, the dominant undertaking must show that the following cumulative conditions are fulfilled:<sup>19</sup>

- Efficiencies are realised or are likely to be realised as a result of the conduct;

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<sup>17</sup> See O'Donoghue and Padilla (2006) Section 4.5.

<sup>18</sup> See FAG-Flughafen Frankfurt/Main AG, OJ 1998 L 72/30.

<sup>19</sup> Guidance Paper, paragraph 30.

- The conduct is indispensable to realise these efficiencies;
- The likely efficiencies outweigh any likely negative effects on competition and consumer welfare;

The conduct does not eliminate effective competition by removing all or most existing sources of actual or potential competition. Table 3 summarises objective justifications which the EU Commission points out to be of relevance in its Discussion and Guidance Papers regarding exclusionary conduct. To the extent that the exploitative abuse is a consequence of a specific exclusionary conduct, the efficiencies and other objective justifications mentioned for such kinds of exclusionary conduct may be considered relevant also for the related exploitative abuses.

**Table 3: Potential objective justifications and efficiencies mentioned by the EU Commission**

	Objective necessity and meeting-competition defence	Efficiencies
Exclusive purchasing obligations or conditional rebates	The EU Commission points out that meeting-competition can in general not be used as a justification.	The exclusive purchasing obligation or conditional rebate may be indispensable to obtain cost advantages (economies of scale and scope, network effects or learning curve effects); to provide the supplier with an incentive to make a relationship-specific investment necessary to supply a particular customer; to avoid double marginalisation.
Refusal to supply and margin squeeze	The undertaking seeking access will not be technically able to use the facility in a proper manner. The undertaking being terminated is not able to provide the appropriate commercial assurances. In the case of access to an essential facility access will lead to a substantial increase in cost that will jeopardise the economic viability of the facility holder.	Access may be denied if thereby adequate returns on investment and thus continuing investment incentives will be assured; otherwise the dominant undertaking's level of innovation will be impacted negatively (e.g. through the development of follow-on-innovation by competitors); the dominant undertaking wants to integrate downstream and perform the downstream activities itself (it then has to show that consumers are better off with the refusal to supply).
Tying and bundling	It may be an objective necessity to tie products for reasons of quality or good usage of the products necessary to protect the health or safety of the customers.	Tying and bundling may help to produce savings in production, distribution and transaction costs. Combining two independent products into a new, single product may be an



<b>Predatory pricing</b>	<p>Predatory pricing may be objectively necessary</p> <p>for the dominant company to minimise its losses in the short run as market conditions changed</p> <p>due to dramatic fall in demand leading to excess capacity or</p> <p>due to entry by a rival;</p> <p>as there is a need to sell off perishable inventory or phased out or obsolete products or the costs of storage have become prohibitive;</p> <p>due to re-start-up costs or strong learning effects.</p>	<p>innovative way to market the product(s), enhancing the ability to bring such a product to the market to the benefit of consumers.</p> <p>In general, the EU Commission considers the creation of efficiencies through predatory pricing unlikely.</p> <p>It mentions, though, that the low pricing may enable the dominant undertaking to achieve economies of scale or efficiencies related to expanding the market.</p>
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Source: Authors' review of the EU Commission's Discussion and Guidance Paper.

### 3.2. Efficiency defences and other objective justifications in past EU decisions

In the following we examine whether the EU Commission took in its recent Article 102 TFEU decisions efficiency considerations or other business justifications into account and discussed them transparently. Table 4 provides an overview of Article 102 TFEU cases which the EU Commission has decided since 2009 and in which objective justifications were raised by the dominant companies.

**Table 4: Article 102 TFEU Commission decisions since 2009 in which objective justifications were raised**

Case/Conduct/Sector	Objective justification raised by the dominant undertakings
<b>Microsoft (tying)</b> (COMP/C-3/39.530; Commitment Decision); <b>Tying of Internet Explorer to Windows;</b> IT sector	<p>In the earlier Microsoft case of the tying of Windows Media Player to Windows, Microsoft argued:</p> <p>The tying lowers transaction costs for consumers.</p> <p>The economies made by a tied sale of two products save resources otherwise spent for maintaining a separate distribution system for the second product.</p> <p>The tie-in makes it easier for third-party software producers to implement functionality. Consequently, the third-party software producers are able to focus on their areas of expertise, which leads to an increase in the value of the operating system package for end-users.</p>
<b>Intel</b> (COMP/C-3 /37.990;	<p>By using a rebate, Intel only responded to price competition from its rivals.</p>

<p>under appeal)/  <b>Exclusive dealing;</b>  <b>IT sector</b></p>	<p>The rebate system used vis-à-vis each individual OEM was necessary in order to achieve efficiencies that are pertinent to the CPU industry (lower prices, scale economies, other cost savings and production efficiencies and risk sharing and marketing efficiencies). Intel claimed that conditions attached to the rebates were indispensable to attain these efficiencies.</p> <p>Furthermore, Intel argued that the impact of the rebates on competition was minor since its competitor, AMD, grew during the investigation period.</p>
<p><b>Telekomunikacja  Polska (TP)</b>  (COMP/39.525; under  appeal);  <b>Refusal to supply;</b>  <b>Telecommunications</b></p>	<p>The difficulties the alternative operators were facing “<i>were not linked to a strategy but can be explained by the technical works and internal reorganisation which TP had to undergo in a very short period of time to adjust to the new regulatory environment.</i>” In particular, TP had difficulties</p> <p>simultaneously managing several projects on many various wholesale services,</p> <p>developing proper IT systems which would support the new processes for the wholesale services and</p> <p>finding human resources to perform certain projects.</p>
<p><b>Standard &amp; Poor’s</b>  (COMP/39.592;  Commitment Decision);  <b>Excessive pricing;</b>  <b>Financial Services</b></p>	<p>Intellectual property rights over US ISIN databases and on US ISIN numbers for the use of which it is entitled to claim licensing fees.</p>
<p><b>IBM Maintenance  Service</b>  (COMP/C-3/39692;  Commitment Decision);  <b>Refusal to supply  (after-markets);</b>  <b>IT sector</b></p>	<p>Intellectual property rights with regard to some inputs required to provide maintenance service to IBM mainframes.</p>

Source: Authors’ review of past EU decisions.

While the firms tried to bring in objective justifications in the above mentioned Article 102 TFEU cases they almost always failed to convince the EU Commission. Only in IBM Maintenance did the EU Commission indicate that the exercise of an exclusive intellectual property right (IPR) may justify an exclusionary conduct. The EU Commission pointed out, though, that “the exercise of an exclusive intellectual property right may not justify the arbitrary refusal to supply spare parts to independent repairers.” Finally, IBM submitted commitments.

In Standard & Poor’s (S&P) S&P asserted that copyrights in respect of US ISINs served as a justification for the excessive pricing. However, the EU Commission took the view that S&P did not own copyrights as “the intellectual effort invested

in selecting and arranging its content has been made by the international financial community as a whole, that is to say, ISO and the Association of National Numbering Agencies ('ANNA'), and not by S&P in particular." S&P committed to abolishing the licensing fees.

The Microsoft case on the tying of Internet Explorer (IE) to Windows was very much influenced by the earlier Microsoft case on the tying of Windows Media Player (WMP) to Windows. In the earlier case, objective justifications were brought forward by Microsoft. Microsoft was, however, unsuccessful in convincing the EU Commission. The EU Commission argued that the potential transaction efficiencies experienced by consumers do not require that the pre-installation be undertaken by Microsoft. Furthermore, it was argued, that cost savings made by a tied sale of two products could not possibly outweigh the distortion of competition because distribution costs in software licensing would be insignificant; a copy of a software programme can be duplicated and distributed at no substantial effort. In contrast, the importance of consumer choice and innovation regarding applications such as media players would be high. With respect to Microsoft's argument that the tie-in made it easier for third-party software producers to implement a functionality, the EU Commission noted that Microsoft failed to supply evidence that the tying was indispensable for the alleged procompetitive effects to come into effect. The EU Commission imposed a fine on Microsoft. It seems that as a consequence Microsoft did not bring forward objective justifications in the subsequent tying case but submitted commitments straightaway.<sup>20</sup>

In Telekomunikacja Polska (TP) the defences raised by TP basically consisted of the EU Commission having too-high expectations regarding TP's business skills and that the refusal to supply was just a result of TP's improper business practice. Apparently, this argument did not qualify as objective justification in the EU Commission's view, regardless of the evidence TP would have submitted to support it. The EU Commission stated in paragraphs 880-883 of its decision that TP's "justifications" could not be accepted on objective grounds. It imposed a fine of €127 million on TP. TP has appealed the decision.

Intel's defence contained objective justifications which the EU Commission points out to be of relevance (see Table 4). However, the EU Commission was reluctant to actually consider Intel's defence as it would "relate more generally to conduct to which the Commission did not object (i.e. discounting/provision of rebates), and

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<sup>20</sup> On 17 July, 2012, the Commission opened proceedings against Microsoft in order to investigate whether the company has failed to comply with its 2009 commitments.

not to conduct to which the Commission did object (i.e. conditions associated with the discounts/rebates).”

With regard to the cost efficiencies brought forward by Intel, the EU Commission concluded that even if these were relevant, Intel did not provide enough supportive evidence for them. For instance, the EU Commission took the view that Intel failed to demonstrate why conditionality of the rebate would lead to lower prices compared to a rebate that would not be conditional upon exclusivity or quasi exclusivity.

In addition, Intel brought forward a meeting-competition defence. In particular Intel argued that “the intense price competition between Intel and AMD, and the discounts granted by Intel in response to competition, produced very substantial consumer benefits in the form of lower consumer prices.”<sup>21</sup> The meeting-competition defence was also rejected by the EU Commission.

What makes the case special is that Intel’s main competitor, AMD, was apparently not foreclosed but growing during the investigation period. The EU Commission, however, held: “The Intel conducts directly harmed competition. A product which a supplier had been actively planning to release was delayed or constrained from reaching the market. Consumers therefore ended up with a lesser choice than they otherwise would have had.” Finally, the EU Commission imposed a fine of €1.06 billion on Intel and obliged Intel to cease the identified illegal practices. Intel has appealed this decision.

Overall, the review shows that in 42 percent of recent 102 TFEU cases (in five out of 12 final decisions) an efficiency defence or another objective justification was put forward and reported in the decisions. We consider this number to be low given that in Article 102 TFEU cases anticompetitive behaviour and objective justifications are intrinsically linked (see also the following section).

The finding is consistent with the result of a recent survey in which we asked competition lawyers - mostly working in Brussels - about their perception of how often efficiency considerations are brought forward in Article 101 and 102 TFEU cases. According to the respondents, in 31 percent of these cases efficiency considerations played a significant role, but were often not reported transparently.<sup>22</sup> The finding is also consistent with a finding by Geradin and Petit

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<sup>21</sup> Intel Reply to the 26 July 2007 SO, paragraphs 709-713; the quote is in paragraph 711.

<sup>22</sup> This online survey was conducted during the first two weeks of October 2012 and was addressed to antitrust lawyers advising clients on European competition matters. In this survey it was asked whether analyses of efficiencies in 101 and 102 TFEU cases... a) have played an important role and were presented transparently in the Decisions, b) have

(2011) that in only 40 percent of Article 102 TFEU judgments by the General Court between 2000 and 2010 the economic concept “efficiency” was cited.

It is striking that in the majority of cases in which efficiencies or other objective justifications were put forward by the dominant companies, the dominant companies were active in the IT sector, whereas in the majority of cases in which no objective justifications were put forward by the dominant companies, the dominant companies were active in the energy sector. The latter cases are EDF S.A. (exclusive dealing), ENI (refusal to supply), E.ON Gas (refusal to supply), Gaz de France (refusal to supply), RWE Gas (refusal to supply and margin squeeze) and Swedish Interconnectors (curtailing of capacity).

A further interesting insight is that all decisions that do not contain objective justifications are commitment decisions. It seems that commitment decisions shift the focus of the assessment on eliminating the anticompetitive concern raised by the EU Commission and move it away from a broader more integrated balancing of the pros and cons of the specific behaviour. Due to that practice a transparent evaluation of efficiency considerations in the EU Commission’s decision is not achieved. From a policy perspective this is a lost opportunity for providing more guidance to the business community on what justifications are acceptable and what are not.

In sum, the review of past Article 102 TFEU cases shows that efficiency defences played a role only in cases related to the IT sector but not in others. The shift in emphasis towards these cases implies a growing importance of a well-conceived approach towards efficiency considerations within Article 102 TFEU.

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played an important role but were not presented transparently in the Decisions, c) have not played an important role or d) whether the respondent holds no opinion on that question. We received 55 answers. 10 respondents held no opinion on that question. 2 respondents chose answer a), 12 respondents answer b) and 31 respondents answer c).

## 4. Business perspective on efficiency defences and objective justifications for the example of low price strategies

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One of the most aggressive strategies a firm can take vis-à-vis its competitors is a predatory pricing strategy. The EU Commission points out that efficiencies delivered through predatory pricing are unlikely (see Section 3). The identification of a predatory strategy rests on a cost based standard though. That is, the competition authority is *screening for low price strategies*. In the following we explore the motives behind low price strategies from a business perspective in order to give orientation to what extent a competition authority should take a negative presumption once a low price strategy is robustly established.

We address the question from several angles: First, we describe potential objective justifications for low pricing. Second, we take a glance at the potential negative effects of low price strategies from a business angle. Third, we review the theoretical literature on predatory pricing and the empirical evidence on the incidence of predatory pricing in the laboratory and in real business life. Finally, we report the results of a unique and novel online survey, in which we asked current and former EMBA students, i.e. experienced and well trained managers, about the relevance of pro- and anticompetitive motives for low price strategies in business practice.

Before we explore the motives behind low price strategies from a business perspective, we summarize the European Court's recent judgement in the predatory pricing case Post Danmark<sup>23</sup> and briefly touch upon conceptual issues that are of relevance for the discussion.

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<sup>23</sup> ECJ 27 March 2012 - Case C-209/10 (Post Danmark A/S/ Konkurrencerådet).

#### 4.1. The problem of non-separability for the example of low price strategies

The efficiency defence as it is outlined in the Article 102 Discussion and Guidance Paper is broadly in line with the approach taken within EU merger control.<sup>24</sup> In particular, it foresees a balancing of the negative and positive effects of a conduct.

There are several differences between the two policy areas.<sup>25</sup> The central difference concerns the ability to conceptually separate pro- and anticompetitive effects of a conduct. Such a conceptual separation seems to be practical in merger control where the relevant objective justifications mainly consist of efficiencies in terms of marginal cost savings, resulting in some downward pressure on prices. The increase of market power due to the merger, to the opposite, results in an upward pricing pressure. While the combination of the two price effects serves as a prediction on consumer welfare effects of the merger, the two price effects can be analysed separately and only finally combined in a single price prediction.<sup>26</sup>

In contrast, in abuse of dominance cases the objective justification is often inseparably linked to the exclusionary conduct. For instance, a low price strategy unambiguously will result in lower prices. The question here is rather whether these low prices are due to e.g. lower costs, providing a pro-competitive business justification. If that is the case an as efficient competitor will also not be foreclosed. Hence, the answer to the objective justifications is also the answer to the likely anticompetitive effects. This evaluation is not a balancing exercise but requires an “either-or-decision” by the competition authority. Accordingly, the

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<sup>24</sup> See Röller (2010) for an assessment of the relevance of efficiency considerations in EU merger proceedings.

<sup>25</sup> The literature identifies the following additional differences between those two policy areas: First, a higher diversity of conduct in abuse of dominance cases has to be expected. This is so because Article 102 TFEU cases focus on behaviour and not on market structure as merger cases. Moreover, business behaviour is more diverse resulting in more diverse theories of harm and potential efficiencies. Second, different types of analysis can be carried out in Article 102 cases as those cases often are backward looking, while merger cases are typically forward looking. Third, different presumptions (negative vs. neutral) do exist. See Riziotis (2008) and Bellis and Kasten (2010).

<sup>26</sup> We speak of conceptual separation to distinguish this property from the element of merger specificity. Merger specificity requires that the two effects can only be achieved jointly through the merger. The property of conceptual separability allows analysing the two effects separately without making a major judgement error. It has to be pointed out that also in merger cases a complete separability of the pro- and anti-competitive effects cannot be taken as granted. For instance the pass-on of cost efficiencies to end consumer depends on the level of market power held by the merging parties post merger, i.e. the pro- and anti-competitive effects depend on each other.

two-step approach of first assessing anticompetitive effects and then pointing to procompetitive effects seems to be less tractable in abuse of dominance cases than in mergers.

To be more precise, one can distinguish between three scenarios: (1) conducts that only have anticompetitive motives and effects, (2) conducts that have anticompetitive and procompetitive motives and effects and (3) conducts that only have procompetitive motives and effects (see Table 5).

**Table 5: Types of conduct according to motives and effects**

Types of conduct	Anticompetitive motives/effects	Procompetitive motives/effects
(1)	x	
(2)	x	x
(3)		x

Source: The authors' assessment.

In merger cases pro- and anticompetitive effects typically come together, that is, in merger cases scenario (2) typically holds. In these cases one can, however, also separate positive effects, usually due to a marginal cost decrease, from negative effects, usually due to increased market power. Both these effects are reflected in the price, so that it is possible to measure the combined effect, i.e. the overall price change.

In dominance cases, by contrast, the conduct is often driven by either pro- or anticompetitive motives, that is, in dominance cases an antitrust authority focuses in its assessment on whether scenario (1) or (3) holds. For instance, for a low price strategy the immediate effect is undisputed and can be described by low prices. The central question is whether this strategy is pursued for anticompetitive reasons and has the likely effect to foreclose as efficient competitors (scenario 1) or whether it is pursued for procompetitive reasons and is likely to be beneficial for consumers (scenario 3).

Moreover, market effects are often non-linear in dominance cases in the sense that a low price strategy is beneficial up to some extent, beyond a specific threshold (that is, when as efficient competitors are foreclosed) it is, however, detrimental to consumer welfare. Market effects also depend on the efficiency of the dominant firm. This becomes visible by the *as efficient competitor test*, which is applied in cases concerning price-based exclusionary conduct (see Section 2.2.). High efficiency translates into a less restrictive legal standard (i.e. very aggressive price



strategies are still acceptable); low efficiency translates into a more restrictive legal standard (i.e. only non-aggressive price strategies are acceptable).

Further complications in balancing positive and negative effects in Article 102 cases arise because efficiencies are often dynamic, that is, they often involve fix cost savings or incentives to innovate. A balancing of those dynamic efficiencies against mid or long term price increases is often vague.

With this conceptual background we will now analyse the pros and cons of low pricing from a business perspective and the theoretical and empirical literature on low price strategies.

## 4.2. Business justifications for low price strategies

We consider the following objectives of low price strategies as plausible:

- To facilitate learning and awareness of a product among consumers
- To sell off perishable inventory or a phased out product
- To react to a fall in demand leading to excess capacity
- To reduce unit costs by producing large quantities
- To achieve network effects
- To improve the firm's positioning as a low price company
- To compete against an existing or new rival

Those business justifications are mostly also considered by the EU Commission.<sup>27</sup> The exceptions are “to improve the firm's positioning as a low-price company” and “to facilitate learning and awareness of a product among consumers.” We will briefly describe the different objectives in the following.

### *To facilitate learning and awareness of a product among consumers*

The objective to facilitate learning and awareness of a product among consumers is relevant in case of a new product launch or when a company wants to capture new customer segments. The objective establishes a business justification for low pricing where a product requires consumer familiarity or awareness before consumers can appreciate it. In that case, consumers might become loyal during the low-pricing phase and might be willing to pay a higher price afterwards.

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<sup>27</sup> See Table 3 and Guidance Paper, paragraph 74, and Discussion Paper, paragraphs 130 to 133.

Further, it might form a justification for low pricing when consumers communicate their views of product quality to other consumers by word-of-mouth. This defence may be particularly relevant for technology products.

***To sell off perishable inventory or a phased out product and/ or to react to a fall in demand leading to excess capacity***

Those business justifications refer to loss-minimising strategies. A fall in demand may make losses inevitable for a dominant company. Still, the company may want to stay in the market when it expects market conditions to improve again. In that case, low pricing may be justified for a limited period of time.

***To reduce unit costs by producing large quantities and/ or to achieve network effects***

Low price strategies can relate to market expansion. They may lead to a reduction of unit costs by producing large quantities (economies of scale and learning effects) or to an increase in demand (by achieving network externalities, by improving the firm's positioning as a low-price company or by facilitating learning and awareness of a product among consumers).<sup>28</sup> They are closely intertwined in the sense that an increase in demand may help to reduce unit costs. For example, facilitating learning and awareness of a product among consumers may lead to larger sales and network externalities and this, on the other hand, may lead to economies of scale.

To achieve market expanding efficiencies serves as a relevant business justification for a low price strategy especially in new and emerging markets and network industries which are characterised by large up-front fixed costs. Under these circumstances, businesses often have to accept losses in the start-up period but may be able to recover them by achieving greater scale and scope and learning over time.

***To improve the firm's positioning as a low price company***

To improve its positioning as a low-price company may also be considered a relevant business justification for a low price strategy, for instance, in the case of a repositioning or restructuring of a company. Such a low price repositioning may involve only specific products, where firms set low prices to few products but high prices to the majority of products. This strategy is also referred to as loss leading: "Once the consumer is on the seller's premises or committed to certain purchases anyway, the buyer will buy enough of other products to provide a profit greater

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<sup>28</sup> A network externality occurs when the benefit, or surplus, that a consumer derives from a good increases with the number of other consumers using the good.

than the loss on the product used as the loss leader.”<sup>29</sup> Losses on the leading products may be justified by higher profits on the following profits.

Bolton, Brodley and Riordan (2000) point out that similar efficiency gains may be achieved in the case of two-sided markets or second degree price discrimination.<sup>30</sup> For example, a publisher might sell newspapers below cost in order to expand circulation and sell more advertising; or an airline might cut prices on discount economy fare tickets in order to justify additional flights and sell more business class tickets.

#### *To compete against an existing or new rival*

The objective “to compete against an existing or new rival” can mean both the objective of foreclosing a rival and the objective of meeting-competition. While the former objective needs to be rebutted by a dominant company in a predatory pricing case, the latter can be brought forward as a justification for a low price strategy. If a dominant company meets competition in the sense that it responds to aggressive competition by a rival, it is acting defensively. A pragmatic way to distinguish between the two objectives is to accept a meeting-competition defence as long as a dominant company meets but does not undercut a rival’s price.<sup>31</sup>

### 4.3. A glance at the negative effects of low price strategies for deterrence purposes from a business angle

In standard textbooks on competitive strategy a distinction is typically drawn between “the positioning effect,” i.e. within market rivalry, and “the market effect,” i.e. the choice of profitable market segments/industries. It is the former effect, the positioning effect, which brings firms typically under the scrutiny of competition authorities as it is the face-to-face rivalry between firms in a given market segment, which potentially erodes towards anticompetitive forms.<sup>32</sup>

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<sup>29</sup> See O’Donoghue and Padilla (2006), 296.

<sup>30</sup> See Bolton, Brodley and Riordan (2000), 51.

<sup>31</sup> O’Donoghue and Padilla (2006, p. 287) note that this approach has been taken by the Danish Competition Council in *Berlinske Gratisavis*.

<sup>32</sup> Some commentators put more weight on the positioning effect, e.g. Hamel/ Prahalad, other on the market effect, e.g. Porter. This advice is built on empirical studies of intra- and intermarket firm profitability, suggesting within-industry profit variability to be slightly higher than between industry profit variability.

Within that context, predatory or entry deterring strategies are part of the strategic toolbox of firms, and are rationally evaluated with its pros and cons. Besanko et al. (2012, p. 214), for instance, describe predatory pricing as a risky strategy, which often fails in achieving its profit objective: “Price wars harm all firms in the market regardless of who starts them, and are quintessential examples of wars of attrition. [...] If the war lasts long enough, even the winner may be worse off than when the war began because the resources it expended to win the war may exceed its ultimate reward.”

From a business perspective the value of predatory strategies might be limited for several reasons. First, companies might consider the strategy simply ineffective. They might fear that the foreclosure objective is not achieved, that it is too costly or that future price increases will result in new entry. To this effect, Besanko et al. (2012, p. 215) point out: “Predatory pricing will not deter entry if the predator lacks the capacity to meet the increase in customer demand. Disappointed customers will simply turn to the entrant.”

Second, firms might fear customer reactions which render recoupment ineffective. For example, firms might want to avoid price increases after the predatory price phase as price increases, that are not justified by cost increases, are usually perceived as unfair by consumers (see e.g. Kahneman, Knetsch and Thaler, 1986a/b).

Third, alternative strategies may be considered more effective. For instance, firms might find acquisitions or strategies such as signalling high quality via high prices more profitable.<sup>33</sup> Generally, non-price related predation strategies are considered more rewarding (see also Section 4.4.4). In comparison to marketing or R&D, low pricing is a rather inefficient tool to achieve foreclosure because it destroys industry profits for the time it lasts.

Finally, companies might not want to risk getting fined by an antitrust authority.

#### 4.4. Evidence on anticompetitive low price strategies

Empirical evidence on entry deterrence through low price strategies is scarce; naturally companies avoid revealing such sensitive information and the necessary data on cost and demand is usually not available. Some evidence can be inferred from antitrust cases. However, in the EU also the number of antitrust cases dealing

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<sup>33</sup> Utaka (2008) shows that not only limit pricing but also high (“prestige”) pricing signals the incumbent’s quality type and may therefore serve to discourage entry.

with alleged predatory pricing is scarce: the EU Commission decided only upon four cases.<sup>34</sup> It therefore suggests itself to use experiments and surveys in order to receive insights on the incidence of predatory pricing. In the following, we will review the empirical evidence. Before that, we will describe theoretical models on the rationale of predatory pricing, which often form the basis for experiments and other empirical studies.

#### 4.4.1. Theoretical results regarding the rationale of anticompetitive low price strategies

The extensive theoretical literature on predatory pricing can be divided into three categories: asymmetric financial constraints, reputation based models and signalling models.<sup>35</sup>

The first category was addressed by Telser (1966) in a model of “deep pocket”. In his set-up, predation occurs because the predator has by assumption better financial resources and can outlast the prey. Specifically, the interest rate at which the prey can borrow money depends negatively on the prey’s financial resources. The prey has to pay a fixed cost each period in order to remain viable. Everything is common knowledge. Thus, the predator can calculate the number of periods it takes to outlast the prey, given that it sets predatory prices. If the predator can recoup the losses that it incurs through predatory pricing in the long-run, predation will be a rational strategy. However, as pointed out by Telser, predation does not occur in equilibrium since already the threat of predation deters entry or induces the companies to merge.

Telser’s model was criticized because it does not explain why the prey is financially constrained; in well-functioning capital markets predation would not occur. Fudenberg and Tirole (1986) suggested an alternative model of predatory pricing. In their model the prey is uncertain about the fixed cost that it has to raise each period in order to remain viable. The prey therefore decides based on its current profits whether to stay in the market or not. If the predator makes use of predatory pricing, the prey will believe that its cost is high, which will induce it to exit the market more readily. Hence, in Fudenberg and Tirole’s model predatory pricing can be rational as it makes the prey believe that its cost is high and may thus induce it to exit the market.

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<sup>34</sup> The four cases are Wanadoo Interactive (2003), COMP/38.233; Deutsche Post AG (2001), COMP/35.141; Tetra Pak II (1992), Case C-333/94 P; AKZO Chemie BV (1991), Case C-62/86.

<sup>35</sup> See Ordoover and Saloner (1989), Bolton, Brodley and Riordan (2000) and Kobayashi (forthcoming) for a more in-depth description of these models.

Bolton and Scharfstein (1990) reason that the prey might be financially constrained because lenders take short-term performance as a signal for long-term agency cost. If predatory pricing causes the prey to perform poorly in the short-term, lenders will cut their financing, forcing the prey to exit. However, the prey will anticipate this and agree upon financial contracts that lower the threat of predation but are more costly.

In a second stream of literature reputational aspects of predatory pricing are taken up in multi-market settings. Multi-market settings are characterized by an incumbent monopolist being active in a number of identical markets, e.g. a “chain-store”. In each market, the incumbent faces a potential entrant. Entrants can only enter sequentially. Intuitively, if the incumbent has successfully preyed once, subsequent entrants will be hesitant to enter. That is, predatory pricing in early periods might be rational if thereby the incumbent can establish a reputation for fighting, discouraging entry in later periods. However, in an influential paper Selten (1978) emphasized the “chain-store paradox”, pointing out that under the logic of backwards induction predation would *not* be rational in a multi-market setting for the same reason that it would not be rational in a single-market setting. Selten assumes that entrants know that the incumbent is “weak” in the sense that the incumbent has such high marginal cost that its profit-maximizing price in a single period lies above the entrants’ marginal cost.

Milgrom and Roberts (1982a), Kreps and Wilson (1982) and Kreps, Milgrom, Roberts and Wilson (1982) addressed the chain store paradox by developing models in which predation may occur in a multi-market setting. Like Selten (1978) they assume that the incumbent is weak. However, entrants attach some positive probability to the incumbent being irrational and preferring to fight entry instead of being rational and preferring to accommodate entry. Consequently, rational incumbents have an incentive to mimic the irrational types and fight entry. Rational incumbents then make use of predation in early periods in order to establish a reputation of irrationality and deter later entrants. These models are referred to as reputation models.

Milgrom and Roberts (1982b) also address the chain store paradox within another, so called signalling model, providing another convincing story of why predation might be rational in a multi-market setting. In the signalling model the incumbent can either be weak, as in the reputation model, or strong. Weak incumbents are rational, i.e. they prefer to accommodate entry in a single period. Strong incumbents, on the other hand, prefer to fight entry as they are so efficient that they can set prices below the entrants’ cost without making losses. Hence, entrants prefer to stay out if an incumbent is strong. Decisively, entrants do not know whether the incumbent is weak or strong. They can only observe the

incumbent's decision in earlier periods. Consequently, a weak incumbent will often find it profitable to mimic the strong type and fight instead of accommodate entry at the beginning of the game, trying to discourage entry in later periods.

Interestingly, Milgrom and Roberts's (1982b) also look at the welfare effects of predatory pricing within the signalling model and come to an ambiguous result. The game has two possible equilibria: a separating equilibrium and a pooling equilibrium. In the separating equilibrium, a strong incumbent can distinguish itself from a weak incumbent by setting a low price that a weak incumbent would not like to set as it would make too high losses. Thus, entrants will be able to infer whether they face a strong or a weak incumbent. Because a strong incumbent sacrifices profits to signal its type, welfare effects are likely to be positive.

In the pooling equilibrium, on the other hand, there is no price that a strong incumbent can set in order to distinguish itself from a weak incumbent. Thus, a weak incumbent can mimic a strong incumbent by setting a lower price in earlier periods in order to deter entry. The welfare effect is more likely negative then.

Saloner (1987) provides a similar model, considering how predatory pricing can be used to induce the exit of an already active rival. Moreover, Roberts (1986) suggests a variant where entrants are unsure about market demand instead of the incumbent's type.

The strategies of rational incumbents in reputation models and weak incumbents in signalling models can be described as predatory as the incumbents are sacrificing profits in earlier periods in order to discourage entry and obtain higher profits in later periods.

Signalling models are reminiscent of the concept of "limit pricing", which was established by Bain (1949). Limit pricing refers to strategic behaviour of an incumbent that limits the (expected) payoff of entry. An incumbent can limit the expected payoff of entry, for instance, by setting a lower price. An entrant that observes such a lower price might expect lower profits and become hesitant to enter. Thus, by setting a lower price an incumbent might be able to deter entry.

In summary, in one stream of literature predatory pricing occurs due to financial constraints of the prey. In a second stream of literature, Kreps and Wilson (1982) and Milgrom and Roberts (1982b), among others, provide counterarguments to Selten's "chain-store paradox" within reputation and signalling models.

#### 4.4.2. Experimental evidence on anticompetitive low price strategies

The incidence of predatory pricing is a controversial issue. Addressing this issue through the use of experiments is a plausible research strategy as data interpretation in alleged cases of predation is non-obvious. As pointed out by Normann (2007) good cost information in order to analyze suspicious price-cutting is often not available. Moreover, there is often no coherent theory of how the losses incurred during the price-cutting can be recouped. In controlled laboratory experiments, cost schedules are induced directly. Therefore, it can be useful to explore under which conditions predatory strategies emerge in controlled laboratory experiments. Van Damme et al. (2009) summarize the available evidence.

In a first experiment by Isaac and Smith (1985) two companies (i.e. two subjects) compete in a market where they can sell up to a total of ten units and keep any profits they make. In each period the companies state their own prices and the maximum amount of units they are willing to sell at that price. Decisively, one company has lower cost than the other company and companies have to sell at least one unit in one period in order to stay in the market in the next period. Thus, a predatory strategy is feasible for the low-cost company; it only has to offer ten units at a price that is below its rival's marginal cost. In fact, such a pricing strategy must not even result in an actual loss for the low-cost company as it can still price above its own marginal cost. However, Isaac and Smith (1985) did not find evidence for predatory pricing within this experimental setting, even after they introduced several design variations (e.g., sunk costs) which they thought were progressively more favourable to a predatory pricing strategy.

Arguments were put forward why Issac and Smith did not find evidence for predatory pricing. The main argument was that in their setting the high-cost rival has a strong incentive to match the low cost rival's predatory pricing, even if it makes losses in the short run, as it will have no opportunity to make money if it exits the market. That is to say that predatory pricing might fail in real business life because entrants have strong incentives to "fight back," given they lack reasonable outside options. In a follow on study Harrison (1988) allowed the high-cost rival to make profits in other markets, which indeed lead to an increase in the likelihood of predatory pricing.

The experiments of Goeree and Gomez (1998) replicate the experiments of Harrison (1988) but include further modifications of design. In particular, they no longer let subjects make entry, price and quantity decisions simultaneously but announce entry choices prior to the posting of prices. This design modification



implies that low-cost rivals know whether they face entry or not. Further, Goeree and Gomez (1998) provide low-cost rivals with complete information about demand, the structure of which is simplified compared to that of Harrison (1988). As a result they find statistically significant pattern of predatory pricing.

Jung, Kagel, and Levin (1994) investigated explicitly whether the results by Selten's (1978) chain-store game, Kreps and Wilson's (1982) reputation game and Milgrom and Roberts' (1982) signalling game can be replicated in the lab (for a description of these games refer to Section 4.4.1). In their experiments an incumbent encounters subsequent entrants. In each period, the incumbent chooses to fight or to accommodate and the potential entrants choose to enter or to stay out. Prospective entrants can observe the incumbent's decision. In one setting, which is a replication of Selten's (1978) chain-store game and Kreps and Wilson's (1982) reputation game, entrants know that the incumbent is weak. In another setting, which is a replication of Milgrom and Roberts' (1982) signalling game, entrants have incomplete information about whether the incumbent is weak or strong. The payoffs are set in a manner that a strong incumbent's profit maximizing strategy in a single period is to fight entry and a weak incumbent's profit maximizing strategy in a single period is to accommodate entry. If the incumbent chooses to fight, potential entrants prefer to stay out.

Jung, Kagel, and Levin (1994) found that predatory pricing occurred in 85% of the cases if entrants knew that the incumbent is weak. Hence, they were able to confirm Kreps and Wilson's (1982) reputation argument. Further, they found that predatory pricing always occurred if entrants had incomplete information about whether the incumbent was weak or strong. Weak incumbents always fought entry in early periods. Thus, Jung, Kagel, and Levin (1994) could also confirm Milgrom and Roberts' (1982b) signalling argument.

In summary, in an early experiment Isaac and Smith (1985) failed to find evidence for predatory pricing in the laboratory. More recent research suggests that predatory pricing can be generated reliably in the laboratory but requires specific features like re-entry barriers, outside options, reputational effects and/or uncertainty. Still experimental research is scarce.

#### 4.4.3. Evidence on anticompetitive low price strategies from case re-examinations

Several authors have re-examined cases on alleged predatory pricing. As in the early experimental literature, they first reached the conclusion that predatory pricing was a rather rare phenomenon. Koller (1971), for instance, re-examined 31 alleged predatory pricing abuses and found only few instances of successful

predation. More recent empirical studies have challenged this conclusion. Zerbe and Cooper, for instance, re-examined the cases that also Koller (1971) re-examined and found considerably more evidence of successful predatory pricing.<sup>36</sup>

Burns (1986) conducted a regression analysis, in which he estimated how predatory pricing affected the acquisition prices of 43 firms that the American Tobacco Company acquired between 1891 and 1906. He found statistically significant evidence that predation substantially reduced the cost of acquiring competitors. The effect was higher when the American Tobacco Company acquired smaller competitors - an observation consistent with the deep pocket argument (see Section 4.4.1).

Moreover, Genesove and Mullin (2006) provide evidence that predation occurred in the sugar industry at the beginning of the twentieth century. They compared sugar prices to a direct measurement of marginal cost and concluded that the price was following two major entry episodes were predatory. They could calculate the marginal cost directly due to the simple technology involved. Interestingly, their results suggest that predation occurred only when its relative cost to the dominant firm was small, e.g., the episodes of predation were suspended during high demand periods. In line with Burns (1986) they found that the effect of predatory pricing was to lower the acquisition price of competitors.

What is more, the UK Competition Commission (2011) finds that competition in the markets for local bus services has been diminished by operator conduct such as (signaling of) predatory pricing, leading to geographic market segregation. They observe that the sunk costs of bringing a route to profitability are variable and uncertain but can be substantial. Related to this, there is a risk arising from the expected intensity of post-entry competition. Incumbents may signal a predatory attempt or retaliation in case of entry. This gives rise to significant costs for potential entrants. Predation or retaliation might only be signaled but not realized. However, because potential entrants cannot predict in advance the extent to which costs will arise due to predation and retaliation, they perceive substantial risks of entry. In consequence, competition is unlikely to be sustained as one or the other party could be forced to exit. Thus, even though predation or retaliation might only be signaled but not realized, substantial barriers to entry and expansion are formed. The authors recognize that as a result operators would concentrate on serving their own territories while declining to challenge rivals in the latter's

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<sup>36</sup> For a detailed description of this literature see Kobayashi (forthcoming). Kobayashi criticizes that the studies do not reveal the methodology used. Thus, it is hard to infer which of the conclusions are reliable.

areas, anticipating that they are then less likely to be challenged by these rivals in their own territories.

#### 4.4.4. Survey evidence on the frequency of use of anticompetitive low price strategies

Survey evidence on anticompetitive low price strategies is also relatively scarce. This might be due to the fact that companies are supposedly reluctant to provide information on anticompetitive behaviour. One of the few studies that do provide survey evidence is Smiley (1988). He enquires the frequency of use of the following entry deterring strategies:

- **Limit price - static:** refers to the question of whether a firm would frequently set a lower price so that potential competitors would choose not to imitate the firm's product;
- **Limit price - dynamic:** refers to the question of whether a firm would frequently "decrease price below what would otherwise be the most profitable, but only to slow the rate of entry by new competitors, not to stop entry completely";
- **Excess capacity:** refers to a strategy of building a large enough production plant, so that the firm will be able to meet all expected demand for the new product;
- **Advertising:** refers to a strategy of intensive advertising and promotion of a product for the purpose of increasing customers' brand loyalty;
- **R&D:** refers to a strategy of extensive patenting, e.g. acquiring patents for all similar product variants;
- **Reputation for predation:** refers to a strategy of giving the impression that the firm will compete especially rigorously against new rivals;
- **Learning curve:** refers to a strategy in which a firm uses aggressive price reductions to move down the learning curve, giving it a cost advantage that later entrants may only be able to match by investing themselves in learning.

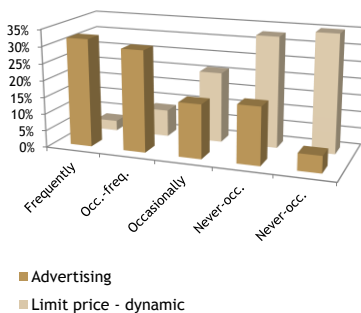
Smiley (1988) asked 293 product, brand or marketing managers about their frequency of use of these entry deterring strategies for "new products" and "existing mature products." Possible ratings concerning the frequency of use of these strategies ranged from 1 "never" to 5 "frequently." Smiley's survey results are computed in Table 6.

**Table 6: Entry deterrence strategies - Frequency of use (in percent)**

	Limit price - static	Limit price - dynamic	Excess capacity	Reputation for predation	Advertising	R&D	Learning curve
<i>New products</i>							
Frequently	2%	3%	6%	10%	32%	31%	9%
Occ.-freq.	4	8	16	17	30	25	17
Occasionally	17	21	20	27	16	15	29
Never-occ.	34	33	22	24	17	12	27
Never	44	35	36	23	5	17	18
<i>Existing products</i>							
Frequently	7	6	7	8	24	11	
Occ.-freq.	15	14	14	19	28	20	
Occasionally	21	21	17	22	26	16	
Never-occ.	32	32	32	31	14	31	
Never	25	27	30	21	7	23	

Source: Smiley (1988), Table 1. The percentages per strategy and kind of product add up to 100.

**Figure 1: Reported frequency of use of advertising and aggressive pricing as entry deterring strategies for new products**



The first four strategies, including aggressive pricing and excessing capacity, change the entrant's expectation of post-entry competition, whereas the last three strategies, including advertising and R&D, create high entry cost. Roughly 10 to 20 percent of brand or marketing managers answered that they were *frequently* or *occasionally to frequently* using aggressive pricing and excessing capacity as entry deterring strategies for new and existing products. This number stands in stark contrast to the high percentage of brand or marketing managers (roughly 30 to 60 percent) who stated that they were frequently or occasionally to frequently using advertising and R&D as entry deterring strategies for new and existing products. The fact that aggressive pricing and excessing capacity are reported to be used rather infrequently compared to other entry deterring strategies (see also Figure 1) suggests that these strategies are rather unfavourable from a firm's perspective.

In another study, related to the UK market, Singh et al. (1998) confirm that aggressive pricing and the strategic use of capacity are used rather infrequently to deter entry. Singh et al. (1998) also find similar reliance on R&D as entry deterring strategy, but a weaker reliance on the use of advertising. The strategic use of

distribution systems and the practice of signing long-term contracts with buyers are also considered to be important within this study.

In summary, the scarce survey evidence suggests that pricing is used rather infrequently to deter entry. Strategies that create high entry cost, e.g. R&D and marketing, are used more frequently.

#### 4.4.5. Summary

Summing up, from a business perspective low pricing can have several procompetitive motives. Low pricing for anticompetitive purposes is often viewed critically as it might not be a profitable strategy at all due to uncertainties or better outside options. In fact, the early experimental literature resulted in widespread scepticism regarding the incidence of low pricing for anticompetitive purposes. Above that, a number of legal scholars re-examined cases concerning predatory pricing and came to the conclusion that accusations of claimants were not well-grounded in many cases.<sup>37</sup> The US Supreme Court eventually resumed in *Matsushita vs. Zenith* (1986) and in *Brooke vs. Brown & Williamson* (1993) that “there is a consensus that predatory pricing schemes are rarely tried, and even more rarely successful”. However, the more recent experimental literature was able to find clear and statistically significant patterns of predatory pricing through further design modifications. Still, the existence of predatory pricing in laboratory experiments seems to depend on specificities of the market structure design. Also the more recent empirical evidence from case studies as well as survey evidence suggests that pricing is used occasionally for deterrence purposes. Survey evidence, however, also shows that other strategic variables such as marketing and R&D are used more frequently, implying that pricing is indeed often not regarded the most effective strategic variable that companies can use in order to deter entry.

### 4.5. Survey among EMBA students on the relevance of pro- and anticompetitive motives behind low price strategies

In order to add to the limited survey evidence on anticompetitive motives behind low price strategies and to also empirically explore the relevance of procompetitive motives behind low price strategies we created an anonymous online survey among former and current EMBA students of the European School of

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<sup>37</sup> For a recent survey of these issues, see Kobayashi (2010). Koller (1971) examined 31 alleged incidents of predation and found only few instances of successful predation.

Management and Technology (ESMT). Specifically, our goal was to provide evidence on whether foreclosure plays a stronger or weaker role than efficiencies and other objective justifications.

#### 4.5.1. Description of the survey

The survey was distributed to 173 former and current EMBA students of the ESMT European School of Management and Technology via e-mail and was available for completion from 15-19 October, 2012. We received 42 responses.

The main part of the survey consisted of four questions. The first two questions concerned pricing below average total cost, whereas the third and fourth question concerned pricing below average variable cost. Otherwise the questions were identical. In the first and in the third question the respondents were asked to indicate to what extent they regard pricing below average total cost/pricing below average variable cost advisable to achieve certain objectives. The objectives we proposed were presented in a random order and are presented in Table 7 (see also Section 4.2.).

**Table 7: Possible objectives of predatory pricing considered in the survey**

Rivalry	To compete against an existing or new rival
Efficiencies	To reduce unit costs by producing large quantities
	To achieve network effects
	To facilitate learning and awareness of a product among consumers
	To improve the firm's positioning as a low-price company
Objective necessities	To react to a fall in demand leading to excess capacity
	To sell off perishable inventory or a phased out product

Source: Authors' assessment.

Objective a. captures rivalry (meeting-competition defence or foreclosure), objectives b. to e. capture efficiencies and objectives f. and g. capture objective necessities.

In the second and fourth question respondents were asked to indicate which of the proposed objectives they regard as the two most relevant ones. They could drag and drop the relevant objectives into a box and position them with respect to relevance.

We varied the context of the four questions among respondents. Half of the respondents were asked about the objectives of low pricing as a business strategy *in general* and the other half were asked about the objectives of low pricing as a

business strategy for a *leading company in a growing market*. Through this variation we wanted to find out whether predatory motives are seen more critically if the context explicitly reveals that the question concerns pricing of a leading or dominant company. A screen shot of the first question of the survey is provided in the appendix of this paper.

In questions 5 and 6 the respondents were asked whether they had heard about a company that was pricing below average variable cost and, if so, for what reasons the company was using this pricing strategy and whether the company was small, medium-sized or large. Finally, in questions 7 to 10 respondents were asked about their working background.

#### 4.5.2. Survey results

Overall, we received 42 answers from former or current MBA students of the ESMT. 40 respondents stated that they were working for, or that they had worked for, a large company with more than 500 employees. Thirteen respondents stated that their professional experience was 5-10 years; the other 29 respondents stated that their professional experience was more than 10 years.

The survey showed that very aggressive pricing, that is, pricing below average variable cost, had been observed by 64 percent of respondents.<sup>38</sup>

##### **Result 1: Very aggressive pricing is a strategy that is widely observed.**

If the respondents confirmed that they had observed a company pricing very aggressively, we asked them what they thought the reasons were for the companies' very aggressive pricing. The majority of respondents confirmed that the companies' motives were one of those we inquired about (see Table 6).

Next, we asked respondents about the size of the companies they had observed pricing very aggressively. Even though the majority of respondents were working for, or had worked for, large companies, only 70 percent stated that they had observed a large company pricing very aggressively. Seven percent stated that they

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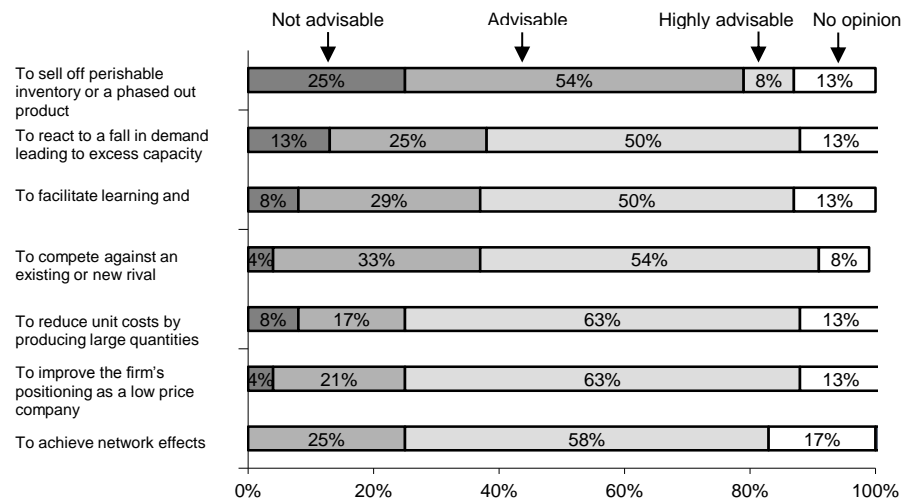
<sup>38</sup> We sent out the questionnaire on 15<sup>th</sup> of October receiving 27 responses. After a reminder on 18<sup>th</sup> of October we received 15 more responses. It showed that the first group of respondents had observed very aggressive pricing more often, suggesting that particularly those MBA students who were aware of the practice tended to answer the questionnaire in the first place.

had observed a medium-sized company pricing very aggressively and 22 percent stated that they had observed a small-sized company pricing very aggressively.<sup>39</sup>

**Result 2: Very aggressive pricing is a strategy that is not only observed for large companies but also for small and medium companies.**

Central to the survey was an inquiry as to what extent the respondents thought very aggressive pricing as a business strategy in general was advisable to achieve specific objectives. The results are presented in Figure 2.<sup>40</sup>

**Figure 2: Respondents’ rating of how advisable they regard very aggressive pricing as a business strategy in general in order to achieve specific objectives**



Source: Authors’ assessment.

Figure 2 shows that respondents regard very aggressive pricing as being particularly advisable in order to sell off perishable inventory or a phased out product. To react to a fall in demand leading to excess capacity is also highly ranked. Interestingly, the marketing related efficiency defence “to facilitate learning and awareness of a product among consumers” is ranked higher than the more traditional efficiency defences “to reduce unit costs by producing large quantities” and “to achieve

<sup>39</sup> We defined the size of companies by numbers of employees. According to our definition a small company has less than 50 employees. A medium-sized company has between 50 and 500 employees and a large company more than 500 employees.

<sup>40</sup> We asked the same question with respect to aggressive (and not very aggressive) pricing and in the context of a leading company in a growing market. The additional results are presented in Figures 4 to 6 in the Appendix.

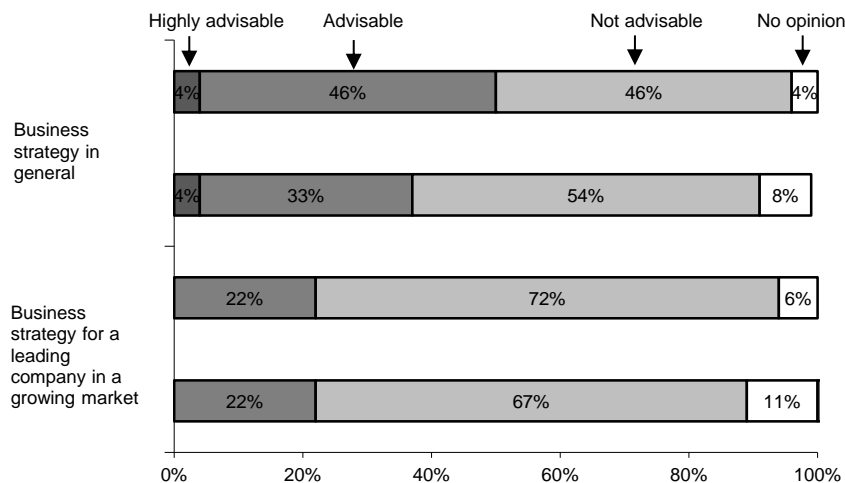


network effects”, which also the EU Commission mentions as being potentially of relevance. Generally, the efficiency defences seem at least as important as the rivalry motive.<sup>41</sup> Note, that the rivalry motive includes both anticompetitive and procompetitive behaviours. We come to the following conclusion:

**Result 3: Very aggressive pricing has many motives. Rivalry is one of them but not the most relevant one.**

We examined the relevance of the rivalry motive in more detail. First, we explored whether the rivalry motive of aggressive pricing is perceived more or less relevant in the context of a leading company in a growing market compared to in a general context. Second, we inquired whether very aggressive pricing is perceived less advisable than aggressive pricing for a leading company in a growing market. By very aggressive pricing we referred to pricing below average variable cost and by aggressive pricing we referred to below average total cost. The survey results are computed in Figure 3.

**Figure 3: Advisability of aggressive pricing (first and third row) and very aggressive pricing (second and fourth row) as a business strategy in general and as a business strategy for a leading company in a growing market in order to compete against an existing or new rival**



Source: Authors' assessment.

<sup>41</sup> The answers to questions 2 and 4 on the rankings of the two most relevant objectives confirm these results: The objective „to sell off perishable inventory or a phased out product” is most often ranked as being one of the two most relevant objectives, followed by „to react to a fall in demand leading to excess capacity” ect. (the order is computed in Figure 1).

When comparing rows one and two with rows three and four, we can see that aggressive as well as very aggressive pricing to compete against an existing or new rival are ranked less advisable as a business strategy for a leading company in a growing market than as a business strategy in general. In fact, aggressive as well as very aggressive pricing to compete against an existing or new rival are not regarded “highly advisable” for a leading company in a growing market. Summing up, we come to the following result:

**Result 4: Aggressive as well as very aggressive pricing in order to compete against an existing or new rival are ranked less advisable as a business strategy for a leading company in a growing market than as a business strategy in a general.**

Whether this result is due to the fact that managers consider aggressive price strategies conducted for rivalry reasons less effective for larger firms, or whether this result is due to the well-understood antitrust risk, cannot be answered based on the information available in this survey.

When comparing rows one and two and rows three and four of Figure 3, we can see that respondents do not regard very aggressive pricing significantly less advisable than aggressive pricing in order to compete against an existing or new rival.

## 5. Conclusions

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In this paper, we explored the actual relevance of efficiency considerations in the EC practice and contrasted it with the actual relevance of efficiency considerations from a business perspective, thereby focusing on low price strategies. We conducted a survey among EMBA students which revealed that low price strategies are frequently used in business practice. The motives behind such strategies are diverse, often procompetitive and in line with antitrust compliance; low price strategies are less often considered advisable for leading firms than for firms in general. Given that the EU Commission currently focuses on cases in which efficiency defences are more common, antitrust policy should take the business perspective into account.

It would go beyond the purpose of this paper to draw final policy conclusions, but several issues require further considerations.

First, one reason why business justifications play only a minor role in Article 102 TFEU cases may be that positive and negative effects are deeply intertwined; a fact not sufficiently recognized in the EU Commission's practice and in its Guidance Paper.

Second, firms could be obliged to put forward business justifications and the EU Commission could be required to discuss these business justifications more transparently - also in Commitment Decisions. This would facilitate an integrated assessment and produce further guidance to the business community regarding the kinds of justifications that are acceptable from an antitrust perspective.

Third, the empirical research on the relevance of rivalry aspects for low price strategies needs to be further developed; managerial and standard industrial organization literature needs to be developed in parallel.

# Appendix

Figure 4: Screen shot of first question of the survey with varying context

**e.CA** economics  
Experts in Competition Analysis

We are interested in your view on pricing below **average total cost** as a business strategy *in general*. Please indicate to what extent you regard pricing below average total cost advisable to achieve the following objectives:

	Highly advisable	Advisable	Not advisable	No Opinion
To reduce unit costs by producing large quantities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To compete against an existing or new rival	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To facilitate learning and awareness of a product among consumers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To achieve network effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To react to a fall in demand leading to excess capacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To sell off perishable inventory or a phased out product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To improve the firm's positioning as a low price company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Survey Powered By [Qualtrics](#)

**e.CA** economics  
Experts in Competition Analysis

We are interested in your view on pricing below **average total cost** as a business strategy *for a leading company in a growing market*. Please indicate to what extent you regard pricing below average total cost advisable to achieve the following objectives:

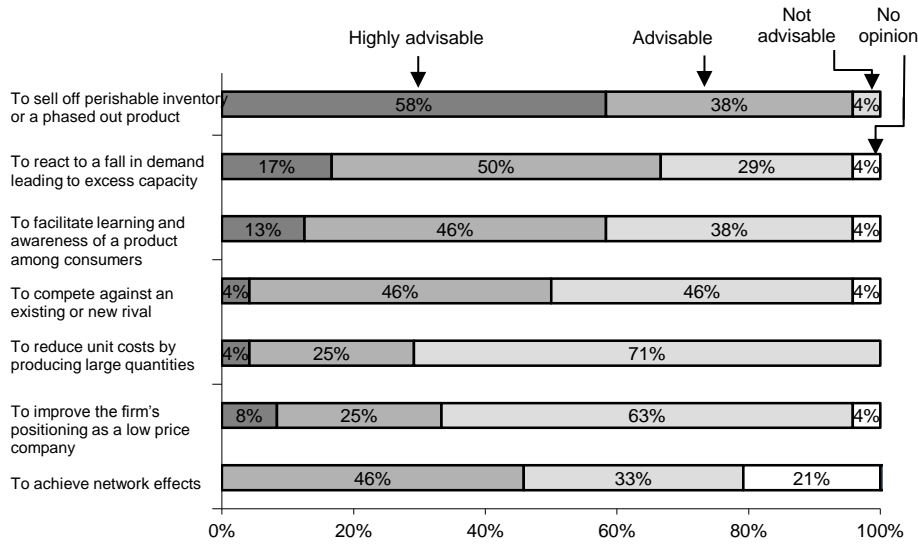
	Not advisable	Advisable	Highly advisable	No Opinion
To sell off perishable inventory or a phased out product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To reduce unit costs by producing large quantities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To react to a fall in demand leading to excess capacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To compete against an existing or new rival	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To facilitate learning and awareness of a product among consumers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To improve the firm's positioning as a low price company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To achieve network effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Survey Powered By [Qualtrics](#)

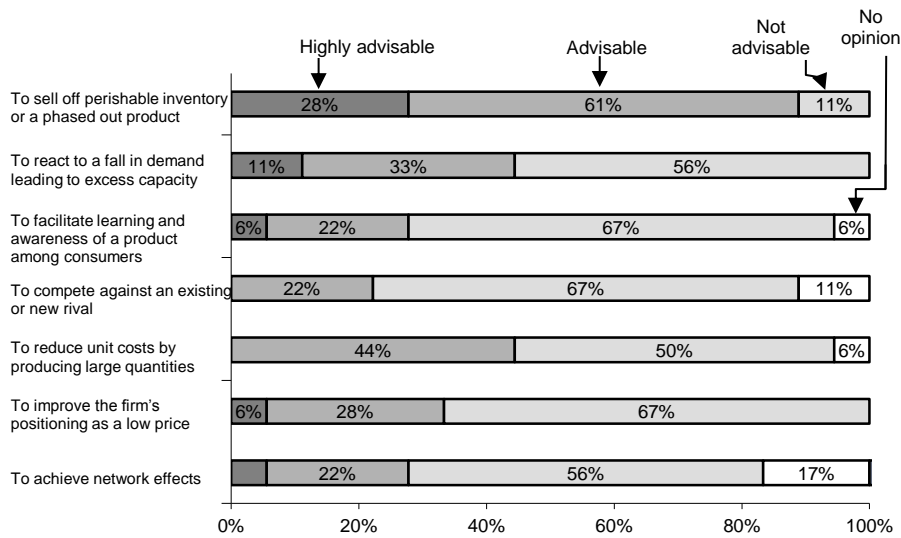
Source: Authors' assessment.

**Figure 5: Respondents' rating of how advisable aggressive pricing as a business strategy in general is in order to achieve specific objectives**



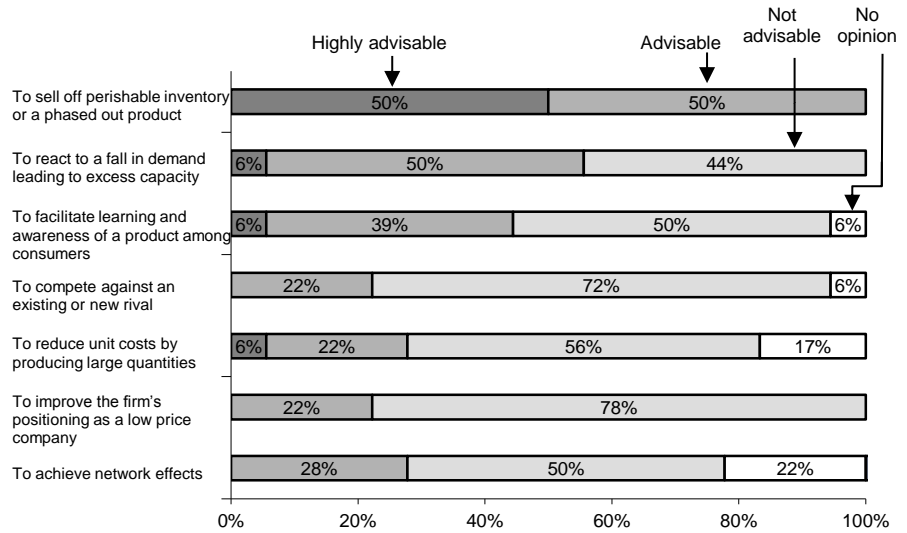
Source: Authors' assessment.

**Figure 6: Respondents' rating of how advisable very aggressive pricing as a business strategy for a leading company in a growing market is in order to achieve specific objectives**



Source: Authors' assessment.

**Figure 7: Respondents' rating of how advisable aggressive pricing as a business strategy for a leading company in a growing market is in order to achieve specific objectives**



Source: Authors' assessment.

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