



**GOVERNANCE AND THE EFFICIENCY
OF ECONOMIC SYSTEMS
GESY**

Discussion Paper No. 82

An Economic Approach to Article 82

Jordi Gual, Martin Hellwig*, Anne Perrot
Michele Polo, Patrick Rey, Klaus Schmidt**
Rune Stenbacka

July 2005

*Martin Hellwig, Max Planck Institute on Collective Goods, Kurt Schumacher Str. 10, 53110 Bonn, Germany,
hellwig@mpp-rdg.mpg.de

**Klaus Schmidt, Department of Economics, University of Munich, Ludwigstr. 28, 80539 München, Germany,
klaus.schmidt@lrz.uni-muenchen.de

Financial support from the Deutsche Forschungsgemeinschaft through SFB/TR 15 is gratefully acknowledged.

Sonderforschungsbereich/Transregio 15 · www.gesy.uni-mannheim.de
Universität Mannheim · Freie Universität Berlin · Humboldt-Universität zu Berlin · Ludwig-Maximilians-Universität München
Rheinische Friedrich-Wilhelms-Universität Bonn · Zentrum für Europäische Wirtschaftsforschung Mannheim

Speaker: Prof. Konrad Stahl, Ph.D. · Department of Economics · University of Mannheim · D-68131 Mannheim,
Phone: +49(0621)1812786 · Fax: +49(0621)1812785

An Economic Approach to Article 82

Report by the European Advisory Group

on Competition Policy^{*}

Jordi Gual ^{a)}

Martin Hellwig ^{b)}

Anne Perrot ^{c)}

Michele Polo ^{d)}

Patrick Rey ^{e)}

Klaus Schmidt ^{f)}

Rune Stenbacka ^{g)}

July 2005

Abstract: This report argues in favour of an economics-based approach to Article 82, in a way similar to the reform of Article 81 and merger control. In particular, we support an effects-based rather than a form-based approach to competition policy. Such an approach focuses on the presence of anti-competitive effects that harm consumers, and is based on the examination of each specific case, based on sound economics and grounded on facts.

Keywords: Competition Policy, Abuse of Market Power, Article 82

JEL Classification Numbers: D4

* Financial support from the Deutsche Forschungsgemeinschaft through SFB/TR 15 is gratefully acknowledged.

^{a)} IESE Business School, University of Navarra, Avenida Pearson 21, 08034 Barcelona, Spain, gual@lacaixa.es

^{b)} Max Planck Institute on Collective Goods, Kurt Schumacher Str. 10, 53110 Bonn, Germany, hellwig@mpp-rdg.mpg.de

^{c)} Conseil de la concurrence, 11 rue de l'Echelle, 75 001 Paris, France, anne.perrot@conseil-concurrence.fr

^{d)} IGIER, Università Bocconi, Via Salasco 5, 20136 Milan, Italy, michele.polo@uni-bocconi.it

^{e)} IDEI, University of Toulouse I, 31042 Toulouse Cedex, France, prey@cict.fr

^{f)} Department of Economics, University of Munich, Ludwigstr. 28, 80539 München, Germany, klaus.schmidt@lrz.uni-muenchen.de

^{g)} Department of Economics, Swedish School of Economics, P.O. Box 479, 00101 Helsinki, Finland, stenback@hanken.fi

Executive Summary

This report argues in favour of an economics-based approach to Article 82, in a way similar to the reform of Article 81 and merger control. In particular, we support an effects-based rather than a form-based approach to competition policy. Such an approach focuses on the presence of anti-competitive effects that harm consumers, and is based on the examination of each specific case, based on sound economics and grounded on facts.

Why do we need an economic approach?

An economic approach to Article 82 focuses on improved consumer welfare. In so doing, avoids confusing the protection of competition with the protection of competitors and it stresses that the ultimate yardstick of competition policy is in the satisfaction of consumer needs. Competition is a process that forces firms to be responsive to consumers' needs with respect to price, quality, variety, etc.; over time it also acts as a selection mechanism, with more efficient firms replacing less efficient ones. Competition is therefore a key element in the promotion of a faster growing, consumer-oriented and more competitive European economy.

An economics-based approach requires a careful examination of how competition works in each particular market in order to evaluate how specific company strategies affect consumer welfare. Indeed, an economic approach achieves two complementary goals. First, it ensures that anti-competitive behaviour does not outwit legal provisions. By focusing on the effects of company actions rather than on the form that these actions may take, an economics-based approach makes it more difficult for companies to circumvent competition policy constraints by way of attempting to achieve the same end results through the use of different commercial practices. At the same time, this approach provides a more consistent treatment of practices, since any specific practice is assessed in terms of its outcome and two practices leading to the same result will therefore be subject to a comparable treatment.

Second, the economics-based approach guarantees that the statutory provisions do not unduly thwart pro-competitive strategies. An effects-based analysis takes fully into consideration the

fact that many business practices may have different effects in different circumstances: distorting competition in some cases and promoting efficiencies and innovation in others. A competition policy approach that directly confronts this duality will ensure that consumers are protected (through the prevention of behaviour that harms them) while promoting overall increased productivity and growth (since firms will not be discouraged in their search for efficiency).

What are the implications of an economic approach?

An economics-based approach to the application of article 82 implies that the assessment of each specific case will not be undertaken on the basis of the form that a particular business practice takes (for example, exclusive dealing, tying, etc.) but rather will be based on the assessment of the anti-competitive effects generated by business behaviour. This implies that competition authorities will need to identify a competitive harm, and assess the extent to which such a negative effect on consumers is potentially outweighed by efficiency gains. The identification of competitive harm requires spelling out a consistent business behaviour based on sound economics and supported by facts and empirical evidence. Similarly, efficiencies – and how they are passed on to consumers– should be properly justified on the basis of economic analysis and grounded on the facts of each case.

An economics-based approach will naturally lend itself to a “rule of reason” approach to competition policy, since careful consideration of the specifics of each case is needed, and this is likely to be especially difficult under “per se” rules. At the same time, we should not fall into the trap of active intervention and fine-tuning; whenever possible, competition is to be preferred to detailed regulation as the best mechanism to avoid inefficiencies and foster productivity and growth; this calls for a “non-dirigiste” approach to competition policy that focuses in most cases on entry barriers; in the context of Article 82, it is then natural to focus on competitive harm that arises from exclusionary strategies –possible exceptions concern some natural monopoly industries which may require ongoing supervision of access prices and conditions by regulatory agencies. Without trying to be exhaustive, the report discusses well-identified exclusionary strategies and the practices that they involve.

What are the consequences for procedure and the predictability of competition policy?

In terms of procedure, the economic approach implies that there is no need to establish a preliminary and separate assessment of dominance. Rather, the emphasis is on the establishment of a verifiable and consistent account of significant competitive harm, since such an anti-competitive effect is what really matters and is already proof of dominance. In an effects-based approach, the focus is on the use of well-established economic analysis. Such a conceptual framework provides a benchmark for the detailed assessment of the key ingredients that have to be present in a case, whether one tries to check the presence of significant competitive harm, or the achievement of relevant economic efficiencies.

This approach has also natural implications in terms of the burden of proof in specific cases. Competition authorities have to show the presence of significant anti-competitive harm, while the dominant firm should bear the burden of establishing credible efficiency arguments.

Requiring consistent economic arguments, grounded on established facts, may be perceived as constraining somewhat the competition authority' leeway. It is however necessary to ensure a consistent treatment of the various practices that can serve the same anticompetitive effect. It also contributes to enhance the predictability and, consequently, the effectiveness of competition policy enforcement. Indeed, under a form-based approach predictability need not be higher (as the Michelin saga shows), and sometimes the predictability inherent to "ex-ante" prohibitions may in fact be a straightjacket for business, preventing innovation and economic growth.

Overall, we believe that the economics-based approach presented in this report is a step in the right direction: focused on consumers' needs and the promotion of economic growth, and consistent with the reforms of article 81 and merger control. It is not a question of having more or less intervention, but of more effective intervention. The goal is to focus on the important competitive harms, while preserving and encouraging efficiency. The economic approach to article 82 provides a flexible framework that fosters increased productivity and growth to the benefits of consumers.

Chapter I: General principles

Section 1: Effects-based versus form-based approach

European competition policy has recently been reformed and is now following a more economics-based approach in the implementation of Article 81 on anticompetitive agreements and in merger control; we will argue here in favour of a similar move for the enforcement of Article 82 on abuses of dominance. In particular, we will argue that the competition authority should adopt an effects-based rather than a form-based approach to competition policy. In this chapter we first review the net benefits of such a move, and then make a few remarks on how to implement it.^h

The discussion and management of Article 82 cases are often organized by categories of conduct, such as predatory pricing, discrimination, fidelity rebates or tying. However, such a form-based approach is problematic. In many instances alternative practices can serve the same purpose. For example, predatory pricing can take the form of selective rebates, targeted at the rival's prospective customers. Alternatively, the predator can engage in explicit discrimination and charge more attractive prices or, more generally, offer better conditions to these customers. Other instruments in the predator's toolbox include implicit discrimination (e.g. in the form of fidelity or quantitative rebates that are formally available to all, but in fact tailored to the specific needs of the targeted customers) and mixed bundling or tying, when these customers are particularly interested in the bundle in question. To take another example, a firm that controls a key input may distort competition in a downstream market by refusing to deal with independent downstream firms; alternatively, it can engage in exclusive dealing arrangements or engage in explicit or implicit price discrimination such as mentioned above; yet other instruments include specific (in-)compatibility choices, physical or commercial tying, and so forth.

^h Vickers, J. (2004), Abuse of Market Power, *The Economic Journal*, 115 (June): F244–F261, offers a detailed discussion of enforcement issues.

A more consistent approach would start out from the effects of anticompetitive conduct, such as exclusion of competitors in the same market or in a horizontally or vertically related market one, and consider the competitive harm that is inflicted on consumers. Adopting such an effects-based approach would ensure that these various practices are treated consistently when they are adopted for the same purpose. In contrast, a form-based approach creates the risk that they will be treated inconsistently, with some practices possibly enjoying a relatively more lenient attitude (e.g., because of different standards). Arbitraging among these different treatments may facilitate exclusion, or induce the dominant firm to adopt alternative exclusionary methods, which may well inflict a higher cost on consumers.

For example, in the context of predation, tight rules against predatory pricing may lead the predator to offer better terms in other dimensions. It may be less likely that these better terms are passed on to final consumers. Final consumers then will no longer benefit from low prices in the short-run, and yet this alternative strategy may still have similar exclusionary effects in the long-run. Similarly, in the context of vertical foreclosure, banning discrimination may lead the bottleneck owner to refuse to deal with any independent downstream competitor – which may well be interpreted as a more extreme form of discrimination; by this decision, however, the dominant firm gives up somewhat on product diversity. This reduces its profitability but also hurts consumers.

While alternative practices can serve the same purpose in given circumstances, the same practice can also have either pro- or anticompetitive effects, depending on the circumstances. To take a simple example, low prices are at the heart of a desirable competitive process. And in some cases (introductory pricing, economies of scale and scope, learning-by-doing, network effects), even prices that are below cost for some period constitute “normal” competitive prices. But it is also true that in specific circumstances, low prices (even above cost) can have an exclusionary effect and harm consumers in the medium- to long-run. There again, focussing on effects, as opposed to form, is key to an effective competition policy.

Whether we consider an effects-based or a form-based approach, in the enforcement of competition policy, one can opt for *per se* rules, i.e., an ex-ante description of what is banned, or for a rule of reason, i.e. an ex-post overall evaluation of the different consequences. In an effects-based approach a *per se* rule for “financial predation”, for example, would be

“whenever you have a financially strong incumbent/financially weak entrant, the incumbent cannot ‘invest in losses’ beyond a certain threshold (to be defined with reference to possible practices),”; in contrast, a form-based *per se* approach to “predatory pricing” would prescribe that “the incumbent cannot lower its price below a certain threshold.” That is, even when implemented as a *per se* rule, an effects-based approach includes more than a single practice (low pricing, high advertising, and so forth) and requires a richer description of the circumstances (financial conditions of the incumbent and the competitor) than a form-based approach. In both cases, however, the competition authority must balance the likelihood of false positives (condemning a pro-competitive practice in a particular case) and false negatives (allowing a dominant firm to abuse its market power in other cases), as well as the likely magnitudes of the costs for competition of both types of errors. Thus, if, for example, a *per se* approach were to be adopted, the *per se* rule should be a systematic ban only if the expected cost of false negatives is perceived to dominate. The economic approach highlighted below suggests however that in general both types of errors are likely, and that they can be much more accurately assessed when taking into account the specific circumstances of a case. This therefore provides a strong argument in favour of a rule of reason. Still, the standard and the process adopted should be designed to balance these two types of errors; for example, if the cost of false negatives is expected to be higher, then the balance should be tilted towards plaintiffs and against dominant firms. In a form-based approach, however, this balancing would be done for each practice. This could indeed lead to an inconsistent treatment of alternative practices, even though they may be used for the same purpose. In contrast, in an effects-based approach the balance would be made according to the type of anticompetitive harm that is at stake. This would not only ensure that treatment is more consistent, but it would also focus the attention and the scarce resources of competition authorities on those cases where competitive harm is likely to be important.

Section 2: Objectives

a) Consumers matter

In the preceding account of competition policy, we have asked that the competition authority start by identifying the competitive harm that is involved in the case under review. This begs

the question of what is to be meant by “competitive harm”. This question in turn is linked to the question of what are the objectives of competition policy. In one tradition the objective of competition policy is defined as the protection of competition.ⁱ This formula as such is not very helpful because it raises the further question of the standards by which the competition authority is to assess a given type of conduct in practice. If a particular type of conduct permits a company to succeed and to displace its competitors in the market, by what standard should the competition authority assess whether the conduct in question is detrimental to “competition” or whether the conduct in question is legitimate and its prohibition by the authority would be detrimental to “competition”? Ultimately, the assessment of competitive harm must be based on an assessment of how competition in the particular market works and what the practice in question means for market participants.

The standard for assessing whether a given practice is detrimental to “competition” or whether it is a legitimate tool of “competition” should be derived from the effects of the practice on consumers. If we think of “competition” as a regime in which the different suppliers contend to sell their products to participants on the other side of the market, then the benefits reaped by the other side of the market will themselves provide a measure of how well “competition” works. For final-products markets, this observation leads directly to a consumer welfare standard. For primary- or intermediate-products markets, a consumer welfare standard is obtained by adding the observation that the vertical organization of industry itself is a subject of “competition” the ultimate beneficiaries of which are the final consumers. In either case, competition forces the supply side of the economy to be responsive to consumers’ needs with respect to price, quality, variety, etc.; business strategies that respond to these needs and raise consumer welfare are likely to be legitimate competitive strategies. The observation of such a strategy in the market provides prima facie evidence of the importance of competition. In contrast, a lowering of consumer welfare provides evidence of competitive harm.

If the assessment of competitive harm and the protection of “competition” are assessed with reference to consumer welfare, it is incumbent upon the competition authority in each case to examine the actual working of competition in the particular market without prejudice and to

ⁱ Thus, in its XXIX Report on Competition Policy (2000, p. 6), the European Commission writes “The first objective of competition policy is the maintenance of competitive markets.”

explain the harm for consumers from the practice in question. Without the discipline provided by this routine, the authority may be tempted to identify the “protection of competition” with the preservation of a particular market structure, e.g., one that involves actual competition by a given company. Its policy intervention may then merely have the effect of protecting the other companies in the market from competition. This would enable them to maintain their presence in the market even though their offerings do not provide consumers with the best choices in terms of prices, quality, or variety.^j

In some cases, concerns for the protection of competitors from certain forms of inappropriate behaviour may be appropriate. However, this is certainly not true for all cases; moreover, competitors themselves should not be protected from competition by the authority’s intervention. In each case, the competition authority must assess these matters without prejudice for any particular structure. A consumer welfare standard in the context of an effects-based approach provides a suitable criterion for distinction. Referring to this standard is all the more important because, in the actual proceedings on a given case, competitors are usually much better organized than consumers. The competition authority receives more complaints and more material from competitors, so the procedure tends to be biased towards the protection of competitors. Developing a routine for assessing consumer welfare effects provides a counterweight to this bias.

b) Tradeoffs, Proxies, and the Need for a Non-Dirigiste Approach

The use of the single term “consumer welfare” conceals the fact that we are really talking about a multi-faceted concern. Many issues concern multiple markets, with consumer welfare effects going in different directions in the different markets. In many cases, it is also necessary to think about consumer welfare in the future, as well as consumer welfare today.

In such cases, the competition authority needs to take a comprehensive view, taking account of the different effects of the practices under investigation and of policy interventions on consumer welfare. In particular, it must allow for long-term, as well as short-term effects, and

^j Thus, in the Lufthansa-Germania predatory pricing case, in November 2001, the Bundeskartellamt required Lufthansa to keep its price on the Düsseldorf-Berlin route at least 35 Euro above the price of 99 Euro at which the competing carrier Germania claimed to be covering its costs. The difference was deemed to reflect the costs of services provided by Lufthansa, but not by Germania. The relation of the base price of 99 Euro to Lufthansa’s costs was not considered (though Lufthansa’s claims in other cases suggest that the costs were higher).

for repercussions on neighbouring markets, as well as the markets under direct consideration. A neglect of longer-term effects or indirect effects is not justified by the fact that these effects are more uncertain and more difficult to assess.

In considering consumer welfare effects in multiple, present, and future markets, one usually faces tradeoffs. In some cases, the markets themselves provide information about the appropriate weights to be attached to the different effects, e.g. discount factors for weighing future as opposed to present effects. In many cases though, the tradeoffs involve an element of redistribution between groups of consumers. For such redistribution, market data – or indeed any other data – do not provide “objective” guidance. When faced with such tradeoffs, the competition authority must exercise its judgement, which necessarily involves a certain element of subjectivity. However, acknowledging that there is room for a certain element of subjectivity in taking choices concerning tradeoffs does not absolve the competition authority from the requirement to be clear about the tradeoffs themselves and to indicate precisely what consumer welfare effects are relevant to its decision.

In focussing on consumer welfare, one must not fall into the trap of seeing competition policy as a tool of active policy intervention designed to correct the inefficiencies associated with monopolies and oligopolies so as to maximize some measure of welfare. Competition policy is based on the principle that competition itself is the best mechanism for avoiding inefficiencies, so the competition authority should not try to let its own intervention replace the role of competition in the market place. The powers given to the competition authority are, with very few exceptions, powers to prohibit certain behaviours and certain developments, not powers to actively determine where the market participants should be going. The authority can ban certain agreements, certain practices and certain mergers, but it should not tell the markets participants what they should do instead.

As an illustration of these considerations, consider the problem of monopoly pricing. One response to the problem might be for the competition authority to intervene, citing excessive pricing by a monopolist as an infraction of the abuse-of-dominance prohibition in Article 82 of the Treaty. Another response might be to leave the matter alone, hoping that the profits that the monopolist earns will spur innovation or imitation and entry into the market, so that, eventually, the problem will be solved by competition.

The choice between these two alternative responses to the problem of monopoly pricing involves a choice among competition policy regimes, as well as an intertemporal tradeoff. If it was just a question of short-run versus long-run effects, one might be tempted to put the immediate gain of today's consumers above everything else. However, a policy intervention on such grounds requires the competition authority to actually determine what price it considers appropriate, as well as how it should evolve over time; for this it is not really qualified. Moreover, such a policy intervention drastically reduces, and may even forego the chance to protect consumers in the future by competition rather than policy intervention. A regime in which consumer protection from monopoly abuses is based on competition is greatly to be preferred to one in which consumer protection is due to political or administrative control of prices. In most circumstances therefore, the competition authority ought to refrain from intervening against monopolistic pricing and instead see to it that there is room for competition to open up.

Exceptions to this recommendation tend to involve monopolies that own essential facilities such as transmission and distribution grids in electricity, whose reduplication is technically infeasible or economically undesirable. Policy intervention to control the use of monopoly power derived from such facilities can be desirable, particularly as a tool for enhancing competition in activities such as the generation and sale of electricity, which are not themselves "natural monopolies", but require access to the essential facilities. However, in designing the appropriate rules for access provision and for the pricing of such facilities, one must provide for ongoing supervision. This falls outside the scope of traditional competition policy and is best left to specialized regulatory authorities. By no means should the justifiability of a dirigiste approach for some essential facilities become a paradigm for competition policy itself.

In assessing the implications of alternative policies for the future, one difficulty is that their effects on future market outcomes are difficult to predict. Trying to foresee the different possibilities is sometimes quite hopeless, especially if one takes into account that the genius of competitive markets lies precisely in developing possibilities that no one has thought about before. Given this difficulty, it is sometimes necessary to forego an explicit computation of

consumer welfare in future markets and to rely on a proxy instead. Such a proxy may usefully refer to aspects of market structure.

Thus in the preceding discussion of the monopoly problem, a structure in which the policy authority foregoes any attempt to control monopoly pricing, but other suppliers are free to enter the market was deemed superior in most cases to a structure involving policy control of monopoly pricing and reduced entry incentives. This judgement is based on broad patterns of experience concerning the implications of the two alternatives in a variety of markets rather than any attempt at making precise predictions for the market under consideration. As such, it conforms to the anti-dirigiste approach to competition policy.

In the monopoly example, the use of structural aspects of the market, namely the freedom of entry and the prospect of future competition, as a proxy for the explicit assessment of consumer welfare effects in future markets serves to caution the competition authority about the dangers of intervention. In other examples, e.g., in cases involving market foreclosure, the use of such a proxy can also work in the opposite direction and call for a policy intervention designed to prohibit exclusionary practices and to keep markets open for competition. The structural aspects of markets that need to be taken into account encompass traditional notions of market structure, but extend far beyond them, including, in particular, the potential for entry by new competitors. In each case, the competition authority must give a clear account of (i) the precise material justification for treating the structural effects in question as a proxy for future consumer welfare effects and (ii) the precise way the business practice under investigation affects the scope for current and future competition. Particular attention must be paid to exclusionary effects restricting the scope for new entry. Competitive harms from exclusionary effects are discussed in detail below. However, there should be no prior presumption that the current market structure and the current competitors are the guarantors of competition, which will enhance consumer welfare in markets in the future.

Section 3: Procedure

Moving from a form-based to an effects-based approach has important implications for procedure. Whereas under a form-based approach, it is enough to verify (i) that a firm is

dominant and (ii) that a certain form of behaviour is practiced, an effects-based approach requires the verification of competitive harm.

In the first place, in deciding to bring a case, the competition authority should therefore focus on identifying the competitive harm of concern. To do so, the authority must analyse the practice in question to see whether there is a consistent and verifiable economic account of significant competitive harm. The account should be both based on sound economic analysis and grounded on facts. In particular, since many practices can have pro- as well as anticompetitive effects, merely alluding to the possibility of a story is not sufficient. The required ingredients of the story must therefore be properly spelled out and shown to be present. At the same time, the authority must check to see whether the practice in question cannot also be justified as a legitimate mode of competitive behaviour. If several interpretations are possible, the authority must investigate whether the data permit a distinction as to which of the different interpretations apply.

In asking for an account that is based on sound economic analysis and grounded on facts, we are *not* asking for an account that embeds the case under review into a single, encompassing formal model. Formal models are designed to verify the consistency of arguments about one particular effect and to gain an idea about the empirical data one needs in order to assess the relevance this effect in a given case. In any given case in practice, however, one may have to examine several effects at once; in this situation, an encompassing formal analysis may not be feasible. However, for each particular effect that is considered, the arguments that are made should be grounded in formal analysis. At this level the analysis should rely on models as tools to assess the validity of the argument – in its relation to the facts, as well as internal consistency, and consistency with the other arguments that are given. Where empirical information points to effects that have not yet been studied in the literature, it may be necessary to develop a model from scratch, relying on standard methods. However, the less a given effect has been scrutinized in theoretical and empirical research, the more cautious the authority should be in relying on it for the account which it gives.

Requiring this first step may be perceived as constraining somewhat the competition authority's leeway. It is however necessary to ensure the consistency of the treatment of the various practices that can serve the same anticompetitive effect. It also contributes to

enhancing the predictability and, consequently, the effectiveness of competition policy enforcement.

In contrast to a form-based approach, an effects-based approach needs to put less weight on a separate verification of dominance, except possibly for a *de minimis* consideration. If an effects-based approach yields a consistent and verifiable account of significant competitive harm, that in itself is evidence of dominance. Traditional modes of establishing “dominance” by recourse to information about market structure are merely proxies for a determination of “dominance” in any substantive sense, i.e., the ability to exert power and impose abusive behaviour on other market participants. If an effects-based approach provides evidence of an abuse which is only possible if the firm has a position of dominance, then no further separate demonstration of dominance should be needed – if no separate demonstration of dominance is provided, one may however require the abuse to be clearly established, with a high standard of proof

Traditional considerations about the presence or absence of dominance do not therefore become moot. They merely become part of the procedure for establishing competitive harm by the practice under investigation. Thus, in a predation case, any account of the possibility of recouping current losses through future gains will have to involve some verification of the firm’s prospects for imposing and maintaining higher prices once the presumed predation has been successful.

In proposing to reduce the role of separate assessments of dominance and to integrate the substantive assessment of dominance with the procedure for establishing competitive harm itself, we depart from the tradition of case law concerning Art. 82 of the Treaty, but *not*, we believe, from the legal norm itself. Art. 82 of the Treaty is concerned not just with dominance as such, but with *abuses* of dominance. The case law tradition of having separate assessments of dominance and of abusiveness of behaviour simplifies procedures, but this simplification involves a loss of precision in the implementation of the legal norm. The structural indicators which traditionally serve as proxies for “dominance” provide an appropriate measure of power in some markets, but not in others. In a market where these indicators do not properly measure the firm’s ability to impose abusive behaviour on others, the competition authority’s intervention under traditional modes of procedure is likely to be inappropriate, too harsh in

some cases and too lenient in others. Given that the Treaty itself does not provide a separate definition of dominance, let alone call for any of the traditionally used indicators as such, it seems more appropriate to have the implementation of the Treaty itself focus on the abuses and to treat the assessment of dominance in this context.

Our proposed effect-based approach also allows us to capture in a balanced and meaningful way the notion of special responsibility of a dominant firm. The reference to such responsibility is often intended to prohibit some practices when exerted by a dominant firm, while considering them lawful if practiced by smaller competitors. Once we focus on the exclusionary effects of market practices, the notion of special responsibility naturally emerges from the analysis, in that certain practices are to be prohibited when they determine exclusionary effects, while they are lawful as long as no competitive harm is involved. Since in this analysis we do not need to assess the existence of dominance separately, the special responsibility implicitly applies to any conduct and firm that (is able to) interfere and distort the competitive process of entry into the market.

Moving from a form-based to an effects-based approach will pose a challenge for court proceedings. A natural process would consist of asking the competition authority to first identify a consistent story of competitive harm, identifying the economic theory or theories on which the story is based, as well as the facts which support the theory as opposed to competing theories. Next, the firm should have the opportunity to present its defense, presumably to provide a counter-story indicating that the practice in question is not anti-competitive, but is in fact a legitimate, perhaps even pro-competitive business practice. In the end, it will be up to the court to determine which story it considers to be the most plausible.

Given the creativity of lawyers and economists in coming up with stories, the outcome of such proceedings can be very sensitive to how the burden of proof is allocated between the two parties. In line with the procedure sketched out above, the general rule should be that the antitrust authority bears the burden of proof for identifying and establishing anticompetitive effects. Two additional principles seem advisable: First, in the absence of additional evidence to the contrary, an argument based on established economic theory and supported by facts that according to the theory, are material to the assessment of the practice in question should be deemed more credible than a counterargument that does not have such a basis. For example,

in a case involving financial predation, it should be enough for the competition authority to establish the circumstances which, according to existing economic theory, can make financial predation viable without having to provide a more detailed account of the possibility of recoupment.^k Second, if the story of competitive harm that is brought forth by the competition authority fulfils the criteria listed above and the validity of the counter-story brought by the firm hinges on data in the domain of the firm, then it should be incumbent upon the firm to provide these data.

Both of these principles require a certain degree of flexibility in the handling of proof requirements. However, this cannot be avoided if the effects-based approach is to be practical. Whereas a form-based approach hinges on data that the competition authority should in principle be able to provide, an effects-based approach also requires interpretations of data where discrimination is more difficult. Taking existing economic theory as a standard of reference removes some arbitrariness from such an interpretation.

The greater flexibility of an effects-based approach need not reduce the predictability of competition policy. To be sure, within a given tradition, a form-based approach may provide the competition authority as well as market participants with some guidance as to what forms of behaviour are acceptable and what forms are not. However, short of stipulating an exhaustive list of acceptable forms of behaviour, which would probably constitute an uncomfortable "straight jacket" that would impede economic progress and development, the case law will only determine a list of practices that are not acceptable. By nature, that list cannot be exhaustive: firms that want to pursue a given purpose (be it pro- or anti-competitive) will always be tempted to adopt alternative practices that have not yet be formally banned, in which case they will expose themselves to some legal uncertainty -- as illustrated by the Michelin saga. In addition, if the presumptions arising from a form-based approach lead to rulings that run counter to the economics of the cases, they will kindle political resistance to competition policy. Political intervention may then take at least some competition policy decisions out of the rule of law. The results then would certainly be less predictable than those of an effects-based approach under the given legal norms.

^k On this point, see Bolton, P., J. Brodley and M. Riordan, 2000, Predatory Pricing: Strategic Theory and Legal Policy, *Georgetown Law Review*, 88: 2239-2330.

Moreover, without a common foundation in underlying principles, the presumptions as to what forms of behaviour are acceptable and what forms are not may differ from jurisdiction to jurisdiction, depending on each jurisdiction's case law tradition. Such differences impair the predictability of competition policy across jurisdictions. In particular, they are likely to cause frictions in the newly decentralized application of Art. 82 under Regulation 01/2003. A common foundation in underlying principles based on economic theory can help to coordinate and focus the requisite adjustment process and improve the predictability of decentralized antitrust policy under the new Regulation.

Chapter II: Competitive harms

In an effects-based, non-dirigiste approach the analysis of competitive harms naturally focuses on keeping the competitive process open and avoiding the exclusion of actual or potential rivals from the market. In addition, by focussing on the impact of competition policy towards barriers to entry, such an approach guarantees an easier access to markets for new entrants; it therefore contributes to fostering the birth of new activities and firms, in line with the "Lisbon agenda".

In this perspective it seems useful to distinguish three broad typologies of exclusion that differ in respect to the market position of the firms involved and in respect to the specific features that characterize the exclusionary effects: Exclusion within the same market, where an incumbent forces the exit or prevents the entry of a competitor, exclusion in an adjacent market where the dominant firm excludes producers active in markets different but related to its main market, and exclusion in a vertically related market, where exclusion takes places in different stages of the production process.

This chapter therefore presents a framework to deal with competitive harms, organizing exclusionary effects in the three classes distinguished above. Since a given type of exclusion can be implemented through different practices, our classification helps to maintain a consistent approach across practices, uniformly treating all the conduct that can be used to

reach a certain type of exclusion. In a given market situation under consideration, the same behaviour can be associated with pro-competitive explanations as well as with exclusionary rationales. In Chapter III we will therefore go through the traditional classification of practices and relate them to the three classes of exclusionary effects highlighted in this chapter as well as to their potential efficiency justifications.

Our treatment is meant to be illustrative rather than exhaustive. Rather than considering all possible effects, abuses, and practices, let alone providing an in-depth analysis of each, we consider some of the most prominent instances in order to show how an effects-based approach makes a difference for competition analysis. Our objective is to elucidate basic principles. We do not try to translate these principles into operational procedures. To do so would require a more comprehensive, systematic and in-depth analysis of the different forms, effects and tradeoffs than we can present here. Presumably such an analysis – and the ensuing operationalization of the basic principles – will be provided when the Commission develops its guidelines for the treatment of abuses under Art. 82.

Section 1: Exclusion within one market

The first kind of competitive harm we consider is the exclusion of a competitor from the market in which the incumbent firm is primarily active. Exclusion can be intended in two different ways: the rival firm can be forced to exit, or alternatively it can refrain from entering the market. Moreover, this category of competitive harm also can include the case when a rival firm, in reaction to the strategies of the incumbent, adopts a passive behaviour and avoids competing fiercely.

The Industrial Organization literature has analyzed a wide set of practices that are consistent with these exclusionary effects. These practices share many common features, which allow us to describe exclusion within one market in general terms.

First, the anticompetitive strategies have a time dimension, and entail an aggressive phase followed by a recoupment period. During the initial phase, the incumbent adopts strategies

aimed at reducing the (actual or expected) profitability of the (actual or potential) competitor. For instance, it may reduce the price (predatory pricing) or offer targeted rebates in order to reduce the rival's demand and induce losses;¹ by tying its products the incumbent can prevent entry into the main market by competitors offering complementary products;^m the dominant firm can use exclusive dealing contracts to deter entry;ⁿ it may choose a very high level of quality, or offer additional varieties (product proliferation), reducing the competitor's demand or expected profits;^o it may over-invest in capacity, committing to a low price-high volume strategy;^p or it may expand its advertising efforts, forcing the rival to increase its promotional expenditures as well.

Although these conducts are focussed on reducing rivals' profits, during this initial phase, in most cases, we also observe an adverse effect on the incumbent's profits, and an improvement in consumer welfare. The reduction of the incumbent's profits comes about due to a distortion in the strategies with respect to the case of normal oligopolistic competition, determining a suboptimal performance in the short-term. For the same reason, the short-term effect on consumers is usually positive, since the rivals' demand and profits can only be reduced if one offers more attractive terms to the customers.

The longer-term effects of exclusionary behaviour move in the opposite direction: once the entrant has been forced to exit (or disciplined into assuming a passive role), or the potential entrant has been discouraged, the incumbent firm can exploit its increased market power recouping the initial losses, while worsening the conditions for consumers.

The overall profitability of the exclusionary strategy hinges on the ability to get rid of the competitors and to prevent further entries into the market. This is difficult to assess both for the incumbent and for an antitrust authority. Antitrust cases involving exclusion can be

¹ See Kreps D., and R. Wilson (1982), Reputation and Imperfect Information, *Journal of Economic Theory*, 27: 253-79, and Milgrom P., and J. Roberts (1982), Predation, Reputation and Entry Deterrence, *Journal of Economic Theory*, 27: 280-312.

^m See Carlton D. W., and M. Waldman (2002), The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries, *Rand Journal of Economics*, 33: 194-220.

ⁿ See Aghion P., and P. Bolton (1987), Contracts as Barriers to Entry, *American Economic Review*, 77: 388-401.

^o See Schmalensee R. (1982), Entry Deterrence in the Ready to Eat Breakfast Cereal Industry, *Bell Journal of Economics*, 9: 305-27, Bonanno G. (1987), Location Choice, Product Proliferation and Entry Deterrence, *Review of Economic Studies*, 54: 37-46, Judd K. (1985), Credible Spatial Preemption, *Rand Journal of Economics*, 16: 153-166..

^p See Dixit A. (1980), The Role of Investment in Entry Deterrence, *Economic Journal*, 90: 95-106.

opened at different stages of the abusive strategy, and the evidence collected might include only the initial phases of the process. In these cases the competitor, although suffering losses and tighter financial conditions, may still be in the market; and the incumbent has not yet begun to recoup his initial losses. When instead the case is opened after the exclusionary episode has occurred, evidence of actual exclusion and of a subsequent increase in prices can be collected. Hence, recoupment, although essential for the overall evaluation of exclusionary conduct, can be proved with different mixtures of evidence and theoretical elements, depending on the case.

Looking at the related literature, it is interesting for our discussion to focus here on three main scenarios of exclusion, which we may label as reputation, signal jamming and financial predation.⁹ Note that, while the rationale for exclusion differs in these three scenarios, many different strategic tools (e.g., pricing, advertising, product differentiation) can be used to implement any of them.

The reputation approach hinges on the competitor's lack of information about the incumbent's incentives to adopt an aggressive market strategy. When the incumbent's incentives are uncertain, the competitor's beliefs play a crucial role in predicting the incumbent's reactions and the profitability of entry. By reacting aggressively early on, the incumbent can then tilt the probability assessment of small or potential competitors (reputation), so as to prevent further entry or to induce exit; the incumbent's profits in the long-run are consequently protected. Hence, even when the dominant firm would have incentives to adopt a less aggressive behaviour in the short-term, the recoupment opportunities offered by reputation can lead the incumbent to adopt an exclusionary strategy.

A second setting where exclusion can be realized involves signal jamming. When small or new competitors have imperfect information on market profitability, a safe strategy would require selective entry into specific market segments. By testing the market the firm can reach a better local knowledge of demand in the neighbourhood of the prevailing prices. In such a situation, the incumbent can reduce its price, improve its quality or launch a local advertising campaign beyond the equilibrium level so as to prevent the competitor from learning the

⁹ For a discussion of predation scenarios based on this classification, see, for example Motta, M., (2004), *Competition Policy: Theory and Practice*, Cambridge University Press, Cambridge, U.K.

features of demand in the relevant conditions. Signal jamming can in this way allow the incumbent to delay or deter entry.

Finally, financial predation can be achieved through many different practices that create the preconditions for a negative performance of the competitor. The traditional deep pocket theory of predation simply assumes that the incumbent firm has a financial advantage over the entrant, which allows it to afford the losses of a price war until the competitor is driven out of the market. Today, however, modern Industrial Organization theory challenges this simplistic story, as it does not consider the possibility that an efficient competitor obtains external financing during the predation phase, restoring symmetry between the two firms and making predation unprofitable for the incumbent.^r A theory of financial predation, consequently, has to explain why this solution does not arise, invoking capital market imperfections that affect the relation between the entrant and its investors. Indeed, even if the incumbent does not make an exclusionary attack, the competitor has to rely on investors, who have a limited ability to monitor the firm's effort, the risk taken, the private benefits extracted, and so forth. This is particularly important if the competitor is a new firm. Hence, the financial contract has to provide incentives to induce the firm to repay the investors. Threatening to liquidate the firm or to deny loan extensions in case of insufficient performance are examples of such clauses. Unfortunately, financial contracts that are designed to alleviate agency problems also offer predation opportunities to the incumbent. Aggressive conduct that reduces the cash flow and the profits of the competitor will in fact tighten the conditions for its external finance, reducing the ability of the rival to sustain a prolonged price war. On the other side of this dilemma, any attempt to reduce exposure to predation, for instance by ensuring finance to the competitor even if it performs poorly, would exacerbate the agency problems of the investor.

We have to stress here that, in all the situations described above in which exclusion in one market might occur, most of the strategic variables - e.g., active pricing, product design and tying, exclusive dealing, capacity setting or advertising - that can support an exclusionary purpose can also be adopted when exclusion is not on the agenda and "normal" oligopolistic rivalry prevails. Hence pro-competitive and efficiency arguments can be potentially relevant

^r See for example Bolton, P., and D. Scharfstein (1990), A Theory of Predation Based on Agency Problems in Financial Contracting, *American Economic Review*, 80: 93-106.

in any situation involving these practices. For instance, a reduction in prices is a normal reaction to the entry of a competitor, and it can be part of a predatory strategy.

We therefore need to carefully identify the precise story that is supposed to summarize the alleged abusive behaviour, and to compare it with possible alternative explanations, if there are any, that derive from a non-abusive oligopolistic practice. This exercise identifies the relevant elements and the facts that allow discrimination between the lawful and anticompetitive explanations in a given and specific situation.

To illustrate this approach, we come back to the case of financial predation discussed above. Financial predation theory provides a clear setting for antitrust analysis. In order to check if such an explanation may be relevant, we have to consider the following conditions: i) Does the competitor rely on external funding? ii) Do the financing conditions depend on the performance of the borrower? iii) Does the aggressive conduct of the incumbent reduce the ability of the competitor to obtain external finance? iv) Is the impact of the reduced cash flow on the incumbent's financing opportunities limited? v) Is the incumbent able to recoup the reduced profits once exclusion is realized?

The first two conditions require an analysis of the financial contracts of the competitor; condition iii) does not necessarily imply that the incumbent is pricing below its short-run incremental costs, as it would in other predatory stories, since even an efficient competitor might be in trouble with financial obligations when revenues do not cover all the costs. Finally, condition iv) can be verified by looking at the possibilities for internal financing from other lines of business, or at the impact of localized losses of the incumbent on the volumes of credit received, while point v) can be assessed by considering the prospects of future entry into the market.

To sum up, exclusion within the same market follows a common pattern: a short-run sacrifice in profits and a long-run recoupment of the losses; this pattern appears, for example, in the predation scenarios described above, namely, reputation, signal jamming and financial predation. In each case, exclusion can be achieved through a wide set of strategic tools and practices, which, however, can also be part of normal competition. Hence, in order to distinguish abusive from competitive behaviour we have to carefully identify a precise story

of competitive harm and the restrictions on the facts that need to be established in order to substantiate it.

Section 2: Exclusion in adjacent markets

The actions of dominant firms may also generate anticompetitive effects in what are known as related or adjacent markets. An adjacent market is a market horizontally related to the home market,^s in the sense that competitive conditions in one market depend on competitive conditions in the other, and the products are sold directly to customers. .

The link between the two markets may be established through a variety of practices. It may involve pure bundling, mixed bundling (conditional discounts), tying, full-line forcing, rebate policies, access to interfaces, technical integration, proprietary standards, and compatibility choices. Examples of these practices are the bundling and technical integration of the Windows operating system and the web browser by Microsoft; the tying of nail guns to the sale of exploding cartridges by Hilti; or the early IBM Transamerica case involving the redesign and incompatibility of IBM's CPU with non-IBM peripheral tape drive systems. Such business strategies often yield benefits to consumers, but they may also have anticompetitive effects if the dominant firm distorts competition in the market adjacent to its own home market in order to exclude or discipline rivals in that market, or to influence entry conditions in the home market.

The key condition needed for these actions to cause competitive harm, is that the linkage must place some rivals at a competitive disadvantage so that they cannot compete effectively in the adjacent market or so that they might be deterred from competing in the home market.

In the short-term, some consumers may benefit, while others may be hurt. This is the case, for example, when the linkage is made through bundling, since the design of the bundle will favour consumers with certain preferences and hurt others. Something similar happens if the

^s This feature distinguishes these markets from vertically related markets (see Rey, P., and J. Tirole (2003), A Primer on Foreclosure, forthcoming in *Handbook of Industrial Organization Vol. 3*, M. Armstrong and R. Porter, eds., Elsevier:Amsterdam).

link between the products is made through technical integration or compatibility choices. In the longer-term, if the linkage hurts the competitive process, all consumers may be hurt due to the exit (or lack of entry) of some rivals. These business practices will be less of a concern whenever several companies engage in providing bundles of complementary goods, since in that instance prices tend to be lower as firms take into account that a low price for a product enhances the demand for its complement.

In addition to having been the subject of potential efficiency explanations, the traditional leverage argument has also been subject to the Chicago critique. According to this view, the dominant firm enjoys a position of market power only in the home market, even if there are two markets and thus two sources of profits to be made. It will have no interest in reducing competition in the adjacent market and will extract all its profit in the home market. As a simple example, consider the case where the two products are complements. Imagine a firm which is dominant in the market for product A and considers leveraging its power in the market for a complement B, where for simplicity we assume that B has no value for the consumer unless consumed together with A. A has value on a stand-alone basis. Under these conditions, the dominant firm will be interested in the provision of B by third parties at the lowest possible cost, since this will boost demand for A. Taking advantage of its dominant position in the home market, the company will be able to increase the price of A and thus benefit from the increased willingness to pay. Under these conditions the dominant company will have no interest in reducing competition in the adjacent market, since any profit increase in market B will be more than offset by lower profits in market A.

The Chicago critique has prompted the development of new economic theories that provide a sound analytical rationale for the existence of strategic leveraging of market power in adjacent markets by dominant firms.

The first line of argument focuses on those cases where the products of the two markets are independent. In this case bundling independent goods can be part of a commitment strategy that tries to prevent entry.¹ By credibly committing to sell the products only as a bundle, the dominant firm commits itself to a very aggressive pricing policy if entry occurs, and this discourages entry. The aggressive pricing is due to the fact that the dominant firm loses sales

¹ See Whinston, M.D. (1990), Tying, Foreclosure and Exclusion, *American Economic Review*, 80: 837-59.

in both the home and the adjacent market when it faces competition in the adjacent market. The commitment story builds on the idea that competing in bundles involves setting lower prices, and this will make entry less attractive.^u However, this sort of commitment through bundling is not easy to achieve.

Bundling and similar practices that tie or technically integrate related products can also be used as a tool to gain competitive advantage with negative effects on competitors when the products are in principle substitutes, but, nonetheless, there are demand-side benefits from their joint supply. A dominant firm may bundle a product with those in adjacent markets, exploiting these demand-side effects that, as a consequence, will not be available to competitors or entrants.^v

A third set of arguments deals with markets where the products are complementary, but the Chicago critique does not apply because the dynamics of the market stem from the cost or supply side. For example, consider a market where firms compete through upfront R&D investments and, as a consequence, entry is risky. A potential entrant can enter the market if it succeeds in innovation and obtains a superior technology. By irreversibly tying the two products to one another, the incumbent firm may be able to diminish the expected return in any one market, because successful entry now requires entering both markets simultaneously. Thus, tying makes the prospects of investment less certain, reducing the entrants' incentive for investment and innovation.^w Or consider a situation where the products are related from the cost side, for example, because the producer may benefit from scale and scope economies.^x By bundling the two products the incumbent may deny entrants access to a large fraction of the market, and thereby the possibility of achieving minimum efficient scale. A key condition for this result is that entry be easier (or faster) in the adjacent than in the home market. Entry into the adjacent market is just an intermediate step towards competing in the complementary home market. By making entry in the adjacent market impossible, the incumbent tries to prevent entry into his home market.

^u See Matutes, C., and P. Regibeau (1988), Mix and Match: Product Compatibility Without Network Externalities, *Rand Journal of Economics*, 19; 219-234.

^v See Nalebuff, B. (2003), Bundling, Tying and Portfolio Effects. Part 1. Conceptual issues, DTI Economics Paper N°1, February.

^w See Choi, J.P., and C. Stefanadis (2001), Tying, Investment and the Dynamic Leverage Theory, *Rand Journal of Economics*, 32: 52-71.

^x See Carlton and Waldman (2002), *op. cit.*

In sum, the modern economic analysis of strategic leveraging of a dominant position in adjacent markets has shown that, beyond the Chicago school critique, there may well be sound profit-maximizing reasons why dominant firms attempt to extend their market power beyond their home market. Most importantly, economic analysis provides policy-makers with a fairly detailed roadmap of the specific circumstances that need to be present (such as the relationship between the products, the costs of entry, or the irreversibility of bundling) for these leveraging practices to be judged as detrimental to the competitive process.

Section 3: Exclusion in vertically related markets

The last kind of competitive harm we will consider is the exclusion of a competitor from a market that is vertically related to the market where the incumbent firm is dominant. The common features are as follows: (i) The dominant firm controls a “bottleneck”, that is, an input in the production process that is necessary for upstream or downstream firms to exert their activity. (ii) The dominant firm forecloses these vertically related markets by denying or otherwise limiting access to its bottleneck to one or more competitors. For example, the owner of an infrastructure such as rail tracks or port facilities may deny access to this infrastructure to rail transportation service operators, thereby preventing them from providing their services in an effective way. The access denial can be complete, as in the case of a refusal to deal, or partial, as when the bottleneck owner favours some firms (e.g., its subsidiary) to the detriment of others. This foreclosure concern is particularly prominent in industries that have been liberalized through a vertical separation between the infrastructure, featuring the characteristics of a natural monopoly, and the production of goods or the provision of services using that infrastructure. The expected gains from such liberalization, in terms of reduced managerial slack, lower costs and prices, higher rates of innovation, and so forth, could be at risk in the absence of proper access to the infrastructure. This may call for a detailed and on-going regulation of access conditions that falls outside the scope of the present report. In other circumstances, however, a similar concern may arise in unregulated industries.

Foreclosure can be performed in various ways. The bottleneck owner can for example integrate vertically into the targeted market and refuse to deal with potential competitors; airlines' computerized reservation systems have for example involved issues of this type. Relatedly, the "forecloser" may make the bottleneck good incompatible with competitors' products or technologies, or engage in tie-ins and refuse to unbundle. In the presence of economies of scope or scale requiring cooperation among firms in the same market, a dominant group of firms may put its competitors at a disadvantage by refusing to cooperate. In the absence of integration the bottleneck owner can grant exclusivity to a subset of firms, and thus de facto exclude their rivals. Alternatively, it can favour some competitors over others; it can for example discriminate explicitly, e.g., through personalized rebates, or implicitly, e.g., through loyalty programs or growth-based rebates that are formally available to all but tailored to the needs of specific customers. Similarly, substantial quantity discounts may allow the survival of only a few customers; for instance, a large enough fixed fee can transform a potentially competitive downstream industry into a natural monopoly industry. Such considerations (besides many others) played a role in the process of enacting the Robinson-Patman Act in the US in 1936.

The traditional foreclosure concern is that the bottleneck owner may leverage its market power in the related markets. However, as pointed out by the Chicago School critique, there is a single final market and therefore only one profit to be reaped. And since the dominant firm can get this profit by exerting its market power over the bottleneck, it has no incentive to distort competition in the other markets; on the contrary, imperfect competition in the downstream market may actually create distortions and reduce the profitability of the bottleneck, e.g., by reducing the variety or quality of the goods and services produced.

While the Chicago critique is correct, anticompetitive effects may still arise in specific circumstances.^y For example, as already mentioned in the case of adjacent markets, the bottleneck owner may deter competition in a vertically related market to protect its home market.^z Alternatively, the bottleneck owner may face a commitment problem, which makes it difficult to exert its monopoly power without engaging in exclusionary practices. Indeed, once it has sold access to a first competitor, it has an incentive to provide access to other

^y See Rey and Tirole (2003), *op. cit.*, for an overview

^z See Carlton and Waldman (2002), *op. cit.*

competitors as well, even though those firms will compete with the first one and reduce its profits; this opportunistic behaviour reduces ex ante the bottleneck owner's profit (in the example just given, the first firm is willing to pay and buy less); more generally, the bottleneck owner would like to commit to a certain volume of access, so as to limit competition and profit dissipation, but it may be tempted to grant more access when dealing bilaterally with each competitor; as a result, competition in related markets "percolates" in the bottleneck market and dissipates the dominant firm's profit. When this commitment problem is serious and cannot be solved through adequate contractual provisions, the bottleneck owner may wish to restrict or eliminate competition in these related markets through the types of practices mentioned above.^{aa} For example, refusing to deal with all downstream firms but one, or entering into an exclusive dealing agreement with that particular firm, eliminates downstream competition and thus fosters the upstream firm's ability to exploit its market power. Remarkably, banning discrimination would also help the bottleneck owner to resist demands for selective price cuts and thus contribute to maintaining high prices. Vertical integration also constitutes an alternative solution to the upstream firm's commitment problem.

In such situations, the intervention of competition authorities may generate more competition in the related markets and thus in the industry as a whole. While any such intervention benefits consumers, e.g. in the short-run through lower prices or in the long-run through higher rates of innovation in the related markets, it also regulates the bottleneck owner's rate of return. In the long-run it may thus have an adverse impact on the dominant firm's incentives to invest or innovate and may for example impede the development of a key infrastructure. No prospective licensee would want to pay much for the use of a new technology if it knew that the licensor would "flood the market" with similar licensees; mandating access through additional licenses would thus reduce the innovator's profitability and consequently its incentives to invest in R&D.

To sum up, modern economic analysis has gone beyond the Chicago school critique and identified several reasons why a firm may use its dominant position in one market to distort competition in vertically related markets. Furthermore, several alternative types of practices

^{aa} See Hart, O., and J. Tirole (1990), Vertical Integration and Market Foreclosure, *Brookings Papers on Economic Activity (Microeconomics)* 205-285.

can be used to that purpose – e.g., refusal to deal, exclusive dealing, prohibitively high access prices for downstream rivals, etc. Therefore, when vertical foreclosure is the concern, one should treat these alternative practices in a consistent manner. The economic approach also emphasizes the relation between ex post intervention and ex ante investment incentives. It can thus help competition authorities to identify the specific circumstances calling for intervention.

Chapter III: Implications for practices

The previous chapter has highlighted the economic approach to different types of competitive harm. We now discuss how this approach can be put to work in Article 82 cases. The above discussion already stressed that several alternative practices can often serve the same anticompetitive purpose. Conversely, when a complaint arises or when a competition authority suspects an abuse of dominance, from an economic perspective the first question is: What is the nature of the competitive harm involved in that case? Pursuing this question brings several benefits.

First, it allows a clear identification of the “economic toolbox” of relevant arguments. For example, the type of reasoning involved for adjacent markets is quite distinct from those that may be relevant when exclusion arises in the dominant firm’s core market. Second, while creative imagination in business relations can lead to an infinite number of different practices, there are not that many types of competitive harm and for each one the established toolbox of relevant, consistent economic arguments is relatively limited; in addition, each line of reasoning outlines the key facts that need to be checked. Thus, identifying the nature of the competitive harm at stake can both facilitate and speed up the investigation process, and contribute to maintaining high standards of predictability. Third, as already noted this approach guarantees a consistent treatment of the alternative practices that could serve the same anticompetitive purpose.

Once a competitive harm has been identified and the relevant facts established, the next step should be to see if pro-competitive effects might counterbalance them. There again, an economic approach first identifies the nature of the benefit for competition and the facts that need to be established. It is only after these steps that a proper balance can be assessed.

In this chapter we illustrate this approach for various practices. We start with a general discussion of price discrimination, which is relevant for many other practices: rebates, for example, typically involve some discrimination, while exclusive dealing can be interpreted as an extreme case of discrimination; likewise, tying and predatory pricing often involve some form of discrimination. While price discrimination can be part of an exclusionary strategy, it often can also bring benefits, particularly when large fixed costs are present; in a given price discrimination case, it is thus again important to identify the exact nature of the potential anticompetitive harm, as well as the possible pro-competitive effect of price discrimination in the context of the case.

We then discuss several classical types of practices: rebates, tying, refusals to deal, exclusive dealing and predatory pricing. In each case, we first relate the practice in question to the exclusionary effects outlined in Chapter II. We then review (some of) the potential pro-competitive benefits of the practice; finally, we illustrate, using an example, how the effect-based approach could be applied to the practice.

Section 1: Price Discrimination

Price discrimination consists in charging different prices for different units and/or to different customers.^{bb} It can take various forms. In particular, it can be explicit, as when different customers are offered different prices on the basis of their age (e.g., reduced prices for children or senior citizens) or on the basis of other characteristics (e.g., student fares,

^{bb} This simple definition raises tricky issues when, for example, different customers involve different costs. Should “no discrimination” then mean the same price for all, or should cost differentials be borne by the customers? Interestingly, while competition law usually insists that any difference in prices should reflect a cost difference, universal service obligations, for example, tend instead to insist on “equal treatment”, according to which all customers should be offered the same price in spite of possibly large cost differentials.

geographical segmentation), or it can be implicit, as when all customers are formally offered the same menu of options, but different customers de facto pick different options and thus end up paying different prices (thus, for example, volume discounts allow firms to offer better deals to large customers).

Antitrust policy and jurisdiction have traditionally been very strict about price discrimination, sometimes even treating it as a *per se* offense against the law. Price was – and is – seen as a tool by which the dominant firm exploits its power to earn more profits. Price discrimination is also considered to be unfair because some people have to pay more for the good in question than others. This latter point, in particular, resonates in public discussions about pricing.

Economic analysis has also long put a lot of weight on the exploitative effects of price discrimination allowing the dominant firm to earn more profits. Economic analysis has also stressed that the distribution of output across consumers tends to be inefficient if different consumers pay different prices and presumably put different valuations on the last units they purchase. These arguments imply that any price discrimination which reduces (or barely increases) total output is necessarily detrimental for total welfare and even more so for consumer welfare.

However, more recently economic analysis has also shown that, in some circumstances, price discrimination can increase total welfare and even consumer welfare. In particular, this is likely to be the case if price discrimination permits a significant expansion of output.^{cc} This might happen, for instance, because additional offerings at lower prices permit the firm to serve additional customer segments. Moreover, if the firm has significant sunk investments, the greater profits which the firm obtains from price discrimination may be necessary to provide a return on these investments. These returns may also encourage the firm to invest more, providing additional pro-competitive effects in the future. In all these cases, price discrimination is likely to benefit consumers, sometimes even those who pay the higher prices: Even though they pay more than other consumers, they benefit from the fact that the firm invests and makes its output available to them.

^{cc} For an extensive welfare analysis along these lines, see for example Varian, H., (1989), Price Discrimination, in R. Schmalensee and R. Willig, eds., *Handbook of Industrial Organization*, North-Holland, Amsterdam, 597-654.

Such considerations have led economists to be skeptical about using the simple notion of “fairness” or “unfairness” to assess price discrimination. In the examples given, prohibiting price discrimination on the grounds of unfairness to those consumers who have to pay a higher price may end up making these very consumers worse off.

At the same time, one must worry about the fact that any assessment of the fairness or unfairness of price discrimination is necessarily based on a *local* assessment of distributive effects. There is no way of telling whether such a local assessment is consistent with global concerns for distribution.^{dd} With price discrimination, consumers that are more sensitive to prices will be offered lower prices and will thus benefit while the others are more likely to be hurt. From a global perspective, the assessment of this distributive effect depends, for example, on whether the greater sensitivity to prices reflects a higher level of education or a greater need to turn each euro around twice before spending it. In the first case, the distributive effect favours people with a higher education level, in the second case, people who are poorer. Is a pricing scheme that favours poorer people really “unfair”? However, such global distributive concerns can hardly be made the subject of antitrust proceedings under a rule of law. Therefore, it seems advisable to assess price discrimination less in terms of fairness and more in terms of pro-competitive and anti-competitive effects.

For price discrimination does also have an impact on the way firms compete. Thus, price discrimination tends to intensify competition among oligopolists and thereby raise consumer surplus at the expense of industry profits. Consider, for example, a case of customer poaching, where customers face switching costs and firms offer lower prices to the customers belonging to their rivals’ customer segments.^{ee} Basically, such discrimination intensifies competition, because it makes it possible for a firm to attack its rivals’ customer bases, as well as new customer segments, while maintaining higher margins on its own installed base. But since all the firms have similar strategic incentives to exploit price discrimination, the industry faces a prisoner’s dilemma situation, and competition is more intense than with uniform prices. More

^{dd} For the distinction between local justice and global justice, see Elster, J. (1992), *Local Justice: How Institutions Allocate Scarce Goods and Necessary Burdens*, New York & Newbury Park: Sage.

^{ee} For detailed analytical models, see, for example, Fudenberg, D., and J. Tirole, (2000), Customer Poaching and Brand Switching, *Rand Journal of Economics*, 31: 634-657, or Chen, Y. (1997), Paying Customers to Switch, *Journal of Economics and Management Strategy*, 6: 877-897; for a broad perspective, see Stole, L. (2005), Price Discrimination and Imperfect Competition, forthcoming in *Handbook of Industrial Organization Vol. 3*, M. Armstrong and R. Porter, eds., Elsevier:Amsterdam.

generally, price discrimination leads to competition on a customer per customer basis, which is likely to be more intense than when firms are constrained to offer the same price to all customers. Price discrimination encourages the firm to target more customers, by allowing the firm to offer specific deals to these customers without compromising the profits achieved on more captive customers. In particular, this reasoning militates for allowing an incumbent to respond non-uniformly to limited entry (“meeting competition” strategies).

Even when a firm has enough market power to be dominant, the ability to engage in price discrimination might very well reduce its market power. For example, the firm may be tempted to grant concessions when a particularly good customer insists on getting a better deal, or when a customer suffering from a temporary downturn asks for a specific treatment. And indeed, the ability to negotiate good deals in bilateral bargaining constitutes one of the drivers of competition, particularly when the customers are themselves competing against each other in a downstream market. In such circumstances, a ban on discrimination actually helps the dominant firm resist requests for lower prices and thus exploit its market power. Indeed, if any dominant firm is obliged to offer similar deals to all equivalent consumers, it can no longer offer customer-specific discounts based on individual bargaining. But then it will be more reluctant to grant a concession to a particular customer if the concession must be generalized to all other customers. Thus, a no-discrimination requirement serves as a very effective device to enhance the market power of the dominant firm, relative to a situation where price discrimination, in the form of customer-specific bargaining, would be allowed.^{ff}

In many important applications it is not sufficient to evaluate the welfare effects of price discrimination by comparing prices, production, and consumer surplus to those associated with uniform pricing within the framework of a given market structure. The option of price discrimination may affect entry (or exit) decisions and long-run investment decisions in ways that may significantly affect the long-run performance of the industry. For instance, the use of certain types of rebates warrants detailed analysis, as will be discussed in the next section.

Overall, these arguments thus support a view according to which price discrimination may, in fact, promote efficiency and benefit consumers even when firms have significant market

^{ff} The impact of a non-discrimination requirement here is similar to the effect of “most-favoured customer” clauses that allow a firm to commit itself to maintain high prices.

power. Price discrimination can, however, also serve anticompetitive purposes. In particular, it can be associated with any of the exclusionary effects highlighted in the previous chapter. Selective price cuts can for example reduce the cost of predatory pricing strategies to deter entry into the dominant firm's home market or into adjacent markets (in the latter case, mixed bundling also involves some form of discrimination); and access price discrimination can be at the heart of vertical foreclosure cases. But then, it is the exclusionary effect that causes the anticompetitive harm, rather than discrimination per se. This therefore again calls for an effects-based approach, which first identifies the type of exclusionary effect involved, rather than a form-based approach, to the spectrum of business practices in which price discrimination is a central element.

Section 2: Rebates

Rebates may come in the form of pure volume discounts: the firm then offers a rebate if the quantity bought by a customer exceeds a given threshold. In this case, the rebate may apply to the incremental quantities (only those above the threshold) or to all the units bought by the customer as soon as the threshold is reached. In the former case, the rebate scheme induces a progressive discount, and in all cases, we have (possibly discontinuous) non-linear pricing. By contrast, when it applies to the whole quantities bought by the customer, it amounts to switching to a new price scheme as soon as the threshold is achieved. Rebates can also be offered to a customer whose *growth* in the volume of purchases lies above a given threshold. Rebates on a particular product can also take the form of a more advantageous offer to customers who buy another product together with the initial one. Rebates then involve mixed bundling (see chapter II, 2 and chapter III, 3). Finally, fidelity rebates may be offered: for instance, rebates can be conditional on the client buying all its quantities, or at least a given percentage of them, from the firm. In most cases, rebates imply some form of discrimination between customers. To this extent a part of the analysis of Section 1 (in this chapter) above is relevant.

a) Potential anticompetitive effects

Generally speaking, a consequence of this practice is that competition operates on a customer basis rather than on a “unit sale” basis, which can be anti- or pro-competitive, depending on the circumstances.

The anticompetitive effects of rebates may be of any kind described in Chapter 2:

- Rebates can exclude actual or potential competitors from the market on which the firm is dominant. This is the case, for instance, for selective rebates offered to those of the customers of the firm that would switch to a new entrant were the rebate not offered, or if the rebate is conditional on the percentage of quantities bought by the customer from the firm. In most of these cases, rebates may be associated with predatory pricing on some of the units sold. Moreover, like predatory prices, rebates induce short-run sacrifices and may have exclusionary effects either by inducing exit or by discouraging entry.
- They can also involve horizontal foreclosure: this is for instance the case if the rebate is offered to a customer that buys the product of the dominant firm on an adjacent market together with the product on the main market. This is an example where rebates also tie together the products on two different markets.
- Finally, rebates can induce vertical foreclosure. This is the case for instance when a producer offers to its retailers in order to discourage them from selling competitors’ products. They may then be associated with an exclusivity clause. Competitors are therefore unable to obtain access to a distribution network to sell their products. Of course, this mechanism may appear in any vertically related market, where one of the stages plays the role of an essential facility. In these “essential facility cases”, rebates may eliminate downstream or upstream competition in order to better exploit upstream or downstream market power.

b) Pro-competitive effects and efficiency considerations

Efficiencies may be a cause or a consequence of rebates. A general way of assessing the dominance of pro-competitive effects over anticompetitive ones is to check whether total

output has increased or not. Pro-competitive effects of rebates may for example appear in the following circumstances.

Since rebates allow high and low demand elasticity consumers to be treated differently, elastic demand segments tend then to generate lower margins. Consumers with a high elasticity of demand thus benefit from the practice, although consumers with a low elasticity may suffer from it; the overall effect on consumer welfare is thus a priori ambiguous. But in the spirit of Ramsey pricing, in this way rebates may also allow for the recovery of fixed costs, and thus encourage R&D investments that involve such large fixed costs. As a result, rebates are more likely to have a pro-competitive effect when high fixed costs are involved.

Rebates that are targeted to those consumers who are more likely to switch to competitors imply a more intense competition for these consumers; they clearly benefit from this situation. The other consumers may indirectly benefit from an increased pressure on the price they face. Moreover, prohibiting selective rebates as a reaction against competitive pressure may constitute excessive interventionism in the competitive strategies of firms on the part of competition authorities.

In a vertical relationship in particular, rebates that take the form of non-linear pricing may be used as an incentive mechanism to induce efficient behaviour of retailers. For example, rebates can be used to increase retail margins on additional volumes, so as to encourage retailers to promote the product. While a uniform reduction in the wholesale price might have the same impact on retailers' incentives, it would be more costly for the supplier. Hence, rebates allow suppliers to provide incentives at a lower cost, thereby encouraging suppliers to provide more incentives and thus to compete more intensively. More generally, rebate schemes can enhance efficiency by solving adverse selection or moral hazard problems.

Rebates may also generate efficiency gains for the dominant firm, for instance, economies of scale for this firm, or economies of transaction costs for the customers (the buyer concentrates its purchase on a single seller).

These elements lead to a general intuition: rebates that take the form of pure quantity rebates are more likely to be motivated by efficiency considerations than fidelity rebates. It is,

however, difficult to demonstrate that efficiency considerations motivate the rebate scheme. In particular, the mere form of the rebate may not constitute a clear indicator; for instance, efficiency considerations might require personalized rebate schemes, tailored to the “size” of the retailer, which could take the simple form of “market-share” fidelity rebates.

c) Implementation: An example

To deal with an alleged story of anticompetitive rebates, the competition authority should follow the analysis that derives from the previous considerations, e.g., it should first identify the kind of exclusionary strategy at work, and look for possible pro-competitive effects of the practice. This approach clearly stands in contrast with a *per se* prohibition; instead, it involves a sound analytical framework and relevant data. We illustrate this approach with reference to a particular example.

The view of rebates that prevails in the contemporaneous approaches recognizes that the anticompetitive effects of this practice can indeed dominate, and that in some cases rebates should be prohibited. For example, a supplier may use rebates so as to impose a penalty on new entrants. A customer will switch to a new supplier only if the latter offers a price that is lower than the price charged by the incumbent supplier minus the rebate.^{g8} Thus, the rebate is analogous to a penalty paid by the entrant; it plays the role of an entry fee, designed to extract some of the efficiency gains of new entrants, and by the same token it creates a barrier to entry. The rebate clause thus imposes an external effect on potential entrants, and it is this externality that makes it profitable for the incumbent supplier and the customer to enter in this type of arrangement. Note that the entrant will enter only if its costs are so low that entry remains profitable despite the entry fee generated by the rebate. Consumers are harmed because the probability of entry is reduced and prices are raised.^{hh}

In such a case the competition authority should proceed by asking the following questions:

^{g8} Indeed, granting a fidelity rebate of 10 on a reference price of 100 could also be presented as a “penalty for breach” of the same amount, based on a reference price of 90; in both cases, to attract the customer a new supplier will have to compensate the customer for the lost rebate, and the provision thus acts as a “tax” on the new supplier

^{hh} Cf Aghion and Bolton (1987), *op. cit.* This model, designed to deal with exclusive dealing, suits perfectly well the analysis of rebates. This shows again that various practices may achieve the same anticompetitive effect.

- What exactly is the negative externality imposed on a third party that explains why the buyer agrees to accept an anticompetitive exclusive dealing contract? If the competition authority cannot identify such an external effect, then there is no anticompetitive effect and the case should be dismissed.
- What is the magnitude of the penalty imposed on the entrant? This can be approximated by computing the reduction in price that the entrant should offer in order to be able to enter the market at various quantity levels.
- Were in fact efficient competitors kept out of the market by the penalty imposed on them?
- Efficiency effects have to be carefully assessed; among the critical factors are the ability of downstream firms to pass on a reduction in their own input prices and the incentives given to these downstream firms to exert effort.

Section 3: Tying and bundling

a) Tying and bundling may take various forms

First of all, tying consists in making the purchase of one good (the tying good) conditional upon the purchase of another one (the tied good), whereas bundling refers to the sale of two products together. Bundling may be pure (the goods are available only together) or mixed (they are also available separately). Therefore, when tying is at work, the tied product may be bought alone, whereas when pure bundling is at work this is impossible. Tying and bundling can be achieved through technological links or through a contractual practice. Tying and bundling may concern goods that are complements, or substitutes, or independent. In the latter case the only link between markets is the fact that both goods are bought by the same consumers. For the sake of exposition we will focus on pure bundling, but the analysis also applies to mixed bundling, although potential anticompetitive effects are likely to be less stringent in that case. In addition, mixed bundling has another advantage, since it makes it possible to offer multiple price formulas adapted to the needs of different consumers. Consumers who want only one of the goods

can still buy it, while those who want to buy both face lower prices for the bundle. Therefore, as in the above discussion of price discrimination, mixed bundling may induce higher consumption from some consumers.

The problem is to identify cases where tying is anticompetitive, that is, profitable for the firm that implements the practice, while inducing exclusion and hurting consumers.ⁱⁱ These cases are relatively scarce, a condition which does not favour a prohibition *per se*.

b) Tying and bundling can give rise to many anticompetitive effects.

- Bundling may serve an exclusionary purpose on the tied market.^{jj} This is the commonly expected effect of bundling: since the consumer buys both good A and also good B from the dominant firm, either necessarily (if there is pure bundling) or because it is advantageous for him (in the case of mixed bundling), a competitor on market B cannot profitably sell its product, even if this a better quality product or produced at a lower cost. This effect is analogous to predatory pricing. Bundling may also be associated with fidelity rebates tying products A and B together.
- Bundling may be used in order to protect the dominant firm's home market. This is the case, for instance, when it is easier for a competitor to enter market A if it is active on the market B with a complementary good. Then, in order to deter entry of its competitor on market B into its home market A, a firm might want to sell bundles of its own products, therefore eliminating its competitor on market B, and making entry into market A unprofitable.

In the last case, bundling forces competition between bundles rather than between elementary goods. This form of competition is not necessarily a bad thing, as it may well be more intense (see below), but it may force the rival to enter several markets simultaneously, which may make entry costlier and/or riskier.

ⁱⁱ Chapter 2 recalls the Chicago arguments concerning tying and bundling.

^{jj} This is also the common "leverage effect" that is feared in mergers involving firms active on adjacent markets.

c) Pro-competitive effects of tying and bundling

Of course, the analysis of the overall effect on consumers has to take into account the fact that the strategies of the dominant firm linking the two markets may also be the result, not of an attempt to exclude competitors, but rather of an attempt to improve the efficiency and quality of the products supplied in the market.

Like rebates, tying may allow for the recovery of high fixed cost - even when goods are independent. In this case, consumers might also benefit from bundling. When goods are complementary, additional arguments are at work. Bundling also reduces transaction costs for the consumers, who would, in the case of mandatory unbundling, be forced to buy all the components separately; still in the case of complementary products, tying guarantees that two components of a system good are compatible. Bundling may also boost the demand for the complementary good when it is associated with a low price (even zero) for the tied good. In the case of complementary goods used in variable proportions, tying may also serve as a metering device for the tying good: a well known example is that of photocopiers sold with the paper or with after-sales services. The consumption of the latter reveals the intensity of preferences for the former and this information allows the firm to discriminate between consumers, which may be beneficial to some of them. Making the customers pay for usage as well also allows the firm to lower the price of the equipment. This can reduce distortions in replacement decisions (both by inducing consumers to internalize the cost of usage and by distributing mark-ups over both acquisition and usage, rather than placing them on acquisition only); this can also be used to credibly convince customers to try and switch to new types of equipment.

Efficiency justifications are particularly common when the linkages are established by technological means (technical integration, standards, and compatibility): costs savings, quality improvements and the overcoming of information problems are important sources of gains. For example, when the quality of two complementary products is uncertain, supplying them jointly may alleviate this informational problem. Similarly, bundling complementary products may reduce the inefficiency created by double marginalization: the standard “Cournot argument”, according to which vertical integration prevents the addition of multiple mark-ups, also applies to any two complementary products, not just to vertically related ones.

Indeed, tying leads to “system-based” rather than to “component-based” competition, in which it is easier to internalize the effect of a price cut for one component on the sales of the system. As a result, this system-based competition is likely to be more intense.^{kk}

To sum up, depending on the nature of competition, the cost structure on the tied market, the magnitude of costs savings associated with bundling, and the existence of strategic reasons, bundling can have exclusionary effects or pro-competitive effects and should thus be analyzed in the light of the effects of the practice. The potential for efficiency gains is more limited when the linkage is achieved through pricing schemes and bundling than when it is achieved through technological integration. Still, as in the case where it is used as a metering device, bundling can enhance welfare.

d) An example

The naive view of (pure) bundling is the following: a firm that is dominant on market A fears entry from a competitor present on market B, where the dominant firm offers its own good. Goods A and B are complementary. Therefore the dominant firm offers (pure) bundles of A and B and prevents consumers from buying the competitor's product. This protects the dominant firm from the competitor's entry into its home market. . However, this is the case where the Chicago critique fully applies, as shown in chapter II.2: the firm has no interest in reducing competition on market B. Since there is only one monopoly profit to be made, it would rather allow the competitor to be active on market B and take advantage of an increased demand on market A in order to enjoy a monopoly margin on each unit of good A. In the more sophisticated version of this argument,^{ll} entry into one market depends on the success of entry into another market: a competitor can, for example, enter market A only if it can first enter market B with a better or cheaper product than that of the dominant firm. The entry strategy thus involves a dynamic scenario, in which first the dominant firm faces a more efficient competitor on market B, and later the same or another firm can enter market A. The dominant firm has an incentive to sell a bundle of A and B: in this way it can deter the first competitor in market B, and entry into market A is then less likely.

^{kk} In the absence of tying, cutting the price of one component also benefits mixed systems, where some of the components are sold by other firms; as a result, the incentive to cut prices is lower and competition is less intense; see Matutes and Regibeau (1988), *op. cit.*

^{ll} See Carlton and Waldman (2002), *op. cit.*

There again, there is a commitment problem: once the competitor has entered the market, the dominant firm would have an interest to sell goods A and B separately. Technological bundling may however be used as a commitment device. As was recently highlighted by J. Tirole, the bundling strategy involves sacrifices with regard to a strategy where the firm would accommodate entry, as in predatory pricing strategies.^{mm}

Again, following an effects-based approach regarding this practice requires that the competition authority first build a consistent story showing what kind of exclusionary effects are at work and that it check the facts that would allow for a pro-competitive explanation of the practice. In our particular case, the competition authority should here check the following points:

- Does the situation present dynamic features (sequential entry)?
- Does the existence of a competitor for the complementary product make the entry into market A more likely (either from the competitor present on market B, or by a third firm that finds it profitable to have a competitive market for good B)?
- Is the quality of the good offered by the rival on market B higher than that of the dominant firm?
- Is the bundling practice credible? For instance, is it achieved through commercial or through technological bundling?

In addition, the competition authority should of course check to ensure that the possible efficiencies of the practice are not the major determinant of the firm's behaviour. This is particularly important where compatibility problems are involved (see above).

^{mm} See Tirole, J. (2005), A Primer on Tying, *Competition Policy International*, 1: 1-25.

Section 4: Refusal to Deal

Refusal to deal may take several forms. The dominant firm may simply refuse to supply the essential good, or it may charge a prohibitively high price. It may make the bottleneck good incompatible with the products offered by its competitors, or it may tie the essential good to some other good, thus making it unattractive for competing firms to buy the bundle. Or it may sign an exclusive dealing contract with one particular firm, thus excluding others from the market (see Section III.5 below).

a) *Potential anticompetitive effects*

Refusal to deal is a typical form of exclusion in vertically related markets when a dominant firm controls an input that is essential for production by competing firms in a downstream (or upstream) market. By refusing access to the input good the dominant firm extends its monopoly from the market for the essential input to the potentially competitive downstream market. However, the monopolization of a downstream market need not have anticompetitive effects per se. After all, there is only one final market and only one monopoly profit to be reaped. If the dominant firm is able to capture the monopoly profit of the final market even if there is downstream competition, then monopolization of the downstream market cannot have anticompetitive effects because there is no competition anyway. In this case a refusal to deal with downstream firms is likely to be motivated by efficiency arguments.

The dominant firm may also be a group of firms or an industry association refusing access to a jointly owned facility. In this case a competitor is excluded on the same or on a horizontally adjacent market. Famous examples include *Associated Press (1945)* and *Aspen (1985)*. In the latter case, where a three-mountain ski resort refused to make lift tickets available to a competing one-mountain ski resort.^{nm}

^{nm} See e.g. Ahern, P. (1994), Refusal to Deal after Aspen, *Antitrust Law Journal*, 63: 153 ff:

b) Pro-competitive effects and efficiency considerations

Upstream firms may be worried that their reputation will suffer if their product is offered by inferior downstream firms. If the upstream firm cannot effectively monitor and control the downstream firms, excluding them from the market may be the only possible way to increase consumer surplus and industry profits. Similarly, for technological reasons, it may be necessary to closely monitor downstream production by the upstream supplier. This may only be feasible in a vertically integrated firm. Or downstream firms may free-ride on the marketing expenses of the upstream firm. In order to recoup this investment, the dominant firm may have to exclude downstream competition.^{oo}

But even if a refusal to deal harms consumers in the short-run, it may be socially beneficial in the long-run. If the bottleneck is the result of investment or innovation activities of the dominant firm then forcing the firm to give its competitors access to the bottleneck is an expropriation of the returns of the firm's efforts. This may discourage this and other firms from investing in the future, and it may reduce the incentives to innovate. Tolerating a (temporary) monopoly may be the best way to promote investment and innovation incentives and thus dynamic efficiency.

If the bottleneck is due to an intellectual property right, the competition authorities should be particularly reluctant to interfere. Intellectual property rights have been granted by the state in order to create market power and to give innovators a reward for their efforts. Thus, it is inconsistent if the state interferes with these rights *ex post* and takes market power away. Indeed the mere prospect of interference affects the parties' bargaining powers in negotiating a voluntary agreement. To the extent that the rival firm obtains favourable terms by threatening to sue in order to impose a duty to deal, the bottleneck owner obtains a lower return on his investment. Because there is no active intervention, the effect is not visible, but nonetheless it reduces the incentive to innovate.

^{oo} For a more detailed discussion of efficiency defenses for vertical foreclosure, see Rey and Tirole (2003), *op. cit.*, Section 5.

c) Implementation: an example

Refusal to deal increases the market power of a dominant firm only if it was unable to fully exploit its monopoly power over the bottleneck good beforehand. For example, this is the case if the dominant firm has a problem committing to charging all the downstream firms the monopoly price. The reason is that once the monopolist has contracted with one downstream firm on the supply of the essential good, he has an incentive to supply the other firms at more favourable conditions in order to further increase his profits at the expense of the first downstream firm, which then has to compete with the other firms on the downstream market. However, the downstream firms anticipate such opportunistic behaviour by the upstream firm and will buy the essential good only at a discount. This reduces the profits of the monopolist. He may restore his monopoly power only if he manages to eliminate competition on the downstream market altogether. In such a case, refusal to deal could have anticompetitive effects.

If the competition authority suspects that such a mechanism is a work, it should proceed as follows:

- First it has to establish that there are anticompetitive effects. Suppose that the dominant firm sold the essential good to downstream firms in the past, but that it now refuses to deal with them. If the price for the final good remains unchanged and if the stock price of the downstream firms is not affected, then it is unlikely that the refusal to supply has increased the dominant firm's market power and reduced social welfare. If the dominant firm can come up with a convincing efficiency defence for the refusal to deal, the case should be dismissed. On the other hand, if the dominant firm found it difficult to commit to the monopoly price when there was downstream competition and if it manages to raise the final price paid by consumers by monopolizing the downstream market, then this is an indication of anticompetitive effects.
- What is the source of the bottleneck? If the bottleneck is mainly due to the investment and innovation efforts of the dominant firm, the returns of this investment should not be expropriated and the competition authority should not interfere even at the cost of a static inefficiency (a temporary monopoly). The competition authority should be particularly reluctant to interfere when the source of the bottleneck is an intellectual property right.

However, if the bottleneck stems from historical legacy, economies of scale or scope, or network externalities, an intervention may be justified.

- Is the intervention likely to be effective without impairing efficiency? Enforcement may be difficult and costly. Moreover, the competition authority is likely to be drawn into the process of determining the *terms* on which the dealing must take place, i.e. prices, conditions and technical specifications. The authority is not really qualified to set such terms, so its intervention may cause substantial inefficiencies. Thus, the competition authority should be aware of the harm that it may cause, and intervene cautiously, refraining from active involvement in the dealing terms.^{PP} Structural remedies, such as divestitures and line-of-business restrictions, often involve substantial transaction costs and should be considered only as a last resort.

The competition authority should also be aware that its approach to refusal-to-deal cases affects outcomes even when firms reach a voluntary agreement so, in fact, there is no refusal to deal. The possibility that the bottleneck owner may be sued affects the participants' bargaining positions. If the rival firm can threaten to sue in order to impose a deal, it is in a much stronger position than if the owner of the bottleneck can refuse to deal. As long as these cases are not contested in legal proceedings, these effects are not visible. Nevertheless, they raise the same concerns as the authority's handling of refusal-to-deal cases itself: If the anticipation of strict policy intervention leads to a voluntary agreement at low access prices, this reduces the returns to the bottleneck owner's investments; if the anticipation of weak policy intervention leads to a voluntary agreement at high access prices, this restrains the rival's ability to compete downstream. To avoid competitive harm from these effects of anticipations, the competition authority should have clear guidelines for the assessment of refusal-to-deal cases, providing well-specified standards by which to compare exclusionary concerns and concerns about returns on investments.

^{PP} In this context, it is noteworthy that in the United States court interventions under the "essential facilities" doctrine have usually left the determination of terms of dealing to the parties.

Section 5: Exclusive Dealing

Exclusive dealing refers to all practices that commit a firm to deal exclusively with some vertically related firms but not with others. For example, a dominant seller may prohibit buyers from dealing with its competitors, or a dominant seller may commit to deal exclusively with one (or several, as in the Eurotunnel case) vertically related firm (or firms), but not with others.

a) Potential ant-competitive effects

Exclusive dealing may be used against a (potential) rival on the same or on a horizontally adjacent market if enough buyers agree to exclusively buy the good from one dominant firm and if the rival finds it more difficult to enter this or the adjacent market should he be prevented from dealing with these buyers. Exclusive dealing contracts may also restrict entry to a vertically related market if the dominant firm is the sole producer of a bottleneck good that is essential for a downstream market and if the dominant firm commits to supply the bottleneck good exclusively to one firm but not to others. In this case exclusive dealing may be used as a substitute for vertical integration and have similar effects to a refusal to deal (see Section III.4).

It is often argued that exclusive dealing arrangements cause competitive harm because they raise the cost of entry into the market or deter entry altogether. However, this argument is too simplistic. A rational buyer would not be willing to sign an exclusive dealing arrangement if such a contract obliged him to buy from an incumbent while a (possibly more efficient) competitor is willing to enter the industry. An exclusive dealing contract will be agreed to only if it is beneficial for both parties. Thus, the exclusive dealing contract must either be efficiency enhancing, in which case there is no competitive harm. Or it must increase the payoffs of the two contracting parties at the expense of a third party. In recent years several economic theories have been developed showing that exclusive dealing may indeed have anticompetitive effects if it imposes an externality on a third party. For example, an exclusive dealing contract that makes entry more difficult may be used to extract rents from a potential

entrant.⁹⁹ Alternatively, if the buyers cannot coordinate their actions then the seller can bribe some buyers into an exclusive dealing arrangement at the expense of the other buyers.¹⁰⁰ The common denominator in all of these anticompetitive effects is that the exclusive dealing contract imposes an externality on third parties.

b) Pro-competitive effects and efficiency considerations

There are several efficiency defences for exclusive dealing arrangements. The most frequent argument is that exclusivity may be necessary to protect and encourage relationship-specific investments. For example, a manufacturer will invest in the training and education of downstream firms only if it can be assured that this investment will not be used to benefit upstream competitors. Thus, in order to protect its investment, the manufacturer may have to insist on an exclusive arrangement. Similarly, a manufacturer may adopt an exclusivity clause in order to promote “retailer loyalty”, i.e. to encourage the retailer to tailor its promotional efforts towards the manufacturer’s product.

Another efficiency argument is that the manufacturer may use an exclusive dealing arrangement in order to maintain the value of his product. It may want to exclude certain “inferior” retailers from selling its product if these retailers are not sufficiently trained or if their reputation does not fit the reputation of the product. For example, the producer of expensive luxury perfumes may not want its fragrances to be sold in cheap discount stores because this damages its reputation.

An exclusive dealing contract may also be used to prevent “excessive” entry. If entry involves significant sunk costs, there may be too much entry because of the “business stealing effect”: A new firm that contemplates entering the market does not take into account that some of its prospective customers will switch away from existing firms. Thus the revenue that the new firm generates may be larger than the social value it creates. Other efficiency defences are parallel to those given for a refusal to deal in Section III.4.

⁹⁹ See Aghion and Bolton (1987), *op. cit.*

¹⁰⁰ See Rasmussen, Ramseyer and Wiley (1991) and Segal and Whinston (2000), *op. cit.*

c) Implementation: an example

We argued above that an exclusive dealing contract may have anticompetitive effects only if it imposes a negative externality on a third party. Thus, the competition authority first has to point out exactly which externality on a third party it is that explains why the buyer agreed to accept an anticompetitive exclusive dealing contract. If the competition authority cannot identify such an external effect, then there is no anticompetitive effect and the case should be dismissed.

An example of such an externality is given by what are known as “buyers’ coordination stories”.^{ss} Consider a potential entrant which needs a minimum amount of demand for entry to be profitable (e.g. because of large fixed costs). Suppose that there are many buyers and that the incumbent seller offers to each of the buyers a (small) rebate if he signs an exclusive dealing contract. A buyer accepts this offer if the rebate is larger than his expected loss due to the reduced likelihood of entry. However, he does not take into account the negative external effect of his decision on the profits of other buyers. Thus, if buyers cannot coordinate their behaviour, the externality they impose on each other may result in deterring entry. Exclusive dealing contracts can thus be anticompetitive when buyer coordination is needed.

In order to establish that such a mechanism is at work, the competition authority should prove a number of facts:

- there are many small size buyers;
- no communication nor coordination between them on procurement of input is at work. For instance, this would not be verified where super-markets delegate the power of listing products to a centralized agency and even negotiate the transaction on aggregate sales with this agency;
- on the supply side, the magnitude of the efficient size for an entrant should also be evaluated. If it appears that a competitor can enter the market selling a small number

^{ss} See, for example, Aghion and Bolton (1987), *op. cit.*, Rasmussen, E. B., J. M. Ramseyer and J. S. Wiley (1991), Naked Exclusion, *American Economic Review*, 81: 1137-1145, Segal, I., and M. D. Whinston (2000), Naked Exclusion: Comment, *American Economic Review*, 90(1):296-309, and Fumagalli, C., and M. Motta (2002), Buyers’ coordination exclusive dealing and entry, when buyers compete, London CEPR Discussion paper.

of units, for instance because the required fixed costs are small, then exclusive dealing contracts are unlikely to prevent entry. On the other hand, exclusive dealing contracts are more likely to be anticompetitive if large fixed costs are at work.

The next step for the competition authority is to check whether there are efficiency defences justifying the exclusive dealing arrangement? Even if there is a negative external effect on a third party, it is still possible that the exclusive dealing contract gives rise to efficiencies that outweigh the anticompetitive effects. The competition authority should intervene only if this possibility can be ruled out.

Section 6: Predatory Pricing

a) Potential anticompetitive effects

Predatory pricing is a strategy that consists of two phases: a predatory phase and a recoupment phase. During the predatory phase a dominant firm engages in a price reduction, which is profitable only because it eliminates or sufficiently weakens the competitive conduct of the firm's rival(s) or potential rival(s) during the recoupment phase. Thus, predatory behavior is characterized by a phase of short-term price reduction succeeded by a phase during which the predator, equipped with sufficiently strong market power, can raise prices so as to increase long-run profits once competition is eliminated or sufficiently weakened. As mentioned in Chapter 2, we can distinguish at least three types of strategic models of predatory pricing: (1) predation associated with imperfections in the financial markets; (2) signaling models; and (3) reputation models.

b) Pro-competitive effects and efficiency considerations

In general, predatory pricing poses a challenge of intrinsic difficulty to the antitrust authorities, because the challenged practice is that of a low price during the predatory phase. But at a general level the objective of antitrust is precisely to promote competitive prices. Furthermore, the Chicago critique seriously questioned whether predatory pricing could

emerge as an equilibrium phenomenon consistent with rational behavior on behalf of firms. For example, the deep pocket theory underlying financial predation was challenged by arguments according to which a perfectly competitive capital market would finance a financially constrained prey, and thereby eliminate the future returns from the incumbent's investments into predation. However, as subsequent developments in industrial organization have established, capital market imperfections would constitute circumstances for perfectly rational financial predation.

Overall, the challenge for the design of antitrust policy against predation is related to the ability of the antitrust authority to separate a price that is low for predatory purposes from a price that might be set very low as part of an efficiency-enhancing competitive process. For example, if there are switching costs, network effects, product complementarities or learning effects it could be perfectly legitimate and consistent with healthy competition that firms set very low prices when they are introducing new products, when they are targeting new customer segments or rivals' installed bases, or when they are in the first phase of the learning curve. Thus, the competition authority with limited knowledge of industry- and firm-specific data faces a complex problem when attempting to identify those circumstances under which loss-inducing predatory prices cause harm to competition. For that reason the antitrust authorities have to be fully aware of the risks of misclassification when approaching a predation case.

c) Implementation: An example

We now apply the effects-based approach to predatory pricing cases. As for the other practices, the first priority should be to identify the nature of the exclusionary effect that is considered. Chapter II discussed several alternative scenarios; for the sake of exposition, we will focus here on test market predation based on signal jamming.

Consider a firm that reflects on whether to enter a given market, and assume that there is substantial uncertainty regarding the profitability of entry. Rather than to commit itself to a highly risky entry decision this firm, the prey, acquires information by entering a test market, i.e. a limited product or geographic market, with the idea of learning the demand so as to be able to assess whether full-scale entry is profitable or not. The incumbent firm, the predator,

responds to this entry, or threat thereof, by lowering its price in the test market in order to prevent the prey from learning about demand under normal competitive conditions. The predator's price in the test market, however, differs from its price conduct in other markets where the predator only faces established competition.

In contrast to financial predation, test market predation based on signal jamming does not necessarily require any informational asymmetry between the prey and outside investors, or any other source of credit market imperfection. The crucial feature is that the predator jams market signals in such a way that the prey is unable to form a reliable estimate of demand. Such signal jamming may lead to complete entry deterrence or delayed entry and thus harm competition in that way. Proof of test market predation therefore essentially requires evidence that the predatory price reduction prevents the prey from learning about demand under normal competitive conditions, without restricting the instruments available to the entrant for information acquisition.¹⁴

In particular, the recoupment ability of the predator has to be carefully assessed. The antitrust authority must explain why the prey's exit or deterred entry causes persistent competitive harm. In order to convincingly establish test market predation based on signal jamming, alternative channels of acquiring information must be unavailable, significantly more expensive or less accurate: if competitive alternative channels of information acquisition are unavailable, predatory test market pricing would constitute a strategic entry barrier that could exclude rivals from the market in a persistent way and thereby harm competition; if instead signal jamming strategies fail to exclude other firms under similar market conditions the predator would not be able to recoup and the conditions of persistent competitive harm would not be satisfied.

Overall sensible policy recommendations regarding predation should require that the antitrust authority is able to prove by reference to convincing evidence that the critical assumptions of a well-defined strategic model of predation are satisfied and that the conduct of the predator is consistent with that theory. In this report we have characterized sets of critical assumptions

¹⁴ Bolton, Broadley and Riordan (2000) present a detailed application of the effects-based approach to such test market predation in a case involving entry into the coffee market in Eastern USA in the 1970's. In this market General Foods engaged in substantial price cuts in particular test market areas, which the entrant, Procter & Gamble, had selected in order to elucidate the demand for the coffee brand (Folgers) it wanted to introduce in Eastern USA.

for predation to potentially offer a consistent and credible story of competitive harm in the cases of predation based on signal jamming (this section) or based on capital market imperfections (Section II.1). In both cases, identifying the nature of the concern (a consistent “predation story”) allows the antitrust authority to spell out the key facts that need to be established, such as the need for the prey to acquire market information or to attract outside investors.^{uu} It can be noted that these key facts had little to do with the predator’s cost; rather, they concerned the target’s ability to get access to finance or reliable information. Thus, the price-cost rules currently used in EU case law do not necessarily provide convincing evidence that the critical facts of a sound predation story are present. Finally, it is up to the antitrust authority to make certain that these key facts are indeed present. If it has done so and if the evidence of predatory pricing is sufficiently strong, the burden of proof for a convincing efficiency defense of its conduct should switch to the defendant.

^{uu} As these two forms of predation make clear, the nature of the facts that need to be established indeed critically depends on the predation story involved.