

ARTICLE 86 EEC: THE MONOPOLY POWER
MEASUREMENT ISSUE REVISITED

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Article 86 EEC: The Monopoly Power Measurement Issue Revisited

By Luc Gyselen and Nicholas Kyriazis*

Introduction

The European Court usually defines monopoly power as "the power to prevent effective competition from being maintained on the relevant market by behaving to an appreciable extent independently of competitors, customers and ultimately of consumers."¹ The Court obviously assimilates the power to behave independently with the power to behave anticompetitively; Article 86 then logically aims at the actual use or misuse of such power. Yet, the terms of Article 86 seem to aim more at customer or consumer exploitation than at anticompetitive behaviour; such exploitation seems to be inherently procompetitive (for example, a monopolist restricting output and raising prices above the competitive level may attract new entry). It would therefore have been more appropriate to define monopoly power not only as the power to behave anticompetitively (by excluding actual or potential competitors) but also, and perhaps more importantly, as the power to exploit customers (thereby behaving procompetitively). Such a definition has at least the merit of being *neutral* towards the different kinds of abusive behaviour.

In our view the definition of monopoly power can be made even more accurate by using a formula which *disentangles* the power issue from the abuse issue altogether. We would therefore think that monopoly power is best defined as power to pursue an *independent pricing policy*, whether this be in a procompetitive or in an anticompetitive way.² A monopolist behaves procompetitively when he exploits his customers by charging a price *above* long run marginal cost (monopoly pricing). He behaves anticompetitively when he initiates a price reduction in order to exclude potential competition by new entrants or when he pushes the price reduction so far as to sell at a price *below* long run marginal cost in order to exclude actual competitors as well (predatory pricing).

However one defines monopoly power, the actual finding of such power is a *sine qua non* to trigger the application of article 86. Therefore measurement of the alleged monopolist's market power is crucial. For the purpose of the

* The authors only express their personal opinions.

¹ Case 322/81, *Nederlandse Banden Industrie Michelin N.V. v. Commission* [1983] E.C.R. 3461 para. 30 at 3503, [1985] 1 C.M.L.R. 282, 321; see also Case 85/76, *Hoffmann La Roche & Co. AG v. Commission* [1979] E.C.R. 461 para. 38 at 520, [1979] 3 C.M.L.R. 211, 274; Case 27/76, *United Brands Co. v. Commission* [1978] E.C.R. 207 para. 65 at 277, [1978] 1 C.M.L.R. 429, 486-487. For a detailed analysis of the Court's and the Commission's definitions until 1977 see: Schröter, *Le concept de position dominante dans l'application des articles 66 para 7 du traité CECA et 86 du traité CEE in Semaines de Bruges (1977): La réglementation du comportement des monopoles et entreprises dominantes en droit communautaire*, pp. 434-523.

² Compare the definition of monopoly power given by the U.S. Supreme Court in *U.S. v. E.I. du Pont de Nemours & Co.* 351 U.S. 377, 391-392 (1956): "... the power to control prices or to exclude actual or potential competitors."

enforcement of article 86 only the presence of *substantial and persistent* market power will give rise to concern. The presence of *trivial or transient* market power will not.

In order to tackle this typically legal line-drawing problem economic analysis of monopoly power must be inspired by the so-called feasibility criterion. Under the feasibility approach one examines whether a firm with *apparent* monopoly power really has substantial and persistent market power and is likely to make use of it. The assessment of the likelihood of *potential competition* and, more generally, the analysis of the *time* factor are essential here. A firm will only abuse its market power, by behaving anticompetitively or by exploiting consumers, when competitors and consumers are unable to deter that abuse by responding massively and promptly.

To be sure, it may at times be difficult to find enough reliable data about certain economic factors of which due account should in principle be taken; other economic factors may be hardly measurable at all. Since legal certainty and perhaps even cost-efficiency require that the competition rules be enforced on the basis of fairly predictable and manageable standards, one ought to strike a balance between mere reliance on a few reasonably simple rules of thumb and full-scale economic inquiry.³

Direct market power measurement: prices and profits

To the extent that one defines monopoly power as the power to exploit customers by charging prices exceeding marginal cost or as the power to exclude potential or actual competitors by selling at lower prices or even at prices below cost, one may be tempted to think that the actual finding that monopoly power has effectively been exercised will simply yield *direct* proof of the presence of monopoly power.

Power to raise prices

In the case of customer exploitation the focus lies with the monopolist's power to raise prices above competitive level without *quickly* losing *much* of its market share; otherwise, his market power would only be trivial or transient. Economists often express the degree of market power in terms of *simple price-elasticity of demand*.⁴

Simple price-elasticity of demand tells us something about a firm's market power with regard to its own product taken in isolation whereas cross price-elasticity of demand tells us something about the *substitutability* of its product with that of other firms (see the relevant market issue *infra*). The simple price-elasticity formula $E_p = \frac{dx}{dp} \cdot \frac{p}{x}$ (with x = demand and p = price) shows us how much a particular price change for the firm's product will affect its demand structure whereas the cross price-elasticity formula $E_{py} = \frac{dx}{dpy} \cdot \frac{py}{x}$ (with x =

³ See generally Hay, "Pigeonholes in Antitrust," (29) *Antitrust Bulletin* 1984, 133-145.

⁴ Formulas such as the *Lerner* index of monopoly power would then express the ratio of the profit maximising monopoly price to the competitive price as a function of the price elasticity. See for more details Posner, *Antitrust Law—An Economic Perspective* (Chicago, 1976), pp. 246-249.

demand for product x and $p_y =$ price of product y) shows us how much a particular price change for another y will affect the demand structure of the firm's product x . For instance, a simple price-elasticity E_p of -3 indicates that demand for a firm's product x would drop by 3 per cent were it to raise its price by 1 per cent; a cross price-elasticity E_{py} of 3 indicates that demand for a firm's product x would raise by 3 per cent were another firm to raise the price for its product y by 1 per cent.⁵ For the sake of conceptual clarity one can contrast E_p and E_{py} by dreaming up the, perhaps unlikely, case in which E_{py} is zero, indicating that a firm's product x has no substitutes, but in which E_p is a very high negative number, indicating that the firm has very little market power to charge excessive prices for its product: the public would prefer to do without the product and spend its money on entirely different items.⁶

Economists agree that price elasticity of demand is not easily measured; data problems make it a fairly unreliable tool for assessing a firm's power over price. Hence, the test is only of limited use for the purpose of antitrust enforcement which requires, as stated above, manageable standards.

Alternatively, one can direct one's attention to a firm's profit margin. If customer exploitation means excessive pricing and excessive pricing means setting prices above long-run marginal cost, resulting excessive profits must be symptomatic of monopoly pricing. This syllogism is problematic in two respects. First, economists would again agree that it is very hard to estimate marginal costs. Secondly, excessive profits, if found at all, are fairly ambiguous as an index of monopoly power. Excess profits can indeed be consistent with effective competition when they represent a just reward for innovative activity or, more generally, when they reflect superior efficiency. They may also be due to a temporary market disequilibrium in which increased demand has driven up price pending the completion of new capacity.⁷ Conversely, low profits may indicate that a firm lives the quiet life of a monopolist producing at high cost or they may indicate that it faces significant competitive pressure. The European Court has rejected profitability as a yardstick for measuring monopoly power, noting that "a reduced profit margin or even losses for a time are not incompatible with a dominant position, just as large profits may be compatible with a situation where there is effective competition."⁸

Power to lower prices

In the case of anticompetitive behaviour, direct power measurement faces similar ambiguities. One usually distinguishes between price reductions initiated

⁵ One can also visualise the degree of simple price-elasticity. A firm with no market power at all faces an absolutely horizontal demand curve for its product; price-elasticity is infinite in the sense that an infinitesimal increase of the price above competitive level would make it loose all its customers. A firm with market power, in the real world every firm has some market power, faces a more or less downward-sloping demand curve.

⁶ By using the wording "entirely different items" we avoid entering the debate on market definition now. One can always find zero cross-elasticity of demand if one just defines the market narrowly enough. For instance, one could erroneously call "bananas sold by firm x " a market of its own by not only eliminating all other fresh fruit but also bananas sold by other firms.

⁷ Areeda, Market Definition and Horizontal Restraints, (52) *Antitrust Law Journal* 1983, 553-585, 554.

⁸ Case 27/76, *op. cit.* note 1, para. 126 at 284. See also Case 322/81, *op. cit.* note 1, para. 59 at 3511.

by a firm in order to drive actual competitors out of business or to deter new entry by potential competitors, on the one hand, and price reductions to which a firm is forced by fierce competitive pressure, on the other hand. As the *Roche* Court noted, the fact that an undertaking is compelled by the pressure of its competitors' price reductions to lower its own prices, is in general incompatible with that independent conduct which is the hallmark of a dominant position.⁹ The Court seems to contrast this situation with the one in which a firm with a very large market share initiates a price reduction, in which case the price fall is determined by "a price policy intentionally and freely adopted."¹⁰ In the latter situation one could query how independent the firm's price policy really is. One can argue that a firm with a market share of between 93 per cent. and 100 per cent. "voluntarily" initiates a price cut (e.g. by expanding output and using excess capacity which it had kept idle until then) in order to turn away the threat of potential competition and, thus, "voluntarily" foregoes the use of its power to set excessive prices. In what respect, however, does this behaviour differ from a "forced" adjustment of prices in response to pressure of actual competitors. In the former case, does the firm actually have monopoly power? Is not every price reduction due to some kind of competitive pressure, whether originating from actual or potential competitors? If so, it becomes difficult to find direct proof of monopoly power in a firm's strategy to cut prices.

Finally, predatory pricing presents an ambiguity in that it may as well indicate that the firm is seeking to maintain monopoly power which it has acquired earlier as that it is merely seeking to achieve monopoly power which it has not yet acquired.

The above-mentioned imperfections or ambiguities explain why antitrust policy has traditionally been dominated by a structural approach to the market power phenomenon, under which one infers monopoly power from a range of data concerning the market structure. As these data only provide circumstantial evidence of monopoly power they must be handled with great care.

Indirect market power measurement: market structure

Market structure data basically reveal information about the alleged monopolist's market share as related to the share of its rival competitors. The determination of market shares or concentration ratios requires the preliminary definition of a relevant product and geographic market. A relevant market can be referred to as one of readily substitutable products, both in terms of demand and supply substitutability. For the purpose of defining a legal relevant market one has to draw a line "somewhere" along the spectrum of close and more remote substitutes, even if economically speaking all substitutes could be considered to belong to one market, eventually consisting of several submarkets.

⁹ Case 85/76, *op. cit.* note 1, para. 71 at 532. As far as entry deterrence is concerned, see Dixit, The Role of Investment in Entry Deterrence (90) *Econ. Journal* 1980, 95-106 and Dixit, A Model of Duopoly suggesting a Theory of Entry Barriers, (10) *Bell Journal of Economics* 1979, 20-32.

¹⁰ Case 86/76, *op. cit.* note 1, para. 74 at 533; see also para. 39 at 520: "(the dominant) position does not preclude some competition (. . .) but enables the undertaking which profits by it, if not to determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it so long as such conduct does not operate to its detriment."

This line drawing implies that legal market definitions inevitably focus on actual competition or on competitive conditions in the relatively short-run rather than on *potential* competition in the longer run. Consequently, any conclusion about the presence of monopoly power drawn from market shares found within a given relevant market will have to be supplemented by an analysis of the likelihood of *new entry* into that market. Very large market shares do not yield monopoly power if entry is easy. As stated above, monopoly power must be substantial *and* persistent. Although the identification of entry barriers and the definition of a relevant market have to be distinguished from each other, we have brought the two issues together in light of their interdependence.¹¹

The relevant market and its entry barriers

The relevant market is one that includes products which compete on relatively equal terms because they are "reasonably interchangeable" or "readily substitutable." The larger one interprets substitutability, the more one should avoid seeing it is a monolith and the more one should be aware of the different degrees of substitutability within the same market; but, in any case, one should not dilute the substitutability criterion to the point of including in the same market products which are only remotely interchangeable. One has to draw a line somewhere. If the market's entry barriers are low, however, potential competition may materialise quickly. Perhaps the single most tricky problem with a structuralist approach towards market power is to combine market definition with a determination of the likelihood of potential competition; this requires not only an identification but also a *quantification* of the entry barriers. Some would argue that the currently available economic knowledge does not allow for more than speculative measurement of potential competition.¹²

A. Product market

(i) **Substitutability on the demand side.** The Commission's block exemption regulations define substitutes as products considered by the users to be similar by reason of their characteristics, price and intended use. One tends to assume the existence of a specific demand for a product and, thus, of a relevant market if buyers intend to use that product for a particular purpose. The focus on *use*, however, needs some qualification: the particular *characteristics* of the product must make it particularly apt for the intended use. Established case law indeed indicates that a relevant market comprises all the products which, by virtue of their particular characteristics, are particularly suitable for satisfying constant specific needs and are only to a limited extent interchangeable with other products.¹³ Hence, products used for the same purpose only belong to the same

¹¹ Wentz, "Mobility Factors in Antitrust Cases: Assessing market power in light of conditions affecting entry and fringe expansion" (80) Mich. L. Rev. 1982, 1545-1613, 1576.

¹² See Haddock, "The Case against Antitrust 'Structuralism': Potential Competition takes care of private monopolies," (15) Antitrust Law & Econ. Rev. 1983, 59-110, 80 and 91.

¹³ See Case 6/72, *Europemballage Corp. and Continental Can Company Inc. v. Commission* [1973] E.C.R. 215, para. 32 at 247, [1973] C.M.L.R. 199, 226; see also Case 31/80, *NV L'Oréal and SA L'Oréal v. PVBA De Nieuwe AMCK* [1980] E.C.R. 3775, para. 25 at 3793, [1981] 2 C.M.L.R. 235, 254 and Case 322/81, *op. cit.* note 1, para. 37 at 3504.

market if the users observe these products as functionally interchangeable because of their similar characteristics.¹⁴ Yet, the *Michelin* case illustrates that products which are materially identical and which are ultimately used for the same purpose, such as new replacement tyres and original equipment tyres, may belong to different markets because of a different *demand structure*.¹⁵ The tyre manufacturer indeed sells new replacement tyres to specialised dealers, who provide their replacement and technical assistance services to the transport firms, and original equipment tyres directly to trunk manufacturers, who sell trunks to the transport firms. Hence, there are distinct classes of customers at an intermediate level (*i.e.* at the level between tyre manufacturer and end users) which need tyres for different purposes. The fact that their specific needs are different explains why there are no homogeneous competitive conditions for the replacement and original equipment tyres. Formulated as such the "demand structure" criterion does not substantially differ from the "use" criterion: it is just a matter of determining the intended use at the level of Michelin's direct customers, rather than at the level of the end users of Michelin's tyres.

Similar *price* structures constitute further indication that products with similar use and characteristics belong to the same market. In order to measure the degree of price competition among these products one usually relies on the cross-elasticity of demand test. It measures the effect of a change in the price of one product on the sales volume of another. If a slight price increase for one product were to trigger a massive shift of demand to the other product, or, conversely, if a slight price reduction for one product were to induce consumers to drop the other product, cross-elasticity of demand is high and so is the degree of substitutability between the two products.¹⁶

The cross-elasticity of demand test exclusively focuses on price as mobility factor in consumer behaviour and gives an abstract model of the responsiveness of an undifferentiated group of consumers to hypothetical price changes. It inevitably makes abstraction of each individual consumer's rational behaviour and of the time period within which the consumer's price sensitivity is activated. The "real world" question ought to be *how many* buyers are responsive to a particular price change and *how soon* they will shift their demand. This requires an analysis of mobility factors in consumer behaviour other than price.¹⁷ More in particular one must measure the *transaction* or *opportunity* cost incurred by a customer when he shifts his demand to another supplier. The trouble with this transactional approach is that it is easier to explain why there is such a cost than to calculate precisely how high the cost is or to quantify when the cost becomes prohibitive. That does not mean, of course, that one should not address these

¹⁴ See Case 22/78, *Hugin Kassaregister AB and Hugin Cash Registers Ltd. v. Commission* [1979] E.C.R. 1869 para. 9 at 1897, [1979] 3 C.M.L.R. 345, 371 (parts of dismantled used Hugin cash registers are not a sufficient alternative source of supply for Hugin spare parts); see also Case 322/81 *op. cit.* note 1, para. 49 and 52 at 3508-3509 (new tyres and retreads are interchangeable to some degree but only to a limited extent and not for all purposes).

¹⁵ Case 322/81, *op. cit.* note 1, para. 38 at 3505.

¹⁶ A fairly reliable signal for very high cross-elasticity is a parallel price move downwards. The fact that a small price cut for product A would trigger a substantial shift of demand from substitutes B and C towards product A, will induce manufacturers of products B and C to follow the price cut.

¹⁷ See generally Harris and Jorde, "Antitrust Market Definition: An Integrated Approach" (72) *Cal. L. Rev.* 1984, 1-67, at 20 *et seq.*

questions. The Commission's decision in *Hugin*¹⁸ has been criticised for not having asked the question whether Liptons was in a position to switch easily to servicing other machines; only conclusive evidence that such a cost was prohibitive would have made it reasonable to consider each brand of spare parts as forming a separate market.¹⁹

The transactional approach actually sits astride the relevant market issue and the monopoly power issue. For instance, the so-called *lock-in* criterion measures the degree of dependence of customers on a particular firm in spite of the existence of other firms offering close substitutes. Customers are locked in in the sense that they have a limited option to turn to other suppliers. There may be several reasons for this. The higher the purchasing price and price of replacement, the more likely it is that the customer prefers to stick to the used product rather than to buy a new product elsewhere. Furthermore, the slower the speed of depreciation, the longer he will probably postpone the purchase of a replacement product. Finally, the more customers observe their product to be qualitatively differentiated from others, the more they will be tempted to forego a switch to these other products; also, consumers may simply be accustomed to a product and find it convenient to stick to it. We will come back on this later.

(ii) Substitutability on the supply side. Substitutability on the supply side is important for a definition of the relevant market in two respects. First, in the case of products considered by the users to be similar by reason of their characteristics, price and intended use, the customers' ability to shift patronage to substitutes depends on the ability of the firms already supplying these substitutes to expand production promptly in response to such a shift; they can do so only to the extent that they are not yet operating at full capacity. Secondly, in the case of products used for different purposes but with similar production characteristics, the firms currently supplying only one of these products may be able to start up production of the other products by a simple adaptation of their production process.²⁰ Their ability to manufacture products suitable for any of the different intended uses reduces the apparent market power of a firm operating at only one of these markets. This brings us to the more general issue of potential competition by new entrants.

One usually defines a barrier to entry as "a cost of producing (at some or every rate of output) which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry."²¹ *Bain's* structuralist approach distinguishes three classic types of entry barriers giving the existing firms a competitive lead over potential entrants: absolute cost advantages, economies of scale and product differentiation.²² Some economists would consider

¹⁸ O.J. 1978 L22/23.

¹⁹ See Baden Fuller: "Article 86 EEC: Economic Analysis of the Existence of a Dominant Position," (1979) 4 E.L. Rev. 423, 426-427.

²⁰ See Case 6/72 *op. cit.* note 10, para. 33 at 248 (light containers for canned meat and light containers for canned seafood are part of the broader light metal container market); see also Case 322/81, *op. cit.* note 1, para. 41 at 3506 (no elasticity of supply between tyres for heavy vehicles and car tyres owing to significant differences in production techniques . . .).

²¹ Stigler, "Barriers to Entry, Economies of Scale and Firm size" in [1968] *The Organization of Industry* 67.

²² Bain, *Barriers to New Competition* (1956).

them as entry barriers only to the extent that they imply some kind of *inefficiency*.²³ They would, by and large, distinguish between those "entry barriers" which are naturally dictated by the market and those which are due to artificial distortions of the competitive process; only the latter ones are in their view genuine entry barriers. We give two short examples. Absolute cost advantages may be due to patents which are a "just" reward for a firm's innovative activity; in contrast, patents may be "excessive" to the extent they do not represent a necessary incentive for such innovative activity. Similarly, product differentiation may reflect real quality differences; but "excessive" advertising may eventually create merely apparent quality differences. Absolute cost advantages due to "excessive" patents and product differentiation due to "excessive" advertising are then genuine entry barriers because they imply inefficiencies, *i.e.* socially undesirable wastes of economic resources.²⁴

In the case of "excessive" advertising, the entry barrier does no longer have a solely structural character; it gets a behavioural dimension in that it refers to some kind of entry deterring strategy by the existing firm(s). Besides, some authors would worry only about those entry barriers which entirely originate in exclusionary practices of established firms, such as deliberate predatory pricing.²⁵ In our view the distinction between structural and behavioural entry barriers is not a relevant one. First, existing firms can probably only turn to exclusionary or entry deterring strategies to the extent that there are structural entry barriers like absolute cost advantages or economies of scale. For example, a dominant firm may want to deter new entry by producing at an above-minimum-cost level, *e.g.* by keeping excess capacity which it would only use if shortage of supply attracts potential competitors. It will successfully do so if these potential competitors cannot in any event meet the monopolist's minimum-cost production level because of the latter's absolute cost advantages or economies of scale. In short, structural entry barriers are a *sine qua non* for behavioural ones.²⁶ Secondly, the distinction suggests that only blameworthy or reproachful modes of behaviour constitute entry barriers, whereas structural phenomena such as economies of scale simply dictate the level of cost minimising output for *all* firms and are related to superior efficiency so that they cannot be considered as anticompetitive entry barriers.²⁷ We do not see why blameworthiness should be relevant at this stage, *i.e.* at the stage of defining entry barriers. The purpose of identifying and quantifying entry barriers is limited: to know more about the market structure and about the market power of the incumbent firm(s). The assessment of entry barriers should not pre-empt the subsequent question whether the firm has misused its power by seeking to maintain or strengthen it, *e.g.* by creating an inefficiency. In short, it is necessary to

²³ See, *e.g.* Weizsäcker, "Barriers to Entry—A Theoretical Treatment" in *Series Lecture Notes in Economics and Mathematical Systems* no. 185 (1980), pp. 1–2.

²⁴ Some authors do not consider advertising as a barrier to entry: see, *e.g.* Posner, *op. cit.* note 4 at pp. 72–93. In their neoclassical view advertising raises costs and thus gives a more moderately advertised or non-advertised new product a price advantage. They argue, in addition, that heavily advertised brands are associated with unstable brand preferences; in other words, evidence would show that heavy advertising does not yield strong brand loyalty.

²⁵ See Bork, *The Antitrust Paradox—A Policy at War with Itself* (1978), p. 160.

²⁶ See also Weizsäcker, *op. cit.* note 19, p. 13.

²⁷ See Bork, *op. cit.* note 21 pp. 195–196 and 310–329; see also Posner, *op. cit.* note 4, pp. 112 and 122–129 and Stigler, *op. cit.* note 17, pp. 67–70.

analyse all entry barriers whether they are natural and reflect some standard of efficiency or whether they are "manmade" and imply some kind of inefficiency. After having made these general observations we now return to Bain's classification of entry barriers.

(a) *Absolute cost advantages* may be due to such factors as technical leadership (eventually covered by patents),²⁸ vertical integration backwards (e.g. more favourable conditions of access to raw materials) or forwards (e.g. more favourable conditions of transport, marketing and distribution).²⁹ Such cost advantages may give established firms the power to charge supracompetitive prices that do not attract new entry because new entrants would presumably not even cover their costs when they charged the same price. As with all other entry barriers, the analysis must focus on the questions how substantial the cost differential is and how fast new entrants can overcome the cost disadvantage.

(b) *Economies of scale* refer to a certain minimum efficiency firm size in relation to total industry output. If total output is 100 and the minimum optimal firm size is 20, the economies of scale argument suggests that an additional firm with 20 per cent. of the market would substantially lower the market price (which makes entry no longer attractive)³⁰ or that an additional firm with a size representing less than 20 per cent. of the market would incur higher unit costs than established firms (which would equally deter new entry). In any event, the finding that 20 per cent. of the market is required to achieve the lowest attainable costs has only limited relevance if a firm with a plant capacity equalling a mere 2 per cent. of the market has less than a 3 per cent. cost disadvantage over the established firms operating at optimal size.³¹ Furthermore, one has to look at the state of the market: if the market grows in response to an expanding demand, the minimum efficiency firm size as related to total market size may decrease and may therefore become less dissuasive on potential new entrants (*infra*). Some have argued that entry barriers due to economies of scale may be relatively unimportant.³²

(c) *A certain degree of product differentiation* implies a less than perfect substitutability among products available on the market. By making products of a genuinely distinct quality manufacturers assure themselves of some degree of market power as they will create some degree of brand loyalty. This makes it more difficult for potential competitors to bring their as yet unknown products on the market. Advertising may influence customers' perception of the products' quality and may then raise social costs by causing them to perceive artificial distinctions between similar, if not identical, products.³³ In *United Brands* the Court noted that large scale advertising had induced the consumer to show a

²⁸ Case 27/76, *op. cit.* note 1, para. 82-84 at 279; see also Case 85/76, *op. cit.* note 1, para. 48 at 524 and Case 322/81, para. 55 at 3510.

²⁹ Case 27/76, *op. cit.* note 1, para. 71 and following at 278-280 (integration at the stages of production, packaging, transport and distribution).

³⁰ Cf. Korah, Concept of a dominant position within the meaning of Article 86, (1980) 17 C.M.L.R. 395, 407: "It is the probable lack of profits, rather than the size of the investment that is the entry barrier."

³¹ See Wentz, *op. cit.* note 11 at p. 1590.

³² Schmalensee, Economics of Scale and Barriers to Entry (1981) 89 J. Pol. Econ. 1228 at 1230 and 1236.

³³ Mann, "Advertising, Concentration and Profitability: the State of Knowledge and Directions for Public Policy" in: *Industrial Concentration: the New Learning*, pp. 137-156 at 152-155.

preference for the Chiquita banana in spite of the difference between the price of labelled and unlabelled bananas and also of the Chiquita bananas and the other labelled bananas but went on to say that the distinctiveness of the Chiquita banana was justified by the unchanging quality of the banana bearing that label.³⁴ It did conclude that the brand name ensured United Brands a privileged position and consolidated its economic strength, although it never formally qualified the product differentiation as an entry barrier.³⁵

Real or perceived product differentiation is just one source of brand loyalty. We have mentioned earlier that customers may be locked into a product because of some opportunity cost incurred by them if they would shift their demand. They may value a supplier's after-sales service as much as the purchased product. They may simply find it convenient to stick to the brand they are accustomed to. Convenience may, for instance, lock-in customers of a supplier who offers a wide range of products. They may prefer to buy all their requirements from that one supplier in order to avoid the transaction cost involved in shopping around for the best bargain of every item separately. In *Michelin* the Court first pointed at the special extent of the range of products offered by the Michelin group and went then on to refer to the opportunity cost which locked-in Michelin customers "as the purchase of tyres represents a considerable investment for a transport undertaking and since much time is required in order to ascertain in practice the cost-effectiveness of a type or brand of tyre."³⁶

However costly changing partners in a co-operative set up may be, it is not impossible. This is the idea behind the so-called *extrapolation* principle which can be regarded as the counter part of the lock-in principle.³⁷ Indeed, the switching cost is a once and for all cost which must be offset against the annually accruing advantages of shifting to a new partner; lock-in prevents switching only if the future switching advantages are very small. An alleged monopolist with short-run power to exploit his customers may finally decline to do so when his present and future *goodwill* crucially depends in the long-run upon fair treatment of his customers now. In short, the market *extrapolates* the supplier's present treatment of customers into the future and creates in this way an incentive for fair treatment of present customers. According to the extrapolation principle a firm charging excessive prices for its after-sales service or for the supply of spare parts could well lose the majority of its future customers, who will be "scared off" by the firm's policy towards past customers and who will therefore buy from the firm's competitors (assuming, of course, ready substitutability at the supply side). If so, the prospective customers' expectations that the firm will apply to them the same treatment as that applied to the past customers make a splitting up of the market between past dependent and prospective yet independent customers unlikely. In its *Hugin* decision the Commission had argued that Hugin had split up the market between past and prospective customers, that it had exploited the past ones and that it could continue to do so in the future

³⁴ Case 27/76, *op. cit.* note 1, paras. 91 and 94 at 280-281.

³⁵ *Ibid.* paras. 93-94 at p. 281.

³⁶ Case 322/81, *op. cit.* note 1, paras. 55-56 at 3510-3511; Case 85-76, *op. cit.* note 1, paras. 45 and 46 at pp. 522-523 where the Court found the fact the Roche produced a far wider range of vitamins than its competitors immaterial because these competitors while producing a less or much less wide range of vitamins produced other products which are also required by the purchasers of these vitamins.

³⁷ See generally Weizsäcker, *op. cit.* note 23, pp. 72-103.

because of the lock-in phenomenon. Hugin, on the contrary, relied upon the extrapolation principle to defend the view that customer exploitation was not the motive behind its refusal to deal with Liptons. It argued that it had merely aimed at ensuring maintenance and repair services of the highest quality, in order to safeguard the good reputation for reliability of its cash registers and, thus, to safeguard its *goodwill*.

The extrapolation principle in fact boils down to the important point we made at the outset of this paper, to wit, that market power should only raise concern if it is a long-run phenomenon, since real power to exploit consumers arises only if the supplier knows that he will not in the long-run be replaced by a competitor at reasonable cost and/or if he is not interested in getting similar additional contracts. In sum, the dynamic and long-run extrapolation principle lies in balance with the more static and short-run lock-in principle.

(d) *Large capital requirements* are often considered to be a barrier to entry. It is perhaps more appropriate to qualify them as an extra entry risk for those potential competitors which are in fact able to raise the capital necessary for entry but which face the fact that established firms benefit from absolute cost advantages, economies of scale or brand loyalty.³⁸ In *Roche* the Court took the amount of capital investment required to enter the market to be an entry barrier in light of the anticipated growth of the market over a long period.³⁹ Perhaps the investment may be larger in absolute terms when the market to be entered is expanding; on the other hand, however, an expanding market may, as we already stated, reduce the relative minimum efficiency firm size and thus reduce the height of the economies of scale barrier.

B. Geographic market

We will not enter into great detail with regard to the definition of a relevant geographic market. The terms of Article 86 indicate that the geographic area within which competitive conditions have eventually been found to be relatively homogeneous must at least cover a substantial part of the common market. The application of Article 86 is triggered only if that quantitative threshold is met.⁴⁰ In the *Sugar* case the Court noted that "for the purpose of determining whether a specific territory is large enough to amount to a substantial part of the common market within the meaning of Article 86 of the Treaty the pattern and volume of the production and consumption of the said product as well as the habits and economic opportunities of vendors and purchasers must be considered."⁴¹

³⁸ See Wentz, *op. cit.* note 11 at p. 1598. Cf. U.S. Merger guidelines which seem to give some support to his view.

³⁹ Case 85/76, *op. cit.* note 1, para. 48 at 524. At the same time the Court acknowledged that, while potential competition by new producers was unlikely, established manufacturers could create potential competition by bringing in unused capacity. See also Case 27/76, *op. cit.* note 1, para. 122 at 284 where the Court also considered the exceptionally large capital investments required for the creation and the running of banana plantations to be a barrier to entry.

⁴⁰ We share the view that the wording "substantial part" sets a quantitative criterion for the delimitation of a geographic relevant market rather than to refer to the "substantiality" of the entire product sector concerned: see Verstrynghe, Het begrip "relevante markt" in het EEG mededingingsrecht: De stand na het Hugin arrest, (28) S.E.W. 1980, 400-418 at 416-417.

⁴¹ Cases 40-48/73, 50/73, 54-56/73, 111/73 and 113-114/73 *Suiker Unie and others v. Commission* [1975] E.C.R. 1663, para. 371 at 1977, [1976] 1 C.M.L.R. 295, 451.

Population proves to be a, perhaps subsidiary, criterion as well.⁴² The geographical dimension of the territory hardly seems to be relevant as the Court has considered small Member States and regional areas of large Member States to constitute a substantial part of the common market.⁴³ Although the available case law suggests that percentages of production, consumption or population with reference to the common market as a whole determine whether the relevant area meets the substantiality requirement, it has been argued that these percentages should not be conclusive and that one should not exclude the possibility of looking at the importance of an area in absolute terms.⁴⁴

The terms of Article 86 further indicate that the geographic market which serves as legal reference point for its enforcers cannot extend beyond the common market. Besides, it would be quite difficult to define accurately a market going beyond these jurisdictional boundaries and to determine market shares within such a market.⁴⁵

However, due account should be given to the actual or potential impact of imports made into the common market. Foreign manufacturers already operating on their home market may face relatively unimportant barriers to entry to the relevant product market under the form of absolute cost advantages, economies of scale or product differentiation. Geographic entry barriers such as tariffs, quotas or transport costs may be insignificant.⁴⁶ But even in the presence of non-negligible entry barriers under the form of transport costs, geographically remote manufacturers may benefit from offsetting production cost advantages. Even without such cost advantages they may still be able to sell their products for export at a profit, if they align their export price on the supposedly high price charged by the monopolist or price leader within the common market instead of charging their competitive home market price.

There is no doubt that actual imports should be included in the relevant market. A more difficult question is to what extent potential imports should be taken into account. In theory one could include into the relevant market all geographically remote production, *i.e.* actual imports *plus* the entire production sold at home by the exporter, if the monopoly price exceeds the exporter's home market price increased by his cost for transporting his goods towards the monopolist's market. In that case there is at least a theoretical possibility that *all* production shifts to the monopolist's market. To complete what we have said earlier about substitutability at the supply side, the customers' ability to shift patronage to substitutes depends on the ability of firms already supplying these substitutes to respond quickly to such a shift by expanding their production (if they are in the same geographic market) *or* by diverting their existing production from their

⁴² *Ibid.*, para. 447 at 1993.

⁴³ *Ibid.*, paras. 370-375 at 1977 (Belgium and Luxembourg), paras. 441-448 (southern part of Germany).

⁴⁴ See opinion of Advocate General Warner in Case 77/77, *Benzine en Petroleum Handelsmaatschappij BV and Others v. Commission*, [1978] E.C.R. 1513, 1537, [1978] 3 C.M.L.R. 174, 184.

⁴⁵ It should be stressed that nothing prevents the Commission from refining its assessment of a firm's market power by looking at trends and possible future developments in the production process outside the common market.

⁴⁶ See Case 6/72, *op. cit.* note 13, para. 35 at 249 (transport costs of no essential significance in the case of metal closures); see also Case 27/76, *op. cit.* note 1, para. 52 at 176 (same conditions of competition in six Member States in spite of different tariff provisions and transport costs).

domestic market to the monopolist's market (if they are in different geographic markets). In the latter case the mobility of supply will probably be greater since diverting supply seems easier than expanding supply.

The alleged monopolist's market share and the market's concentration ratio

One can safely say that a small market share leads to a virtually irrefutable presumption of absence of monopoly power. Conversely, a large market share may be an important but not decisive index of monopoly power.⁴⁷

In any event, one must in addition have regard to the number of other competitors in the market and their relative strength, especially the strength of those which come next to the alleged monopolist.⁴⁸ Several concentration ratios determine the power structure of a particular market by indicating the allocation of market shares.⁴⁹ Some of these indicators focus on the shares of the largest firms so that they do not give a complete view of the overall market share. Others which do not express shares in terms of quantitative supply but in turnover or in employment,⁵⁰ give rise to some uncertainty since turnover depends on prices which may be differentiated, while employment does not distinguish between capital or labour intensive firms.⁵¹

Inferences about a firm's monopoly power drawn from market structure data are rebuttable because concentration ratios inevitably fail to address the potential competition issue; large market shares yield little market power if entry barriers are low. Besides, concentration ratios expressing market shares in quantitative *output* neglect potential competition stemming from surplus production *capacity* of actual competitors enabling them to respond promptly to the price rise initiated by the alleged monopolist. As stated above, imports are perhaps an even more mobile constraint on a dominant firm in that they may increase more rapidly and more substantially than domestic output in response to a price rise (if geographic entry barriers are low).

On the other hand, inferences about a firm's monopoly power drawn from concentration ratios may be corroborated by the finding that potential competition is unlikely. For example, data on *vertical* integration, which concentration ratios necessarily ignore, could reveal that the firm under scrutiny is a vertically

⁴⁷ Very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position, the Court said in Roche (Case 85/76 para. 41 at 521, see also para. 60 concerning Roche's share of the vitamin B6 market which was certainly no less than 75%).

⁴⁸ See Case 85/76, para. 48 at 524 as applied, e.g. to the vitamin A market in para. 51 at 525 (Roche's 47% share equals the aggregate of the shares of its two next largest competitors); Case 27/76, para. 109-110 at 282 as applied in para. 111 (UBC 40% to 45% share is several times greater than that of its competitor which is the best placed of all competitors, the others coming far behind). See also the Commission's finding in Michelin of a 57 to 65% share of the new replacement tyres for lorries market whereas the market shares of its main competitors were only 4 to 8% (as cited in Case 322/81 para. 33 at 3503).

⁴⁹ Gini indicator, Herfindahl index, Schulz coefficient, Howarth index, Linda indicator: see in general Piersch, Schmidt "Die Verwendbarkeit von Konzentrationsmassen in der Europäischen Wettbewerbspolitik" (study).

⁵⁰ See, e.g. EC Commission, *Thirteenth Report on Competition Policy* (1983) table 1 at p. 197.

⁵¹ Note that the Court in Roche relied on data concerning both quantity and value in order to determine Roche's market shares (Case 85/76 paras. 53, 57, 59, 61 and 64 at 526 and following).

integrated one and that it has command over its resources; potential competitors would face a barrier to entry as this firm has an absolute cost advantage.

Generally speaking, the main reason why concentration ratios are an imperfect tool to measure a firm's market power is that they only give a frozen and static view of the market structure whereas every market evolves over *time*. Time may alter the ratio of market shares and, more importantly, it may alter the height of entry barriers. Take, for example, expanding and/or strongly innovative markets which make entry more profitable. When the market grows faster than the efficient size of firms, the market's concentration ratio will drop and entry barriers due to economies of scale will be reduced.⁵² Similarly, strongly innovative markets induce new entrant firms to step into the market by imitating existing products and selling them at more favourable prices, to the extent that legal entry barriers such as industrial property rights do not prevent them from doing so. Paradoxically, innovation attracts new competitors but at the same time imitation by these new competitors combined with insufficient protection of the inventors may discourage the latter ones to pursue their innovative activity and may ultimately result in less competition.⁵³ This point illustrates how free competition may at times contain the seeds of its own destruction and that monopoly rights such as patents may be necessary to elicit inventions.

In sum, market share data have only relative significance for the purpose of assessing market power in a market with low entry barriers because they make it unlikely that market power, if at all substantial, can be held and misused *persistently*. Of course, firms may manage to hold their substantial market share persistently merely because they behave competitively. Mere retention of market share does not prove that the firm is in a position which ensures that it can behave independently of competitors.⁵⁴

Conclusions

To the extent that one continues to adhere to a structuralist approach for the purpose of measuring monopoly power, inferences about individual or shared monopoly power drawn from market structure data should be corroborated by an assessment of potential competition since potential competition makes it *infeasible* to find anything more than apparent monopoly power. This calls for an identification and quantification of entry barriers.

Entry barriers, even those which reflect some kind of efficiency from existing competitors, should be identified as such since at this preliminary stage of the procedure the relevant question is whether a firm has substantial market power, not whether it has maintained or strengthened its power by creating some kind of inefficiency. Those who would narrow down the entry barrier concept to exclusionary or entry deterring strategies pursued by the existing firm(s) would "infuse" the abuse question into the preceding power question.

⁵² See Weizsäcker, *op. cit.* note 23, p. 56.

⁵³ *Ibid.* at pp. 22-24 and p. 145 *et seq.* See also Bhagwati, "Oligopoly Theory, Entry Prevention and Growth (*Oxford Economic Papers* 1970).

⁵⁴ See Case 85/76, *op. cit.* note 1, para. 44 at 522. But see Case 27/76 where the Court did find it relevant that United Brands held out against new entrants without suffering from an appreciable fall in its sales figures. The Court acknowledged that UBC managed to hold its share by adopting a flexible overall strategy directed against new competitors, thus, by merely behaving *competitively*. Nevertheless, the Court took the view that these findings were proof of UBC's economic strength (para. 121 at 284).

As we have seen, some of these entry barriers have an ambivalent nature. With regard to product differentiation the feasibility criterion suggests the need to balance off the lock-in phenomenon against the extrapolation phenomenon. Difficult as it may be, one must at least address the question whether a particular behaviour, which at first glance may look abusive (*e.g.* a refusal to sell), does not in fact represent an attempt by a firm with only apparent market power to keep its goodwill. Under the feasibility approach one must examine whether a firm has at all the power to behave in an abusive manner.

More generally, we acknowledge that accurate quantification of the size of entry barriers is problematic. Some find here a strong reason for advocating self-restraint by the authorities who enforce the competition law. They might, for example, argue that these authorities nowadays tend to overestimate the importance of geographical entry barriers by not sufficiently taking into account the growing internationalisation of the economy. We do not think that one should too readily rely on the self-regulatory character of the market to correct monopolistic behaviour. In an area which is in any case governed by very little "writing on the wall," fairly rough estimates, such as those made concerning entry barriers, do prove their value as long as one does not grant them absolute validity. Indeed, in competition matters there are few cases of *per se* illegality or legality; most cases require a reasoned assessment in light of all available information. Competition enforcers should not "surrender" too easily from the outset however complex it may prove for them to quantify accurately the findings of their scrutiny. Their overriding concern should only be that the remedy ultimately laid down by them does not make the market worse off.

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