

## CHAPTER I

### POLICY SETTING

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## **I. CONTEXT**

### **I.1 THE TERMS OF REFERENCE**

The EU directives which make up the “1999 Review” package require the Commission to issue a Recommendation addressed to the Member States which identifies the product and service markets (“Candidate Markets”) within the electronic communications sector which may be the subject of *ex ante* regulation. They also require the Commission to publish Guidelines on market analysis and the assessment of the concept of Significant Market Power (to be correlated to the existing competition law standard of ‘dominance’), which will be relied upon to determine which market actors will be subject to *ex ante* regulatory obligations in such Candidate Markets. The Commission is also required to review the Recommendation and the Guidelines regularly.

This present Study is intended to inform the Commission's Recommendation, and to provide an initial analysis for the Commission's list of Candidate Markets that may require analysis by the (NRAs) to consider whether *ex ante* regulation is warranted. As part of this Study, we are also required to indicate those markets whose scope is national or less than national on the one hand, or trans-national on the other. However, as is clear from the Terms of Reference for this Study, our task is focussed primarily on the product rather than geographic dimensions of markets. This is both fitting (for reasons of subsidiarity) and necessary, because the Study Team does not have the data and information necessary for it to support definitive conclusions about whether the geographic scope of markets are less than national. The analyses in this Study reflect the views of the Study Team, and do not necessarily reflect the views of the European Commission.

### **I.2 THE 1999 REVIEW**

Since 1990, the European Commission has progressively put in place a regulatory framework for the liberalisation of the telecoms sector, thereby transforming a sector characterised by State monopolies into an increasingly competitive marketplace. Nevertheless, a review of the existing regulatory framework was necessitated by the unprecedented speed of technological and market developments, as well as by the continued market dominance of many national fixed incumbent operators. This review, which began in 1999, has resulted in a new regulatory framework which distinguishes between two types of regulation, namely: (i) regulation that is primarily designed to manage the transition to competition and which will be imposed on specific undertakings as a function of their market power; and (ii) regulation that is designed to meet general interest objectives, such as sector-specific consumer protection rules. It is intended that these regulatory obligations should be grounded in three essential vehicles, namely, binding sector-specific legislation, complementary non-binding sector-specific measures and competition rules. Thus, the “1999 Review” legislative package that has been adopted by the European Parliament and the Council in February 2002, and published in the Official Journal of 24 April 2002, consists of the following:

- Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (“the *Framework Directive*”);
- Four Specific Directives:
  - Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (“the *Authorisation Directive*”);
  - Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (“the *Access Directive*”);
  - Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users’ rights relating to electronic communications networks and services (“the *Universal Service Directive*”); and
  - Directive of the European Parliament and of the Council concerning processing of personal data and the protection of privacy in the electronic communications sector (“the *Data Protection Directive*”);<sup>1</sup> and
- A *Liberalisation Directive* which consolidates and simplifies the existing directives adopted under Article 86 EC (formerly Article 90).<sup>2</sup>

### **I.3 STRUCTURE OF THE *FRAMEWORK DIRECTIVE* AND SPECIFIC DIRECTIVES INCORPORATING THE CONCEPT OF “RELEVANT MARKETS”**

#### **I.3.A. SMP and “Effective Competition”**

The definition of significant market power (SMP) under the current regulatory framework has proved effective in the initial stages of market liberalisation as the threshold for the imposition of *ex ante* obligations. Thus, *ex ante* regulatory obligations are imposed on operators with more than a 25% market share either in specified markets or specified services, though NRAs have the discretion to take other specific factors into account and to deviate from a simple 25% market share threshold. The new regulatory framework acknowledges the continued need for *ex ante* regulatory obligations in certain circumstances to ensure the development of a competitive electronic communications sector. However, both the Commission and industry have understood the need for the current SMP standard to be modified to adapt to a more complex and dynamic electronic communications sector.

Accordingly, where an NRA is required under Articles 16, 17, 18 or 19 of the *Universal Service Directive*, or Articles 7 and 8 of the *Access Directive*, to determine whether to impose, maintain, amend or withdraw obligations on undertakings, Article 16 of the *Framework*

<sup>1</sup> Adopted by the European Parliament on 17 June 2002; awaiting publication in the Official Journal.

<sup>2</sup> Commission Directive on competition in the markets for electronic communications services, OJ 2001 C96/2.

*Directive* obliges an NRA to carry out a market analysis to determine whether the affected relevant market is effectively competitive. Where, on the one hand, an NRA concludes that the market is effectively competitive, it will not impose or maintain any of these specific regulatory obligations and, in cases where such obligations already exist, it will withdraw such obligations placed on undertakings on that relevant market. Where, on the other hand, an NRA determines that a relevant market is not effectively competitive, it will impose, maintain or amend regulatory obligations on those undertakings identified as having SMP on that market.

Article 14(2) of the *Framework Directive* provides that an undertaking will be deemed to have SMP “if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers”. This definition of SMP is made in terms which reflect the standard of dominance, as defined in the case-law of the Court of Justice and the Court of First Instance of the European Communities. The *Framework Directive* provides further guidance on the concept of joint dominance, while additional guidance will result from the Commission’s obligation to publish Guidelines for market analysis and the assessment of SMP, consistent with the principles of competition rules (“the *SMP Guidelines*”).<sup>3</sup>

The term “effective competition” is left undefined in the Directives, but has been interpreted by the Commission in the *SMP Guidelines* as being, in effect, the absence of single or collective dominance on that market. The *SMP Guidelines* note that market power in an *ex ante* environment is “essentially measured by reference to the power of the undertaking concerned to raise prices by restricting output without incurring a significant loss of sales revenues”.

### **I.3.B. “Relevant Markets” Analysis**

The relevant markets that form the basis of the above market analyses or the calculation of SMP are to be based on those identified by the Commission in its Recommendation on Relevant Product and Service Markets (“the Recommendation”) and/or its Decision on pan-European markets (“the Decision”). Article 15(1) of the *Framework Directive* provides that the Recommendation will identify markets whose characteristics may be such as to justify the imposition of regulatory obligations.

An NRA is obliged, pursuant to Article 15(3) of the *Framework Directive*, to take the “utmost account” of the Recommendation in defining relevant markets appropriate to its national circumstances, in particular the relevant geographic markets within its territory. Article 15(3) also obliges the NRAs to define relevant markets in accordance with the principles of competition rules. Where an NRA wishes to deviate from defining a relevant market similar to that in the Commission Recommendation, it is first obliged to consult with the Commission, other NRAs and the public in accordance with the consultation and transparency mechanism

<sup>3</sup> SMP Guidelines on market analysis and the calculation of significant market power under Article 15 of the Directive on a common regulatory framework for electronic communications networks and services, COM (2001) 175 of March 28, 2001.

outlined in Article 6 of the *Framework Directive*. In the case of pan-European markets identified in the forthcoming Commission Decision, the NRAs concerned will jointly conduct the market analysis and impose, maintain, amend or withdraw regulatory obligations in a concerted fashion.

## **II. THE DIFFERENT ROLES PLAYED BY “RELEVANT MARKET” ANALYSIS**

### **II.1 THE RELATIONSHIP BETWEEN THE CONTEXT AND THE MARKET DEFINITION EXERCISE**

The term *market* is used in different contexts to mean different things. The term is often used very loosely to mean a place where things are bought or sold. Often it is used to signify something that is interchangeable with the word *industry*. Business people often use the term in these ways. In the study of economics, the term market is tied up closely with various ‘models of competition’. However, it has only been approximately in the last twenty years that economists have put some effort into discussing what the term might mean outside of theoretical discussions, and addressed the issue of what a market is in practice, particularly in the context of antitrust analysis.<sup>4</sup> Indeed, it has been economists working for antitrust authorities, rather than academic economists, who have arguably done most to further this debate.

Under the current regulatory framework, the concept of SMP is based on the premise that there exist several pre-defined communications “markets”. For example, the current *Interconnection Directive* is based on the understanding of the existence of the following four markets:

- (i) the market for fixed public telephony networks and/or services;
- (ii) the market for public mobile telephony networks and/or services;
- (iii) the market for leased lines; and
- (iv) the “national market for interconnection”.

These markets, and the remaining markets defined under the current regulatory framework, are distinct from those identified using principles of competition law. They are based on particular forms of end-to-end communications and comprise many different products and services, across which the degree of competitive constraints may vary dramatically. Moreover, they are grounded in liberalisation policies, are targeted at historical incumbencies, and were identified at a time when it was not necessary to define markets with a greater degree of granularity.

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<sup>4</sup> In his 1981 address to the American Economic Association’s convention, George Stigler (1982) said: “My lament is that this battle on market definitions...has received virtually no attention from us economists”. See Stigler, G. (1982), “The Economists and the problem of monopoly”, *American Economic Review* (papers and proceedings) 1:9.

The overall success of these liberalisation policies has resulted in the introduction of greater competition in marketplaces characterised by innovative and dynamic services. This has led in turn to the need for a greater degree of sophistication in assessing concepts such as effective competition, SMP, dominance and market power. However, concepts such as effective competition, dominance, and market power cannot exist in a vacuum. The European Court of Justice has consistently ruled, since *Continental Can*,<sup>5</sup> that a dominant position can exist only in respect of a relevant product and geographic market, and that the delineation of that market is of essential importance. This is equally the case for the assessment of effective competition and market power. In other words, it is first necessary to define the relevant market in terms of its product and geographic scope in order to investigate the state of competition on that relevant market.

Thus, the *Framework Directive* creates a central role for the market definition exercise. In particular, Article 15 of the *Framework Directive* requires the Commission to identify – consistent with the principles of competition law - those product and service markets within the electronic communications sector, the characteristics of which may be such as to justify the imposition of a range (or part thereof) of regulatory obligations set out in the various directives. These principles under competition rules act as tools to identify and define the boundaries of competition between firms. In other words, they identify in a systematic way the competitive constraints that the undertakings involved face. The new *ex ante* regulatory framework will pursue a similar aim.

The basic principles of market definition under Community competition rules are outlined in the Commission Notice on the definition of relevant markets for the purposes of Community competition law (“the *Market Definition Notice*”).<sup>6</sup> According to that Notice, undertakings are subject to three main sources of competitive constraint, namely: (1) demand substitutability; (2) supply substitutability; and (3) potential competition. However, the Commission tends to focus primarily on demand substitutability in competition cases, on the grounds that it represents the most immediate and effective disciplinary force on the suppliers of a particular product. The Commission may also take account of supply substitutability where its disciplinary effects are also effective and immediate. (It is arguable that the administrative practice of the Commission in applying this principle is not wholly consistent.) An assessment of potential competition does not form part of the market definition exercise during a competition investigation; instead, it is confined to the subsequent stage of analysis which concerns the assessment of market power.

It is important to understand the nature of the competition being examined under each process (*i.e.*, the particular regulatory context of review, whether it be under a merger review, an infringement action or under an *ex ante* analysis), as this will have an impact on the choice and scope of the principles of competition to be applied in each case. In addition – and arguably equally as important – the context of the case will determine the temporal element of the market definition exercise. For our present purposes, the *Framework Directive* provides that the analysis of effective competition should include an analysis of whether the market is prospectively competitive, and thus whether any lack of effective competition identified is likely to be enduring. Thus, the market definition exercise for *ex ante* regulatory purposes should be concerned with market structure and should be forward-looking in nature. A market

<sup>5</sup> Case 6/72, *Europemballage Corporation and Continental Can v. E. C. Commission*, [1973] ECR 215.

<sup>6</sup> Commission Notice on the definition of relevant market for the purpose of Community competition law, OJ 1997 C372/5.

definition exercise which purports to be both structural and forward-looking is already carried out under EC competition rules under the *Merger Regulation*. The analysis prescribed under that legislation requires that the objective of controlling structural changes in the supply of a product is satisfied by a prohibition on “*the creation or strengthening of a dominant position as a result of which effective competition would be significantly impeded in a substantial part of the common market*”.

The approach to market definition for the purposes of *ex ante* regulation or the *Merger Regulation* is essentially different to the *ex post* application of competition rules which occurs under Articles 81 and 82 of the EC Treaty. Article 81 EC is concerned with restrictions of competition, while Article 82 EC is concerned with the abuse of a dominant position. In these cases, the authorities are investigating an event that has already taken place. Consequently, their enquiry is one which assists them to define the market that existed or exists at the time of the impugned event, *i.e.*, in the past or present. While information about the past can be very important, and indeed is often the prime source of data showing how the Candidate Market reacts following a shock (such as an earlier price increase), great care is needed when using this information to define the market going forward (*i.e.*, in respect of *ex ante* regulation or the *Merger Regulation*). Even where the data is otherwise complete, such as when there was a previous price increase by one or more firms in the Candidate Market, factors influencing demand and/or supply may have changed in the intervening period or may be about to change in the short to medium term.

## II.2 MARKET DEFINITION AND ANALYSIS: A SEQUENCE OF INTERRELATED EXERCISES

Whether it is for the purpose of *ex ante* regulation or in the context of the *ex post* application of competition rules, market definition is the first analytical step in a series of interrelated exercises. Market definition is followed by an analysis to determine whether a firm has a level of power in the defined market that might warrant regulatory intervention. In practice, however, the processes of defining the relevant market, determining whether there exists SMP, and identifying the causes of SMP, and selecting the choice of an appropriate remedy, are not entirely independent of each other.

This is most widely reflected in the administrative practice of the Commission under Article 82 EC, which begins from the starting point of the alleged abuse and then performs its market analysis once a *prima facie* abuse is shown to exist (in other words, a reversal of the analytical order which should otherwise be adopted). Put simply, if a firm is acting in a manner which economists consider to be abusive, it is logical that one would initially configure a relevant product and geographic market around the type of conduct which supports the conclusion that dominance exists with respect to such a market.

In many cases involving the communications sector, market definition will not be especially difficult or controversial, and thus a market defined near the beginning of the process is likely to be much the same at the end of the process, *i.e.*, after SMP has been found and the likely causes of SMP have been identified. In some cases, however, the task will be more difficult, either because of the general nature of the markets and products involved, or perhaps because of idiosyncrasies that exist in a particular Member State. In such cases, identifying potential abuses will be easier than defining the market. In cases that require the definitive delineation of a market that is proving to be a difficult task, it is preferable not to seek to define exhaustively the market too early in the investigation. Rather, better information in order to do

this may have to come to light at the end of the investigative process.<sup>7</sup> Indeed, it is advisable to *reconfirm* the boundaries of the relevant product market at the end of the market definition investigation. This will be particularly important where market definition is the central issue in determining the outcome of a case.

Factors that have to be analysed in order to define markets include factors that are also considered to determine whether any firm has dominance on the market. These include:

- the market's structure;
- the nature of the product and the uses to which it is put;
- the manner in which the product is traded;
- the conduct of the participants;
- the degree of demand substitutability; and
- the expected degree of supply substitutability.

The conclusions drawn with respect to these factors will hopefully also yield an initial response to the question of which relevant markets in the communications sector are likely to be prone to market failure. In many respects, the weighting of such factors with a view to identifying problematic markets reflects the traditional understanding of antitrust economists that there is a strong relationship between market structure,<sup>8</sup> market conduct,<sup>9</sup> and market performance.<sup>10</sup> Although we should be cautious in our presumptions regarding the causal nexus between each link of the structure/conduct/performance chain in communications markets, which are characterised by innovation and possible exposure to shifts in their value chains, in American antitrust writing the common approach is the assertion that the structure of the market strongly influences the conduct of firms within the market and that such conduct determines the performance of the market. This analysis has even been shortened by inferring a direct link between structure and performance. It has also been refined by the recognition of a reverse effect from conduct to structure: if firms by agreements or by mergers create problems for a new entrant setting up business (*e.g.*, vertical distribution agreements preventing retailers from handling the entrant's products, or vertical mergers leading to competitors of the entrant owning the outlets), then that conduct will affect the structure of the market.

The key elements of this Structure/Conduct/Performance economic paradigm are reflected in **Figure I.1**, overleaf:

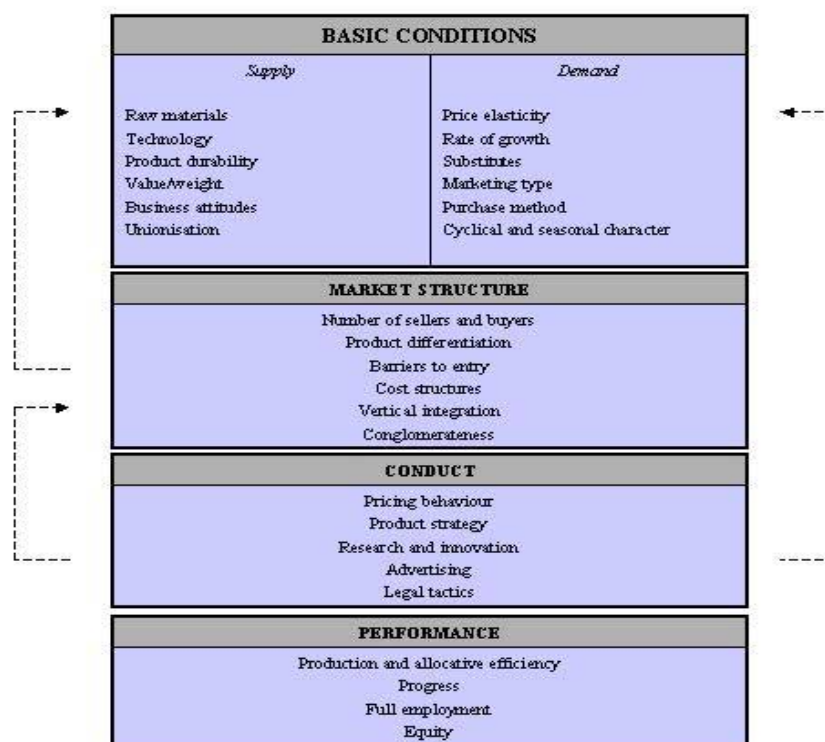
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<sup>7</sup> In Chapter II we discuss the empirical techniques that can be used to assist regulators in defining a market. These are especially helpful and sometimes necessary in complex or disputed cases. Their downside is that they tend to be resource-intensive. Moreover, they are not necessarily always conclusive.

<sup>8</sup> For example, concentration, vertical integration and barriers to entry.

<sup>9</sup> For example, restrictive, predatory and exclusionary practices.

<sup>10</sup> For example, technical efficiency, rate of profits and satisfaction of needs.



**Figure I.1: A model of Industrial Organisation Analysis (Scherer, 1980)**

### II.3 PRELIMINARY NATURE OF *EX ANTE* MARKET ANALYSIS

As a rule, our conclusions as to the Candidate Markets identified in this Study will, in any event, be preliminary in nature. There are a number of reasons for this being largely unavoidable:

- (1) For markets that are not trans-national, individual Member States may need to define the geographic market differently given that the circumstances of market development in each Member State may differ fundamentally (such that either geographic or product markets will be peculiar to that Member State).
- (2) In a very real sense, when defining a *relevant market*, product and geographic dimensions of a market are dependent on each other, such that if the geographic scope of a market in a Member State changes, the products that are in that market may also change. (However, we do not expect that this occurrence will be common).
- (3) The process of defining a relevant market does not occur independently of the assessment of market power. Analysis of market power and the causes of market power in regard to a particular market may provide new information to a regulator which might lead it later also to seek to adjust the geographic area or product market boundaries, or both.

- (4) In some cases, even a single thorough market definition exercise can be difficult and very resource-intensive in order to identify the various product or geographic dimensions that would stand up to close inspection by experts. Our approach to defining markets in this Study will involve a great deal of reference to primary and secondary information services. However, we have not undertaken econometric work or other ‘empirically’ based research that could on some occasions be called for in difficult or disputed cases.<sup>11</sup>

Markets also tend to evolve over time. As antitrust *relevant markets* are determined by a great many factors, changes in these over time can alter the boundaries of a relevant market (either in terms of products or geography) in quite profound ways. Examples of factors that can influence the boundaries of a market include:

- Changes in demand
- Changes in technology
- Changes in resources (and access to them)
- Changes in regulations or laws
- Changes in income
- Expiry of intellectual property rights
- Changes in business strategies by firms in the market, or those outside it
- Changes in macroeconomic factors, *e.g.*, exchange rates, interest rates, and other matters affecting access to capital.

All of these factors can lead to changes in supply and demand, and changes in the number of goods traded and the degree to which goods are complementary with each other, or are substitutes for each other. The above points reflect the fact that markets are constantly evolving elements of a dynamic system. Indeed, change in some cases can be concentrated over a fairly short period of time.

- (5) One or more of the markets which we will define may become relatively inaccurate in a fairly short period of time, possibly even before the time when the next periodic review of *relevant markets* is undertaken by the Commission. While we do not expect this to be the case, the regulatory system needs to accommodate this possibility. This appears to be required as the market definition is occurring some time before the event *i.e.*, it is *ex ante*.<sup>12</sup>

We therefore believe that the new regulatory framework for the communications sector must facilitate a process whereby Member State NRAs could seek to adjust both product and geographic boundaries of those relevant markets that may require some form of *ex ante* regulation, subject of course to the overarching harmonisation goal contained in Articles 7 and 8 of the *Framework Directive*.

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<sup>11</sup> Indeed, our Terms of Reference did not require us to define markets to this degree of detail.

<sup>12</sup> For this reason, some economists have been critical of a market definition approach because of what they see as the artificiality of the approach. *See* for example, Fisher, F. (1987), “Horizontal merger: Triage and treatment”, *Economic Perspectives*, Fall:23-40.

## II.4 RELEVANCE OF MARKET POWER

Although strictly speaking outside the Terms of Reference for this Study, an overview of certain aspects of market power is necessary in order to provide a fuller picture of the rationale behind *ex ante* regulation, especially given its interaction with market definition issues.

### II.4.A. Concept of Effective Competition

Effective competition is a concept which acknowledges the imperfection of real markets, but also recognises that where there is sufficient competition, markets perform well enough that regulatory intervention, or any other form of market organisation, is unable to improve on the overall outcome (*i.e.*, is unable to improve national economic welfare). Because many of the assumptions that underpin a perfect competition model do not hold in practice, especially in the communications sector, the performance of a market may diverge quite substantially from that of the perfectly competitive benchmark, and yet the outcomes provided may still be the best that can practically be obtained. Examples of markets that may not be performing especially well (*i.e.*, where there are significant market power problems), occur in many oligopolistic markets, where there are, say, only four or five competitors with similar market shares supply competing (substitutable) products that are relatively undifferentiated. The study of industrial organisation provides us with a range of strategies that firms in oligopolistic markets can adopt, which enables competition between them to be blunted such that it focuses less on price and more on other factors.<sup>13</sup>

In cases where there are enduring bottlenecks, regulators can potentially improve on the outcome provided by the market by imposing specific regulation. In these cases, the purpose of regulation is to correct an actual or potential significant market failure.<sup>14</sup> Where markets are performing sufficiently poorly that regulatory intervention has a real chance of providing an overall improvement in performance net of administrative costs, we can say the market lacks *effective competition*. Care needs to be taken, however, that regulatory intervention does not create a greater overall degree of market failure, as has been documented on many occasions.<sup>15</sup>

The interpretation of the concept of “effective competition” from an economist’s point of view thus becomes rather tautological, and includes any market which is performing sufficiently well that it is improbable that intervention can in practice provide for an improved overall outcome.

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<sup>13</sup> For an introduction to these, see Tirole, J. (1988), *The theory of industrial organization*, Cambridge, Massachusetts: MIT Press.

<sup>14</sup> There are three principle causes of market failure: market power (which is the reason for our identifying markets); network externalities (the principle cause of environmental and resource management problems); and existing regulation.

<sup>15</sup> See for example, Laffont, J.-J. and Tirole, J. (1993), *A theory of incentives in procurement and regulation*, at chapters 11, 13, 15, Cambridge, Massachusetts: MIT Press. The reasons for this are typically that either the authorities are too informationally constrained to effectively address the problem, or that the institutional and agency problems will not allow regulatory policy development or practice to proceed on its merits.

From a legal perspective, the concept of “effective competition” does not find its way into the analysis of abusive behaviour under the *ex post* application of Article 82 EC, as the finding of dominance (which implies that a firm or firms are able to act independently of competitors and customers) is automatically actionable once an acknowledged abuse has taken place. It is arguable, however, that the substantive test for merger prohibition under Article 2 (1) of the *Merger Regulation*, which adopts a forward-looking approach (which is tantamount to *ex ante* approach) requires the Commission to take into account the need to “maintain and develop effective competition”. The early administrative practice of the Commission’s Merger Task Force suggested that the assessment of effective competition was a test which was additional to, and separate from, the finding of a “creation of strengthening” of a dominant position.<sup>16</sup> However, subsequent administrative practice of the Commission under the *Merger Regulation* has tended to assimilate the concept of “dominance” into the conclusion that there is no effective competition. Having said this, the fact that the assessment of effective competition under Article 2(1) includes a consideration of “potential competition” suggests that – at least for *ex ante* purposes – the standard for review under Article 2(1) of the *Merger Regulation* includes an understanding that effective competition does exist where markets are contestable.<sup>17</sup>

#### II.4.B. Relevance of Market Power

Market power is said to be the cause of a lack of effective competition. A firm that sells a product can be said to have market power if it faces a downward sloping demand curve. In other words, if it raises its price the firm would lose some but not all sales. Those customers that it loses will either not buy that product at all, or will purchase instead from other firms (competitors) offering a similar (substitutable) product. Indeed, strictly speaking, firms that maximise their profits by pricing at more than their marginal cost can be said to have some market power, which is a situation that applies to most firms. The gap between price and marginal cost tends to be greater in markets where firms have had to invest heavily in plant, R&D, or other costs which are largely sunk.<sup>18</sup>

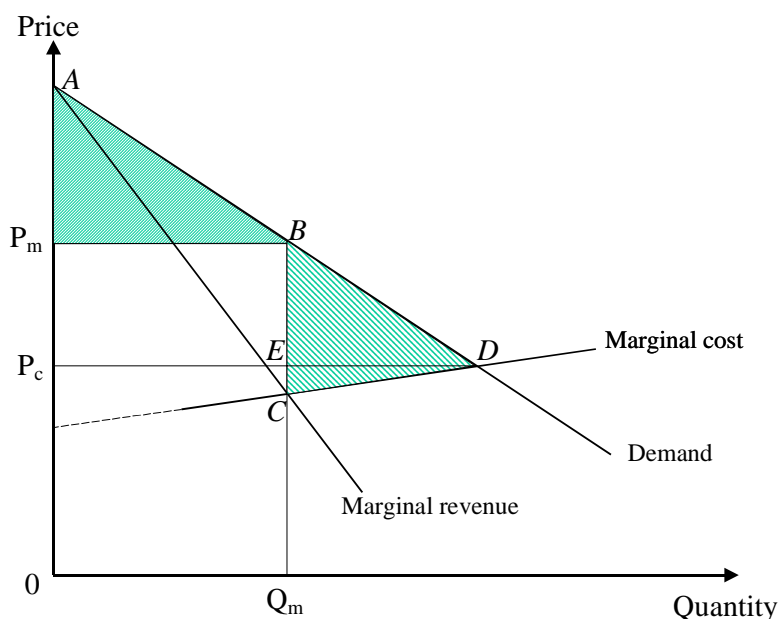
Firms with greater market power face a more steeply sloped demand curve than firms with less market power. In order to demonstrate the main problems arising from market power, we

<sup>16</sup> For example, there are cases (e.g., Case No. COMP/M.53 - *Aerospatiale-Alenia/de Havilland*, OJ 1991 L334/42), where the Commission has drawn a distinction between dominance and effective competition in considering that a transaction that creates a dominant position may be compatible with the common market if the dominance is only temporary and will not significantly impede effective competition. In the 1992 *Mannesmann/Hoesch* (Case No. COMP/M.222, OJ 1993 L114/34), the Commission considered that there was strong evidence to suggest that the merged entity would be in a dominant position at the outset in the market for steel gas pipelines, but it nevertheless cleared the deal on the grounds that such dominance would only subsist for a limited period owing to the high probability of new market entry. (However, it should be noted that the Commission did consider future developments over a longer period than would be appropriate in other circumstances given the exceptional circumstances of the case). The Commission adopted a similar approach more recently in the 1998 *Hermes/Sampo/FGB-FCIC* (Case No. COMP/M.1101, May 19, 1998). Although it was determined that the resulting joint venture could reach a market share of between 30 to 40%, the Commission cleared the deal on the basis of, *inter alia*, the fact that the joint venture’s main competitor was concluding a deal which was likely to strengthen its ability to compete, and because of the relatively immature state of the Finnish credit insurance market.

<sup>17</sup> See *Merger Regulation*, 4064/89 December 21, 1989.

<sup>18</sup> This would mean that the firm would get much less than it paid for the assets by selling them to another firm, or trying to use them for a quite different business purpose.

make use of a diagrammatic demonstration. In **Figure I.2** we show in comparison to perfect competition: (i) the welfare loss (called a dead-weight loss); and (ii) the transfer of benefits from consumers to producers. The triangle B,C,D, indicates the dead-weight loss (*i.e.*, the loss of potential ‘gains from trade’) as compared to what would occur if the market were perfectly competitive, in which case the price would be  $P_C$ . Under a monopoly structure, price is higher at  $P_m$  and output lower at  $Q_m$ . The rectangle  $P_m, B, E, P_C$  represents the gains from trade that would have accrued to consumers under competition, which under monopoly are transferred from consumers to producers. There are thus two effects shown in this diagram: a transfer of value from consumers to producers, and another amount which represents a complete loss of value from the economic system.



**Figure I.2: The Economic Costs of Monopoly (static)**

There are other efficiency costs associated with monopoly which are not captured by this diagrammatic demonstration. Monopoly, or very significant market power, tends to make corporate governance more difficult and gives rise to inefficiencies which are internal to the firm, such that resources are not used efficiently.<sup>19</sup> Where monopolisation occurs, or where competition is severely blunted, shareholders have less information with which to judge whether management are performing their jobs well, and as a result it is typical for monopolies, and sometimes also dominant firms, to suffer from a significant level of under-performance by management and other employees.<sup>20</sup> These problems include the failure to make proper investments (investing in bad projects and not investing in good ones),<sup>21</sup> having

<sup>19</sup> This has been referred to as ‘X-inefficiency’.

<sup>20</sup> Indeed, in the case of State-owned telecoms operators, management will have traditionally been operating according to multiple goals set by government, which make it even more difficult to know whether management are performing their tasks effectively.

<sup>21</sup> Even good firms and good managers sometimes make poor investors, which means that we are referring to here is a level of under-performance compared to what could reasonably be achieved if shareholders had better information with which the exercise owner interests.

excessive staff numbers, redundant units of activity, above market wages, lavish offices, and so forth. Many economists have argued that these costs are likely to be higher than those identified in **Figure I.2**; *i.e.*, the under-supply and excess pricing which is most typically associated with dominance.<sup>22</sup>

Where there is market power (such as occurs with monopoly, dominance or joint dominance), and this market power persists in the long term, we can say that dominance is enduring, *i.e.*, there is likely to be enduring market failure, or excessive and persistent market power. As a general rule, such a situation significantly detracts from the overall economic welfare of a country, and it is this problem that *ex ante* regulation is intended to address.

#### II.4.C. Limitations of Market Analysis

Market power need not always, by the same token, imply something that necessarily detracts from economic welfare in the sense that some form of regulation can be imposed to correct it. Legal patents typically bestow market power on patent owners. This is a deliberate legal provision in acknowledgement that R&D expenditure and the special skills associated with patentable technology developments and inventions, involve high risks.<sup>23</sup> Patents allow those who invested in the process which provided a new invention or discovery, to keep control of it for a period over which they may be able reap relatively high financial rewards. Patent owners tend to do this by behaving much as a monopolist would, by limiting supply and raising price. However, without this type of protection (*i.e.*, a legal monopoly for a specified period), financial incentives for pursuing such developments would be undermined, with potentially very serious consequences for economic development.<sup>24</sup>

It is widely acknowledged that inventions and technological progress provide more tangible benefits to consumers than do improvements in the day-to-day competition that takes place between firms selling into the same market. Antitrust and *ex ante* regulation focus on the latter, although both need to exercise great care in innovative industries, and where the economics involved suggest that perhaps the most important competition is not taking place “in the market” but “for the market”, as can occur when there are innovations in technology, business models, or in the management of complex systems such as distribution networks.

Indeed, some firms can obtain market power through their superior knowledge of a particular technology, or through superior business strategies and/or management skills, and hold onto this market power for some time without the help of patent protection. Industries in which this happens have not historically been those with a great many competitors providing close substitutes to each other. These markets or industries tend to be ‘naturally’ oligopolistic or even almost monopolistic in nature. The main factors that are often present which render these industries different from the normal notion of market competition is that they tend to be

<sup>22</sup> See, *inter alia*, Reder, R.W. (1947), *Studies in the Theory of Welfare Economics*, New York, Columbia University Press, Chapters 1-4; Baumol, W. J. (1952), *Welfare Economics and the Theory of the State*, London, Bell, Chapters 1-6; Bator, F. (1957), “The Simple Analytics of Welfare Maximization”, *American Economic Review* 47, 22-59; and Koopmans, T. (1957), *Three Essays on the State of Economic Science*, New York, McGraw-Hill, pp. 4-104.

<sup>23</sup> Patents can also be used strategically to protect firms against competition. See Gilbert, R. and Newberry, D. (1982), “Pre-emptive patenting and the persistence of monopoly”, *American Economic Review*, 72(3): 514-525.

<sup>24</sup> It has been argued that firms with a high degree of market power tend to invest more in R&D, although on balance the empirical evidence does not support this. See Schumpeter, J.A. (1943), *Capitalism, Socialism and Democracy*, London, Allen & Unwin. .

characterised by relatively large *sunk costs* and *network effects*. Information technology tends to fit into this category. The products and services provided are often highly idiosyncratic, and have very low marginal costs and very high sunk costs.<sup>25</sup>

Arguably the main drawback of the antitrust model of competition occurring “in the market” is its failure to recognise that economic development and the improvement in consumer welfare sometimes occurs outside of this relatively static analysis: *i.e.*, innovation which may come to displace existing firms, might not occur within the short timeframe used traditionally for antitrust market analysis. In such cases, therefore, it is arguable that market power found to be at a high level might be conditioned by the fact that the timeframe of analysis has been too short. Alternatively, it could be argued that the standard timeframe used for: (i) market definition; or (ii) for the analysis of dominance, face limitations in some cases, especially with regard to a number of oligopolistic industries or 'markets' that may involve significant sunk costs or network effects, or managerial/entrepreneurial skills in establishing and managing complex distribution and supply channels, or delivering services or products which rely heavily on investments in technology. However, to the degree that one accepts that in some cases there is a more dynamic form of competition taking place, it is not only the timeframe that is the source of the error, but the very model that underpins the antitrust analysis.

In this regard, it needs to be remembered that high prices and reduced output resulting from market power send an economic signal to investors and entrepreneurs of a potential profitable entry opportunity. Indeed, prices are a most important signal in a market economy. In market economies, both production and consumption decisions are orchestrated by price signals, and to a large degree it is this that makes market economies so much more efficient at organising productive resources and at meeting the needs of consumers than other forms of economic organisation. However, where prices indicate the existence of a profitable investment opportunity, new entry may be much less than immediate, or may not be forthcoming at all, especially in markets where there are large entry barriers. If entry into such markets occurs at all, where the regulatory environment is not stable, or where the institutions of regulation are not sufficiently developed, a delay can be expected as investors will want to see that the profit opportunities are not transitory.

Where entry requires relatively large investment in sunk costs, entry might not be able to remove excess profits and prices. Reasons for this can include the considerable strategic possibilities for incumbents to make entry less attractive, first mover advantages, economies of scale and scope (*e.g.*, insufficient residual demand, especially in light of the preceding factors), and regulatory uncertainty. With regard to the latter point, regulators need to take care that they are not pre-empting the role of price signals in market economies by imposing regulations that would reduce the real opportunities for new entrants. Among the factors that make regulatory uncertainty so important is the risk of regulatory intervention that might significantly lower the returns on investments already made. Indeed, this aspect of regulation is an ongoing cause of market failure (sustained market power) in environments where there is an expectation of significant regulatory change. The problem may manifest itself as a paucity of entry and investment in specific markets.<sup>26</sup> In other words, high prices and profits might not

<sup>25</sup> See Shapiro, C. and Varian, H.R. (1999), *Information rules: a strategic guide to the network economy*, Boston, MA.: Harvard Business School Press.

<sup>26</sup> See for example, Laffont, J.-J. (1994), “The new economies of regulation: Ten years after”, *Econometrica*: 62, 3. 507-537. Cf. Levy, B. and Spiller, P. (1994), “The institutional foundations of regulatory commitment: A comparative analysis of telecommunications regulation”, *Journal of law*,

attract entry as a result of regulatory institutional problems, particularly the risk of regulatory changes that lower prices and profits on existing or potential future investments, in a way that cannot be taken into account in the planning of investors. In such cases, the correct approach can be to address the regulatory institutional problems, and any resulting flaws in regulations, *i.e.*, there may be no need to regulate the market once these problems are addressed. In this regard, the matters to which particular attention should be paid are signs that regulators are not able to fully commit to their regulatory decisions.

Having decided that a firm has a degree of market power that is not in the public interest, and that this has persisted for some time, it is not always the case that regulators which can effectively remove that market power should necessarily do so (*e.g.*, by cancelling patents or requiring that other firms obtain access to some system or facility that is controlled by the dominant firm). Cases where this should not happen will perhaps include a number of ‘naturally’ oligopolistic markets, or perhaps some markets in which single firms may dominate for a period, such as those where firms enter periodically with significantly lower costs, and perhaps grow to dominate an industry until another cost/efficiency development is introduced by a competitor (a development that the incumbent is unable to take full advantage of) resulting in the incumbent operator being replaced by a new entrant.

As a general rule, regulators should ensure that they have the information and institutional structures needed to address enduring market power through the imposition of *ex ante* regulation.

In order to identify the scale (and even the existence) of market power, it is essential that the market(s) in which a firm has enduring market power be properly defined.

## II.5 STRUCTURE OF THE REPORT

### II.5.A. General Approach

A four-phased approach has been undertaken in preparing this Study:

- Extensive desk research into the legal and economic principles which should govern any market definition analysis.
- A comparative overview of market analyses undertaken in nineteen (including non-EU) jurisdictions, in order to develop consistent themes underpinning the market definition exercise, illustrate the extent of divergence in approaches, and take into account the most effective means of conducting a market analysis for *ex ante* purposes.
- Creating the basis for an empirical analysis of relevant markets by conducting interviews with a broad cross-section of industry players and reviewing responses to a series of questionnaires designed to highlight competitive problems in key markets.
- Applying the knowledge gleaned from the above steps in order to perform individual market analyses based on the application of the substitutability test, the application of the

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*economics, and organisation*: 10, 2: 201-246. Cf. Baron, D. and Besanko, D. (1987), “Commitment and fairness in a dynamic regulatory relationship”, *Rand Journal of Economics* :15, 447-470.

Hypothetical Monopolist test, and an understanding of possible market failures which might persist or arise in the future, based on the historical experience of the Study Team in existing markets.

## **II.5.B. Analytical Framework**

The Study is broken down into five parts:

*First*, Chapters I, II and III provide the background and the key elements of the methodology used by the Study Team to conduct their market analyses for *ex ante* regulatory purposes. Chapter I deals with the policy setting in which the Study takes place; Chapter II contains a discussion of the key economic and legal drivers in the market definition process; and Chapter III provides an overview of the characteristics of individual delivery platforms which are likely to be relevant in a market definition exercise.

*Second*, Chapter IV prescribes the guiding principles which the Study Team believes are the key elements of market analysis for *ex ante* purposes. It then goes on to focus on a contestability analysis, seen in terms of entry barriers, as the key additional analytical tool for identifying those likely market failures that warrant *ex ante* regulatory intervention.

*Third*, Chapters V, VI and VII consist of detailed relevant market analyses of wholesale and retail networks and services in the fixed sector (Chapter V) and in the mobile sector (Chapter VI), and also wholesale services to broadcasters which are likely to fall within the new regulatory package for “electronic communications networks and services” (Chapter VII). Each of these chapters is organised into three sections, involving a comparative overview of Member State and non-EU practice in terms of both regulatory and competition law precedents, an overview of EC competition law practice, and concluding with a market analysis based on the application of economic and legal principles, as supported and supplemented by market indicators and technological developments.

*Fourth*, Chapter VIII consists *inter alia* of the preliminary conclusions and recommendations of the Study Team, and identifies those markets which might be prone to market failure and thereby might warrant *ex ante* regulation (*i.e.*, those situations where competition might not be “effective”).

*Fifth*, the Annexes to the Study consist, *inter alia*, of a list of the parties consulted in the preparation of the Study (Annex 1), the various Questionnaires sent to a broad cross-section of communications operators which were designed to inform our views regarding key aspects of market analysis (Annex 2), extracts from the Terms of Reference (Annex 3), a glossary of key terms used in this Study (Annex 4) and individual country reports for the fifteen EU Member States and four key non-EU jurisdictions which demonstrate the approaches of those jurisdictions to market definition issues (Annex 5).