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Market definitions in the new European regulatory framework for electronic communications

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Abstract *The regulation of electronic communications has been recently reformed in Europe. One striking feature of the review was to base most of the economic regulation – the so-called significant market power regime – on antitrust principles. In particular, the regulated markets have to be defined according to competition law methodologies. This paper describes this approach and studies in detail the recently adopted Commission recommendation “on relevant markets susceptible to ex-ante regulation”. The paper concludes with three policy recommendations. First, as regulation is more flexible and more complex, national regulators should co-operate among themselves and national courts should only reform regulatory decisions in case of manifest error. Second, as regulation is not any more justified by the “original sin” of the previous monopolists, but by the inefficiency of antitrust to control market power, NRA should be cautious not to overly expand their intervention. Third, as ex ante market definitions are aligned on antitrust principles, authorities should make sure that market definition is not a goal in itself but only a means to achieve the policy objectives of the sector-specific regulation.*

The European Union has recently reviewed substantially the regulation of electronic communications networks and services (fixed and mobile telephony, Internet, cable TV, ...). One striking

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feature of the reform was to align the threshold for imposing the majority of regulatory obligations – the so-called significant market power concept – to the competition law principles. In particular, regulated markets should be defined according to antitrust methodologies. This paper aims to describe and assess this option. Section 1 sketches the new significant market power regime. Section 2 details the criteria to identify the structural problems justifying ex ante regulation and select markets for regulation. Section 3 explains the methodology to delineate the boundaries of a relevant market around the identified problems. Section 4 summarises the recently adopted commission recommendation on relevant markets susceptible to ex ante regulation. Section 5 concludes with some final observations, in particular assessing the relevance of importing antitrust principles in an ex ante context.

1. Overview of the new significant market power regime

The new European regulatory framework for electronic communications (Farr and Oakley, 2002) is mainly composed of four directives[1] whose national transposition measures are due to be applicable in July 2003. As suggested by its denomination and to take into account the



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technological convergence, the new package covers not only telecommunications but also all electronic communications networks, services and associated facilities. It applies thus to all networks permitting the conveyance of signals (being wire or wireless, circuit or packet switched, used for telecom, broadcasting or other services), all services consisting of the conveyance of signals on these networks, and all facilities that are associated with them (like the conditional access systems that may be contained in the set-top boxes used to receive digital television, or the electronic program guides). On the other hand, the package does not cover the content of services delivered over electronic communications networks such as broadcasting or e-commerce services.

The basic thrust of the directive is that citizens' interests are best served by market forces and regulation should be kept minimal. But, as shown by economic theory, markets do not lead to social optimum when firms enjoy substantial market power that they may abuse to their individual interest and at the expense of the general welfare. The acquisition and the exercise of this market power is usually controlled by antitrust, either in a preventive way (*ex ante*) when firms come together to form a joint venture or a concentration, or in a repressive way (*ex post*) when an anti-competitive agreement or abuse is committed. Nevertheless, antitrust control may be inefficient in certain market structures and for certain types of market power, hence a general *ex ante* control may be necessary. This is the purpose of the significant market power (SMP) regulation, i.e. to control market power when antitrust would be inefficient to do so.

This SMP regime has been radically reformed. Under the previous directives, the so-called 1998 regulatory package (see Larouche, 2000a; Scherer, 1998), the market areas to be regulated were pre-defined in the Directives on the basis of their technical characteristics. Mainly four markets areas were defined: fixed networks and services; leased lines; mobile networks and services; and national interconnection[2]. The SMP threshold generally equated to 25 per cent market shares in these areas, and the National Regulatory Authority (NRA) had then to impose on the SMP operators the full set of obligations relating to access provided in the directives, without being able to choose the most appropriate ones. In practice, most of the regulation focuses on the areas that were monopolised in the past, i.e. the fixed services and the leased lines.

If this regime was adapted to the first phase of the liberalisation to open the markets, it was not suited for the second phase when effective competition appears in some market segments but not in others and technology evolves rapidly. The crude and sometimes simplistic criteria of the 1998 regime were not adapted any more to the increased commercial and technological complexity of the markets. Another system had to be found that guaranteed flexibility and fine-tuned analysis to remove regulation when no longer

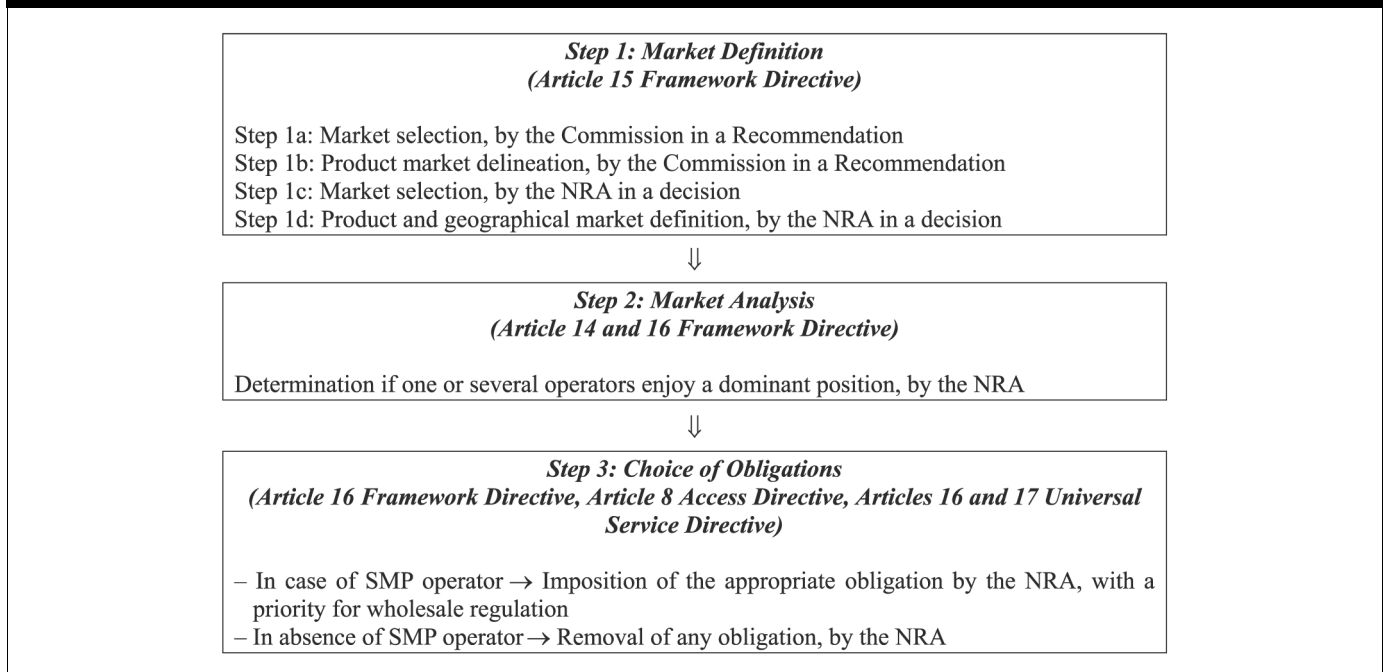
necessary (market-by-market sunset clauses), but also sufficient legal certainty. As competition law methodologies seemed to fulfil these apparently contradictory characteristics, the European legislature decided to align the SMP regime with these methodologies. However, that is not a replacement of *ex ante* regulation by antitrust law, but merely a "hybridisation" of sectoral regulation which becomes a sort of "pre-emptive competition law" (Buiges, 2002, p. 8). Both policy instruments were and remain complementary.

The new SMP regime is now based on a three-step process as illustrated in Figure 1 (de Stree, 2003). In the first step, markets to be analysed are defined in two sequences. The Commission periodically adopts a recommendation on relevant markets (European Commission, 2003)[3] that defines, in accordance with the principles of competition law, the product and service markets within the electronic communications sector, the characteristics of which may be such as to justify the imposition of regulatory obligations. In practice, the Commission has to select the markets justifying *ex ante* regulation because of their structural problems and then delineate the boundaries of these markets on the basis of antitrust methodologies[4]. Taking account[5] of this recommendation and the Commission Guidelines on market analysis (European Commission, 2002a), the NRA then defines markets appropriate to national circumstances, in particular their geographical dimension within its territory, in accordance with the principles of competition law. The NRA has the flexibility to deviate from the recommendation by defining narrower or broader markets or by adding new markets, subject to the veto power of the Commission.

In the second step, the NRA analyses the defined markets to determine whether they are, or are not, effectively competitive, which amounts to determining whether one or more operators enjoy SMP on the market. In turn, this SMP assessment amounts to determining whether one or more undertakings have a dominant position. According to the European competition case law, a firm enjoys a dominant position when, alone (single dominance) or collectively with others (collective dominance), it has sufficient market power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers[6]. In addition, if a firm is able to leverage a dominant position from a closely related market, it is also deemed to have SMP on this closely related market.

In the third step, if the market is effectively competitive, the NRA must withdraw any obligation that may be in place and shall not impose or maintain any new one. Conversely, if the market is not effectively competitive, the NRA imposes on the SMP operators the appropriate specific regulatory obligations to be chosen from a menu provided in the Directives. In case of an SMP operator on a wholesale market (i.e. relationships between the providers of electronic communications network and services), the regulator should

Figure 1 — The significant market power regime



rely on the menu of remedies provided in the access directive comprising five ascending behavioural obligations: transparency; non-discrimination; accounting separation; third-party access; and price control[7]. The choice[8] of obligations made by the NRA should be based on the nature of the problem identified and justified in light of the three objectives of the new framework (effective competition, internal market, and interests of the European citizens[9]). It should also be proportionate, which implies it to be the least burdensome option possible to achieve the regulatory aim.

In the case of an SMP operator on a retail market (i.e. relationships between operators and end-users), the conditions of regulation are much more stringent as it has to be shown that an intervention on a wholesale market could not solve the potential retail problem. Indeed, as most of retail anti-competitive behaviours stem from the exercise of market power on a upstream wholesale market, it is more appropriate to regulate this intermediate market (source of the problem) than the retail market (manifestation of the problem). The thrust of the new framework is thus a severe reduction of retail regulation, and indeed if retail regulatory interventions were to be as intense as in the monopoly era, albeit in a modified form, the whole liberalisation program would be rendered useless. When justified, NRA should rely on the non-exhaustive list of remedies provided in the universal service directive[10], like price control, accounting obligation, interdiction of discrimination or bundling.

This three-step process shall be repeated periodically to ensure that obligations are adapted to the market evolution. The first exercise was supposed to be achieved by all the NRAs across Europe by July 2003[11], even though the

process will be postponed in the majority of the member states due to delay in the transposition of the directives into national laws and insufficient legal powers for the regulator to collect data. Note that during the whole procedure, the role of the commission is very important. It starts the process by adopting and updating the recommendation on relevant markets. More importantly, the commission may review[12] all the NRA's decisions that would affect the trade between member states, i.e. all the measures that may have an influence, direct or indirect, actual or potential, on the pattern of trade between member states in a manner that might create a barrier to the single market[13]. Applying this criterion, the Commission considers that most, if not all, market definitions that differ from those of its recommendation would affect trade between member states and hence should be reviewed[14]. The commission can then veto a product and service market definition that differs from those of the Recommendation, as well as an SMP (or a non SMP) designation. It can also give a non-binding opinion on the choice of regulatory obligations.

2. Selection of the markets

In the electronic communications sector, lots of markets may be defined and several may lead to competition concerns, but only a sub-set of them are selected to be analysed by the NRAs. According to Article 15(1) and Recital 27 of the framework directive, this selection should be based on the characteristics of the market, and more precisely on the relative efficiency of competition law remedies compared to sectoral remedies to address possible competition problems[15]. In the recommendation on relevant

markets[16], the Commission has interpreted both legal provisions by referring to three cumulative economic criteria that should be fulfilled for a market to be selected.

The first criterion is static and relies on the presence of high and non-transitory barriers to entry (on barriers to entry: Harbord and Hoehn, 1994). The barriers may be structural. They may be due to a situation where the state of technology and its associated cost structure and/or the level of the demand are such that they create asymmetric conditions between incumbents and new entrants, impeding or preventing market entry of the latter. A related structural barrier can also exist where interconnection is required to enable a calling party to make a call to a specific subscriber number. In cases where a charge is levied for terminating the call[17], the terminating network operator can affect competition by raising rivals' costs or by passing inefficiencies to competitors. The entry barriers may also be legal or regulatory when they are not based on economic conditions, but result from legislative, administrative or other state measures that have a direct effect on the conditions of entry. That may be the case when only a limited number of undertakings have access to spectrum frequencies for the provision of the underlying services. As noted by Cave (2002, p. 8), both types of barriers are non-strategic (i.e. not artificially manufactured by the firms) as it was considered that strategic barriers like excessive investment or reinforcement of network effects would require idiosyncratic and episodic intervention, which would be better done under competition law.

The second criterion is dynamic and amounts to evaluating if the market does have the characteristics such that it will tend towards effective competition over the relevant time horizon considered[18]. If it is the case, the market should not be selected. The application of this criterion involves examining the state of competition behind the entry barriers, taking account of the fact that even when a market is characterised by high entry barriers, other structural factors or market characteristics may mean that it tends towards effective competition. This is, for instance, the case in markets with a limited, but sufficient, number of undertakings behind the entry barriers having diverging cost structures and facing price-elastic market demand. Entry barriers may also become less relevant with regard to innovation-driven markets characterised by ongoing technological progress. In such cases, competitive constraints often come from the threat of innovation by potential competitors that are not currently in the market.

The third criterion relies on the relative efficiency of competition law remedies alone to address the market failure identified according to the two first criteria compared to the use of complementary ex ante regulation. It is fulfilled when ex ante regulation would address more efficiently the market failure than antitrust would. Such circumstances include, for example, situations where the compliance requirements of intervention are extensive (e.g. the need for detailed

accounting for regulatory purposes, assessment of costs, monitoring of terms and conditions including technical parameters), where frequent and/or timely intervention is indispensable, or where creating legal certainty is of paramount concern. It is not possible to give an exhaustive list of all the circumstances where antitrust would be less efficient than sectoral regulation. In practical application, NRAs should consult with their competition authorities and take account of that body's opinion when deciding whether use of both complementary instruments is appropriate to deal with a specific issue.

In fact, these three criteria mainly boil down to two structural market problems where economic theory has shown that the market left alone would not achieve an overall long-term efficiency and that public intervention would be needed on an ongoing basis (hence sector-specific regulation would be more efficient than competition law). The first situation applies when the cost structure and the level of the demand are such that they create asymmetric conditions between market players, the topical situation being a natural monopoly case (Sharkey, 1982). That may be the case for local fixed infrastructure, in particular in rural areas where the level of fixed sunk cost may be such that only a single network provider could be profitable (Fuss and Waverman, 2002; Gasmi *et al.*, 2002; Woroch, 2002). The second situation is the presence of externalities (either due to network effects or tariff principles) where one player may impose a cost or a benefit to others without having to pay/being rewarded accordingly. That may be the case for fixed and mobile call termination in Europe due to the fact that the person called, who chooses the network to be called, imposes a negative externality to the calling party, who pays for the call (Armstrong, 2002).

Moreover, to ensure a smooth transition with the 1998 regulatory framework, it was important that all markets regulated therein were selected even if they did not fulfil the three criteria related to the inefficiency of antitrust. Therefore all obligations imposed previously may be reviewed by the NRAs. Hence, Annex I of the framework directive lists all the markets regulated under the 1998 framework and instructs the Commission to include them in its first recommendation on relevant markets[19].

Finally, new and emerging markets, in which market power may be found to exist because of "first mover" advantages, should not in principle be selected. This is because premature imposition of ex-ante obligation may unduly influence the competitive conditions taking shape in the market, even though the foreclosure of such emerging markets by the leading operator should be prevented.

3. Delimitation of the relevant markets

3.1. Market definition in competition law

General principles

The concept of "a market" may have very different meanings depending of the context (Massey, 2000, p. 12). For the

ordinary citizen, a market is the place where buyers and sellers meet. For the economist, a market is the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same good tend to equality easily and quickly. For an antitrust practitioner (NERA, 1992), a market is any product or group of products and any geographic area in which collective action by all firms would result in a profit maximising price that significantly exceeded the competitive price. In fact, the notion an antitrust relevant market is closely linked to the purposes of competition policy (Monti, 2001).

The main objective of antitrust is to control the exercise of market power by the firms in order to ensure an overall efficiency (Elhermann and Laudati, 1998). The first step of any antitrust action is thus to measure market power, which may be defined as the ability to raise price above the competitive level. Unfortunately, such market power cannot be detected directly as the competitive price is unknown. Therefore, authorities assess the market power indirectly by relying on other observable indicators. It has been shown that market power is inversely related to the demand elasticity of the firm (Bishop and Walker, 2002; Motta, 2003). But again, this elasticity is often unknown, hence other variables should be used.

It has also been shown (Landes and Posner, 1981) that market power is first, directly related to the market share, second, inversely related to the demand elasticity of the market and third, inversely related to the fringe supply elasticity. In turn, the demand elasticity of the market is inversely related to the extent of the market: the more market is defined broadly, the more market demand elasticity will be small, and the more a pre-defined level of market share will indicate market power. The fringe supply elasticity is directly related to the ease of entry: the more entry is easy, the more supply elasticity will be high, and the less a pre-defined level of market shares will indicate market power. Hence, market shares are only used as an easily available proxy to measure market power enjoyed by firms[20] and a relevant market is aimed at catching the boundaries of competition between firms for the market shares to give appropriate indications.

In European competition law, market definition principles result from Commission practice and the case law of the Court of Justice (Kauper, 1996). They have been codified in 1997 in a Notice on the relevant market (European Commission, 1997; Baker and Wu, 1998). Accordingly, a relevant market combines a product/service dimension with a geographical dimension. A product/service market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their price and their intended use. A geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are

sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.

To determine both dimensions, the competitive constraints that discipline the firms' behaviours should be identified. The first constraint comes from the demand side (demand substitution): in the case of a relative price increase, customers would switch to other products or to suppliers located elsewhere. It is not necessary that all customers switch for the price increase not to be profitable, a certain number of them may suffice. It is possible to rank the customers on a scale according to their readiness to switch and calculate the number of customers necessary to make the price increase non-profitable. The last customer on the scale who would make the price increase non-profitable is labelled the "marginal customer", and only the behaviour of this marginal customer is relevant. The second competitive constraint comes from the supply side (supply substitution): in the case of a relative price increase, new suppliers or suppliers located elsewhere will start to offer the product in a relatively short timeframe[21].

One way of assessing both substitutions is to apply the "hypothetical monopolist test" (or SSNIP test, for Small but Significant and Non-transitory Increase in Price) introduced by the US Merger Guidelines (Kaserman and Ziesel, 1996; Simons and Williams, 1993). The authority starts with a specified product in a specific area that is supposed to be offered by only one supplier, the hypothetical monopolist. It should then determine if, the prices of other products remaining constant, a small but significant (5-10 per cent) and non-transitory price increase would be profitable for the hypothetical monopolist. If this relative price increase would be profitable because the substitution possibilities are limited over a reasonable period of one year, the product and the area under review constitute a relevant market. On the other hand, if the price increase would not be profitable because the customer would cease to buy from the hypothetical monopolist, the market should be defined more broadly, adding other products and/or extending its geographical zone. The authority should continue to broaden the market until the set of products and the geographical area are such that the relative price increase becomes profitable. Nevertheless, a rigorous application of the hypothetical monopolist test requires a vast amount of data that are often not available to the authorities. Moreover, the test has several weaknesses (Crocioni, 2002), one of the most critical being the cellophane fallacy[22] leading to an overly broad market definition. In practice, the test is more a conceptual tool to focus the analysis on possible substitutability than a strict methodology to apply.

In addition, the market definition exercise may be complicated when there is no actual trading of the product or service for which the market should be defined. That may be the case when a newcomer requires access to a facility

whose access has not been granted before. In this case, the exercise may sound artificial because it creates a market in law that does not exist in practice. This is only a superficial view as the two sole conditions for a market to be defined are first, a potential customer demand and second, a technical possibility of offering the service and granting third party access. If for instance an incumbent offers retail DSL services, a market for local loop or for bitstream may be defined, even though the incumbent does not currently grant access to its local network[23]. Adding a third condition related to the existence of current supply to third parties could slow down innovation and have very distortive effects. Indeed, this condition would give incentives to the owner of the local loop to systematically deny any access, in order to ensure that its facility will not be defined as a market and ultimately that it will not be found dominant.

To conclude, three points should be underlined. First, market definition is only a means to achieve a specific end related to the objectives of antitrust: measuring market power. Second, market definition is not the sole means and economists have devised others methodologies to measure market power directly (Bishop and Walker, 2002: Part III). Third, market definitions are not unique. In practice, even within the same area at the same time, market definition can vary depending of the competition problem under investigation (OFT, 1999: para 5.16).

Antitrust cases in electronic communications sector

During the last decades, the Commission adopted numerous joint venture and merger decisions where it has defined markets in the electronic communications sector (Aitman, 2001; Bartosch, 2002; Bird & Bird, 2002; Coates and Mc Callum, 1999; European Commission, 1998; Europe Economics, 2002; Garzaniti, 2003; Squire-Sanders-Dempsey and WIK Consult, 2002). This practice is detailed in the footnotes when comparing antitrust practice with the markets defined in the recommendation on relevant markets. In general, several observations could be made. First, most of the definitions are related to retail markets. They are defined in a very segmented way, on the basis of different customer categories (residential, SME, large corporation) and their respective needs. Second, demand substitution was taken into account more than supply substitution because it constrained more directly pricing behaviours. Third, market definitions evolved over time according to technological and commercial developments. Fourth, most definitions have actually been left open as they were not necessary to decide the case.

Moreover, the electronic communications sector has peculiar features that complicated the market definition. Some characteristics have incorrectly biased the definition. As Larouche (2000b, p. 439) pointed out, the 1998 regulatory framework strongly influenced antitrust market definitions. Indeed, when a market area was covered by sectoral regulation (mainly national fixed infrastructure markets), the

Commission defined markets more on a technological basis than on a purely economic basis according to customers' categories[24]. Conversely, other features that should have influenced market definition have not adequately been taken into account. The sector is characterised by high fixed sunk costs. A benchmark price based on the marginal cost and a small mark-up (5-10 per cent) as used in the hypothetical monopolist test may be insufficient to recoup these fixed costs, and therefore would lead to an overly narrow market definition (and consequently a finding of market power where actually there is none). As put by Gual (2002, p. 12), the benchmark and the mark-up should generate sufficient revenues to cover fixed costs without leading to excess profit. In addition, the sector is often driven by important and continuous innovation, and the competition often takes place for the market instead of in the market. In this case, antitrust principles may be applied (Monti, 2000), but some cautionary notes have been raised (Posner, 2001; Shapiro, 2000). For instance, the hypothetical monopolist test, that leads to a static measure of the degree of competition in the market, is a poor guide to the more relevant dynamic competition (Evans and Schmalensee, 2001, p. 20; Veljanovski, 2001, p. 118). Again, it may lead to an overly narrow market definition, or at least a too frequent finding of market power.

In short, electronic communications markets can be, and indeed have been, defined according to competition methodologies, but always with the aim of measuring market power in a specific case and taking into consideration the characteristics of a sector heavily regulated and under constant innovation. We should now turn to the application of these methodologies in an ex-ante context, which may raise additional problems.

3.2. New sectoral regulation: the product dimension of the market

To define the product dimension of a market in accordance with antitrust principles, the regulator starts by characterising the retail markets over a one or two year time horizon, taking into account demand-side and supply-side substitutability. On the basis of the retail market definition, the regulator then defines the relevant linked wholesale or intermediate markets because the wholesale customers are – by identity – the retail suppliers. The NRA has to determine the necessary service or the infrastructure for an operator to enter a specific retail market. In examining the retail and wholesale markets for the purpose of the recommendation on relevant markets, the Commission distinguished between six broad areas that will be examined in turn: fixed voice; fixed narrowband data; fixed broadband data; fixed dedicated access (leased lines); non-fixed (mobile) voice; and broadcasting services.

Fixed voice

At the retail level, the services provided at fixed location are in separate markets than the services provided at non-fixed

locations[25]. Indeed, a small increase of the fixed services' prices may be profitable as the possibilities of substitution are limited for the demand (the marginal customer will not switch to mobile services), as well as for the supply. Of course, this distinction may change over time. When the marginal customer will switch between fixed and mobile in case of relative price increase or when offers integrating fixed and mobile services will attract sufficient customers, both services will be part of the same relevant market. Among fixed services, voice and data services appear to be sufficiently distinct, in particular in terms of demand substitution, to be part of separate markets. Again this distinction may change over time. If technological progress will make customers indifferent between voice over PSTN or voice over IP (Internet Protocol)[26], or will it make easy for a service provider to switch from voice to data offers, both services will be part of the same relevant market.

For fixed voice services, a distinction is made at the retail level between: access to the telephone lines (comprising access to incoming calls); local and/or national (outgoing) calls[27]; and international (outgoing) calls[28]. With the introduction of carrier pre-selection, these three types of services can be bought separately from different providers by the same customer, and their competitive conditions may vary. Indeed, competition has increased rapidly for international calls, and much more slowly for the access and local calls (European Commission, 2002b, p. 14). Another distinction is made between residential and non-residential (business) markets. Indeed, the demand substitutability is small (the contractual terms of access and services may vary). More importantly, the supply substitutability is limited. A supplier to the business market would normally not be able to respond to a price increase by a hypothetical monopolist in the residential market because the economics and network coverage's requirement of serving both types of customers are very different.

These six retail markets are selected in the recommendation on relevant markets because they are listed in Annex I of the framework directive, even though they do not fulfil the three selection criteria. If wholesale markets are satisfactorily regulated, retail markets show no important entry barriers, and following the logic of the new Directives, regulation should indeed focus on the intermediate markets. NRAs are thus expected to review and possibly remove retail obligations, with two caveats however. First, NRAs may want to continue to collect data on retail markets to control the absence of margin squeeze between wholesale interconnection charges and retail tariffs[29]. Second, NRAs may want to maintain price regulation, like tariffs averaging, to ensure the fulfilment of universal service objectives[30]. But the general point remains that to ensure effective competition, an effective wholesale regulation should suffice.

On the basis of these retail markets, wholesale markets may be defined by determining which networks and services

are necessary for the providers of retail telephone services and what the constraints are on the behaviours of the networks' suppliers. An undertaking wishing to enter retail markets may decide to construct its own extensive network. This would entail considerable investments which could only be viable when end-user expenditure is sufficiently high (like in a business park). Alternatively, the new entrant may rely on the existing networks and purchase or lease all or part of it. In this case, these networks may be divided in three main elements that constitute separate markets: call origination; call transit; and call termination.

It is thus appropriate to define a market for call origination including both voice and data (Internet dial-up, as explained below) communications. This market comprises all local telecom networks of the appropriate geographical area[31]. Indeed, a hypothetical monopolist would be able to raise its price profitably because the possibilities of substitution are limited for the demand (a new entrant needs access to the telephone network and cannot rely on any other infrastructures), as well as for the supply (neither the new entrant nor any other firm can easily put in place a new local network). It is also appropriate to define a separate market for call conveyance or transit (including routing and switching) because the economics and the conditions of competition between the core network and the local network are fairly different. Indeed, the demand and supply substitutability may be much more important in the core network, in particular on the so-called thick route (for example between two big cities). Finally, a market for call termination comprising voice calls only should be defined. It also refers to telecom local network, but contrary to call origination, each network constitutes a separate market[32] mainly due to the calling-party-pays principle as explained below. As the precise boundaries between the core network (transit) and local network (call origination and termination) depend on network topology of each member state, they are left for NRAs to decide.

These wholesale markets are selected in the recommendation because they are listed in the Annex I of the framework directive, but also because they fulfil the three selection criteria. Indeed, given the important (literally) sunk costs of deploying a network and the relatively small number of calls passing through them, it may happen that they present natural monopoly features which render antitrust intervention inefficient. That is particularly the case for the local access network and for transit on thin route.

Fixed data narrowband

At the retail level and for fixed data services, a distinction could be made between: narrowband access; broadband access in excess of 128kbits/s[33]; and dedicated access of varying capacity[34]. Narrowband and broadband have different characteristics and their market definition is hotly debated[35]. Narrowband is provided with dial-up access over a telecom network, and offers limited capacity that can

be insufficient for some hungry bandwidth applications. On the other hand, broadband access can be provided over several infrastructures (like telecom copper pairs with DSL or upgraded cable TV), offers large capacity, and is always on. The commission considers that narrowband and broadband are part of two separate markets, mainly due to the asymmetric substitution. It may well be that the narrowband marginal customer would switch to broadband if the price of narrowband access increases. But the reverse does not hold because broadband access provides such specific features that customers may want to keep "at any price".

It is thus appropriate to define a retail market for narrowband access[36]. It comprises metered and un-metered (flat rate) offers because the substitution possibilities are important for the demand (end-users would easily switch between both products as the only difference between them is the way in which tariffs are structured), as well as for the supply (suppliers of metered Internet access could easily switch to offer un-metered access if a hypothetical monopolist increased its price if obligation exists to allow new entrants to buy wholesale call origination on an un-metered basis). This retail market is not identified in the recommendation on relevant markets because it is not listed in Annex I of the framework directive and it does not fulfil the three selection criteria. As explained above, if wholesale regulation is satisfactory, retail markets do not show important entry barriers.

To define the relevant wholesale markets related to narrowband data access, the inputs necessary for an Internet service provider (ISP) supplying dial-up Internet should be determined: call origination from the end-user; call termination to the ISP; and Internet connectivity. First, the market for call origination is the same as the one defined above, i.e. all telecom local networks comprising both voice and data communications. Metered and un-metered call origination are part of the same market as the choice between metered and un-metered access is only a question of obligation to be imposed on the SMP operator. Second, the termination of Internet calls to the ISP servers constitutes a different market than the termination of voice calls between two end-users because the economics and conditions of competition between both types of termination differ. Most end-users cannot choose between different fixed networks to terminate their calls at home, and they do not pay termination charges. On the other hand, the ISPs can usually choose between different network providers to terminate their traffic, and depending of the business models they may have to pay the termination of Internet calls. ISPs have thus a possibility and an incentive to minimise the termination charges, hence this market could be competitive. Third, there may be one or several markets for Internet connectivity[37] that ensure that the data packets sent by the Internet user reach the intended destination on the public Internet. Again, it can be shown that the economics of Internet connectivity markets differ from

voice call termination because there is no problem of economies of scale of externalities (WIK Consult, 2002).

Among these three wholesale markets, only the call origination market has been selected in the recommendation on relevant markets as it presents some characteristics of a natural monopoly. On the other hand, termination of Internet calls and Internet connectivity are not identified as they are not listed in Annex I of the framework directive and they do not fulfil the three selection criteria (due to the absence of problems of economies of scale and scope or tariffs' externalities).

Fixed data broadband

At the retail level, it is appropriate to define a fixed broadband access market that comprises all substitutable available technologies, such as telecom and cable infrastructure (Crandall *et al.*, 2002, p. 961)[38]. Nevertheless, this market is not identified in the recommendation for the usual reasons applying to retail markets.

To enter this retail broadband data market, a new entrant needs a transmission channel from the end-user, a termination to the ISP and an Internet connectivity. Currently, the possible transmission channels from the end-users are the telecom networks upgraded with DSL technologies, the coaxial cable, and sometimes satellite capable of passing data in both directions at an appropriate rate. In the future, other technologies (like wireless local loop, digital broadcast systems and power-line systems) may be widely available but not in a one to two year time frame. Two markets may thus be defined: access to the metallic loops and wholesale broadband access.

The first comprises full and shared access to the telecom local loops and sub-loops[39]. The local loop[40] is the physical circuit connecting the network termination point at the subscriber's premises to the main distribution frame or equivalent facility in the fixed public telephone network. Full access means the provision of the full frequency spectrum of the loop, whereas shared access refers only to the use of the non-voice band frequency spectrum of the loop[41]. The last mile of the telecom infrastructure constitutes thus a relevant market (Vintje and Kalimo, 2000). Indeed, a hypothetical monopolist would be able to raise its price profitably because the possibilities of substitution are limited for the demand (a new entrant may need access to the local loop and cannot rely on any other infrastructures), as well as for the supply (neither the new entrant nor any other firm can easily put in place a new local network due to the important economies of scale and scope)[42].

The wholesale broadband access market covers bit-stream access over telecom infrastructure. Bit-stream access refers to the situation where the incumbent installs a high-speed access link to the customer premises and then makes this link available to third parties to enable them to provide high-speed services to customers. It may be defined as the provision of transmission capacity between an

end-user and the point of interconnection available to the new entrant (European Commission, 2002b, p. 28)[43]. But the relevant market should also cover wholesale access over other infrastructures when they provide equivalent facilities to bitstream. For instance, it may comprise cable when it is widely deployed and is able to provide the same services as bit-stream[44].

Wholesale broadband access constitutes a separate market from access to the local loop for at least two reasons. First, it may imply access further up in the network (at an ATM interconnect point and not at the main distribution frame (MDF)), which means that the newcomer's network could be less extensive. Second, it leaves less flexibility for the new entrant to tailor its services and to differentiate itself from the incumbent. For instance, if the incumbent proposed an ADSL bitstream offer, the new entrant could not rely on it to provide an SDSL retail service. Hence, the demand substitutability between both types of access is limited. If the hypothetical monopolist increases the price of broadband access, the marginal new entrant will not switch to the unbundling as that would require additional, and possibly uneconomic, investments to enlarge its network. Conversely, if the hypothetical monopolist increases the price of the unbundling, the new entrant will not necessarily switch to broadband access as it would lose some flexibility to tailor its services.

Access to loop is identified in the recommendation because it is listed in Annex I of the framework directive and it fulfils the selection criteria. Indeed, it may be shown that it is still uneconomic to duplicate infrastructure between the MDF and the end-user's premises (there are still symmetric conditions between incumbents and new entrant preventing entry of the latter). The identification of wholesale broadband access is more problematic as the market is not listed in Annex I of the framework directive and the fulfilment of the three selection criteria may vary across member states. Surely, if wholesale broadband access can only be provided by one infrastructure (telecom) and it may be shown that it is uneconomic to duplicate infrastructure between the ATM interconnect point and the end-user's premises, then the market presents some elements of a natural monopoly. Conversely, if alternative infrastructures already exist (like cable, fibre or satellite) between the end-user's premises and the interconnect point, there is no element of natural monopoly and the market would fail to meet the selection criteria[45].

Fixed leased lines

Retail markets of leased lines may have links with some of the above described markets related to access data, as for instance dedicated connections may be an alternative to unbundled local loops in certain circumstances. But in general, leased lines appear to be in separate markets as they offer a dedicated connection between two specific points and can provide capacity way above a DSL or cable

modem connection. In general, these retail markets should not be identified as they do not fulfil the three selection criteria. Nevertheless, the commission selected the markets for the minimum set of leased lines (which comprises seven types of leased lines[46]) as it was instructed to do by Annex I of the framework directive. It did not identify a specific market for each category of leased lines in the minimum set since it is likely that the market structure will be similar for each sub-set.

Wholesale markets may be defined in parallel with the retail markets[47]. It is possible to distinguish between the terminating segments (or local tails or local segments) and the trunk segments as the economics of both may be different. Indeed, the problem of economies of scale and scope may be less prevalent for the trunk segments where major routes are likely to be effectively competitive. As was the case for call origination/termination and call transit, the boundaries between terminating and trunk segments vary according to the topology of each network and consecutively is left for the NRA to decide. Moreover, it is also possible to segment markets between low and high capacity leased lines.

Mobile voice

Similarly to the fixed markets, it seems appropriate to distinguish at the retail level between mobile voice and mobile data services[48] (including SMS). At this stage of technological development, substitution possibilities are limited for the demand (the marginal consumer cannot easily switch between voice and data services), as well as for the supply. With regard to mobile data markets, the delineation of their boundaries is quite complex as they are mainly emerging markets under important technological innovation. Precisely because these markets are emerging, they are not selected in the recommendation and their definitions are left open.

The mobile voice market is much less segmented than fixed voice markets due to the additional supply substitutability. It covers analogue and digital technologies (GSM-900 and DCS-1800)[49]. It includes national, international and roaming calls[50]. Indeed, if demand substitutability is limited as these three types of calls are not interchangeable for the end-users, the supply substitutability is important as mobile operators can easily switch in offering these different services. In addition, the market includes residential and business customers. There is demand substitutability as end-users may be indifferent between tariff packages designed for business or residential users provided the terms suit their usage profile. But more importantly, there is supply substitutability as an undertaking serving the business market may easily switch to supply residential users because the network coverage of each mobile provider is extensive. Finally, pre and post pay mobile are also in the same market because the possibilities of demand and supply substitutability are important.

Nevertheless, this market is not identified in the recommendation for the usual reasons applying to retail markets.

On the basis of the retail mobile voice market, the linked wholesale markets are defined by determining the elements needed to offer services to end-users. Four key elements are required: network access and call origination; international roaming (which is an access to a foreign network); call conveyance; and call termination. Similarly to the fixed markets, the mobile access and call origination market comprises all mobile networks of the appropriate geographical area (often the national territory)[51]. This market is selected in the recommendation because it is listed in Annex I of the framework directive. However, it does not appear to fulfil the second and the third selection criteria. If there are high legal entry barriers due to the limited amount of available spectrum, it seems that behind the barriers there could be sufficient competition between existing networks. For this reason, the European Commission (2003, p. 30) indicates that it does not anticipate retaining this market in future revisions of the recommendation.

The international roaming market covers access and airtime minutes that a foreign mobile network operator (home network) requests to a domestic mobile network operator (visited network) to enable its subscribers to make and receive calls on another operator's network while being abroad[52]. This market comprises also all national mobile networks. It is distinguished from the access and call origination because this latter market cannot provide the features of coverage, accessibility and mobility inherent to international roaming. Roaming market is selected in the recommendation on relevant markets because it is listed in Annex I of the framework directive, but it may be argued that it does not fulfil the selection criteria. The case is similar to the access and call origination, albeit to a lesser extent due to the lack of transparency of the retail roaming charges.

Finally, a market for mobile call termination could be defined. Contrary to mobile origination, each mobile network constitutes a separate market[53] for several reasons, the main one being the externality generated by the calling-party-pays principle. In case of call termination, the demand substitutability is limited. At the wholesale level, it is non-existent. If Mr X wants to call Mrs Y, the network of X has no choice but to terminate the call on the network of Y. At the retail level, some demand substitutability may exist, as X may decide to call Y on her fixed line, ask Y to call him back or send an SMS to Y. But all these possibilities appear to be insufficient to effectively constrain the pricing behaviour of Y's network. Given the current state of the technology, the supply substitutability is equally limited. Another mobile operator cannot enter and propose to terminate the call to Y's handset. That may arise in the future if handsets with multiple SIM cards and the possibility for the calling person to choose the terminating network will be offered, but that is

not the case yet. It appears thus that pricing behaviour of each mobile operator is not constrained, hence each of them is part of a separate relevant market.

But some (Groebel, 2002, p. 154; Gual, 2002, p. 33) argue that this definition is artificial and too static. They say that call termination is part of a bundle of services that Mrs Y gets when choosing her network: she buys the possibility of calling and being called. Relying on the literature on product complements, these critics argue that a broad market for mobile services comprising all national mobile providers should be defined. If the logic of their argument is right, their conclusion appears to be incorrect, due to the calling-party-pays principle that is common across Europe. Under this tariff arrangement, Mrs Y chooses the terminating network but does not have to pay for the call. Hence, she will not take into account the level of the termination charges when deciding her network and the pricing behaviour of each network provider will not be constrained. On the other hand, Mr X pays but cannot choose the network. There is a dichotomy between the person who pays and the one who chooses, or in other words, Mrs Y imposes a partial negative externality on Mr X that justified a narrow market definition[54].

Then the critics come back arguing that if Mrs Y does not care about the price to be called, some other customers may do because they pay the invoice of the calling person. That may be the case of a company giving mobile handsets to its staff. If sufficient mobile customers, or indeed the marginal customer, pay attention to the termination charge and would switch to other providers in case of a relative price increase, that may be enough to constrain the termination pricing behaviour. Again, the logic of the critics is right, but their conclusion does not hold given the current market conditions. It is true that some customers pay attention to the termination rate, but it is equally true that mobile providers isolate this group of clients by offering them special on-net offers[55]. With discrimination, mobile providers remove the competitive pressure of the clients who care about termination and are able to over-charge the ones who do not care.

In the end, the only consensual point is that the definition of mobile termination is a very complex and ultimately empirical question[56]. If some competitive pressures are present in the market (like handsets with multiple SIM cards, or a sufficient group of customers who pay attention to the termination rate and cannot be discriminated against), it is appropriate to define a broad market for mobile services comprising all national operators. Conversely, if these pressures are absent, it is appropriate to define a set of markets for termination services comprising only one network.

The call termination market is then identified in the recommendation on relevant markets because it is listed in Annex I of the framework directive, but also because it fulfils

the criteria related to antitrust inefficiency, mainly due to the externality generated by the calling-party-pays principle.

Broadcasting

The retail markets consist of the delivery of radio and television broadcasting (that may be free or subscription based), as well as interactive services. Currently, these services may be delivered over three types of platforms: terrestrial; cable; or satellite. Each of the platforms may be analogue or digital (BIPE Consulting, 2002). No retail market is identified in the recommendation on relevant markets, and consecutively their precise definitions are left open[57]. Indeed, retail broadcasting markets intrinsically mix two elements, one related to content (the services transmitted) and the other one related to network (the underlying infrastructure needed to provide the content). The first is outside the scope of the new regulatory framework, hence could not be regulated by the NRA under the SMP regime. The second is covered by the framework, but should not be selected as any other retail market.

The wholesale markets refer to the infrastructure necessary to provide broadcasting services: transmission network and ancillary technical services. It is thus appropriate to define a market for transmission services to deliver broadcast content to end-users due to the limited substitutability of the demand (a new broadcaster has little choice but to use the existing platforms), as well as the supply (an existing network supplier cannot easily adapt its network to provide broadcasting services and the establishment of a new network takes time and may be uneconomic due to the important economies of scale and scope). The market covers analogue and digital platforms[58]. The recommendation on relevant market seems to give flexibility to the NRAs to decide if the transmission market covers all three main existing broadcasting platforms (i.e. terrestrial, cable and satellite) or if each platform should be defined as a separate market[59]. The constraint that the platforms exercise on each other and the appropriate market definition depends mainly on the feasibility for the broadcasters to switch between platforms. In turn, that depends on the switching possibilities for the end-users and on the coverage, the capabilities and the price of each platform.

It is also appropriate to define markets for ancillary technical services – the so-called associated facilities. Three main associated facilities may be distinguished: conditional access; application program interfaces; and electronic programme guides[60]. Therefore, similarly to transmission networks, it has to be decided if the market for CAS covers the three main platforms (terrestrial, cable or satellite) or if each of them constitute a separate market[61]. The flexibility left to the NRAs is reduced as the recommendation tilt in favour of an inter-platforms market for each associated facility. But it admits that each platform may be defined as a separate market if switching costs between alternative

delivery platforms for the marginal user would be sufficiently high.

The market for transmission services is identified in the recommendation because it fulfils the three selection criteria, even though it is not listed in Annex I of the framework directive. On the other hand, no market for associated facilities is selected. Nevertheless, the Access Directive provides that NRAs may impose, outside the SMP regime, fair, reasonable and non-discriminatory access obligations to all CAS providers. At the same time, the directive allows member states to limit this access provision to CAS providers enjoying significant market power[62]. That implies that NRAs must be able to identify a market for CAS.

3.3. New sectoral regulation: geographical dimension and geographical aspect of the product dimension

The determination of the geographical dimension of the market in the electronic communications sector is particularly complex because it is a network industry, hence each product or service is geographically bound. It is thus important to distinguish, on the one hand, the geographical aspect of the product dimension and, on the other hand, the geographical dimension of the market.

Concerning the geographical aspect of the product dimension, the definition may be based on the route to be followed, or on the network to be used. At the limit, the route-by-route approach implies that every combination of two points (like the link between two telecom customers) is a separate product market. This has been adopted in some airline competition cases[63] because the time to travel is substantial and even the most frequent flyers do not fly more than several times a week. This approach does not make sense in telecom (Larouche, 2000b, p. 418) because the signals travel very quickly on networks (hence a customer may be indifferent if his conversation is routed directly between London and Paris or has to pass via Amsterdam), and the tariffs are usually averaged across different routes for economic and legal reasons[64]. Therefore, it is more appropriate to adopt an approach by network, possibly sliced according to the economic conditions to deploy its different parts (distinction between local and trunk segments)[65].

Turning now to the geographical scope of the market, it used to be determined by the existence of legal and other regulatory instruments and by the area covered by the network. Some noted a tendency towards a pan-European dimension of the markets. If previously telecommunications markets were divided along national borders due to regulatory and technical restrictions, nowadays electronic communications services can increasingly be provided or sold across national borders due to the liberalisation and the harmonisation of technical standards and licensing procedures across Europe. Nevertheless, the majority of electronic communications markets today have still a national dimension. Moreover, all the markets that have

structural problems justifying ex ante regulation have a national[66] or even infra-national[67] dimension for economic and legal reasons. Indeed, at this stage the Commission does not foresee identifying trans-national markets susceptible to ex ante regulation.

4. Summary[68]

On the basis on the three selection criteria and Annex I of the framework directive, the recommendation identifies 18 markets listed in Table I. Several observations can be made. With regard to the selection of markets, the two main reasons to identify a market are the presence of entry barriers due to asymmetric conditions between market players or externalities generated by tariff structures. Hence, few retail markets have been identified. Following the logic of the new directives, the commission considers that regulation should focus on wholesale markets where barriers to entry lie and be lifted from retail markets. In addition, most of the identified markets are listed in Annex I of the framework directive, and at the same time fulfil the three selection criteria related to antitrust inefficiency. Therefore, in practice the scope of the new SMP regime (as captured by the three criteria) is broadly similar to the scope of the previous regime (as listed in Annex I), and no fundamental regulatory revolution will take place. However, a few markets (like mobile call access and origination) do not fulfil the criteria and should therefore be

expected to be lifted from the future recommendations. Conversely, other markets were not listed in Annex I but are identified as antitrust appears to be inefficient.

With regard to market delineation, boundaries are defined on a forward-looking basis taking into account the developments foreseen over a reasonable period of time because sector-specific regulation intervenes ex ante and for the future. In addition, markets are still very much defined on a technological basis, albeit to a lesser extent than under the 1998 regulatory framework, because they have not yet fully converged. Therefore, customers' preferences (demand substitution) are still linked to technologies and different group of customers (like residential and business) may be served by different technologies. In addition, the possibilities for network suppliers to switch from one service offering to another (supply substitution) are limited. Only in a fully convergent world would market be defined on a purely service basis, freed from any technological limitations.

5. Final observations

The new SMP regime: a more flexible and complex regulation

The first and most obvious conclusion is that the new directives make the market definition exercise (selection and delineation) more flexible and more complex than previously. Under the 1998 framework, markets were pre-defined on a

Table I — Markets defined in the Commission recommendation on relevant markets

	Retail markets	Wholesale markets
Fixed location voice	<ol style="list-style-type: none"> 1. Access to the public telephone network at a fixed location for residential customers 2. Access to the public telephone network at a fixed location for non-residential customers 3. Publicly available local and/or national telephone services provided at a fixed location for residential customers 4. Publicly available international telephone services provided at a fixed location for residential customers 5. Publicly available local and/or national telephone services provided at a fixed location for non-residential customers 6. Publicly available international telephone services provided at a fixed location for non-residential customers 	<ol style="list-style-type: none"> 8. Call origination on the public telephone network provided at a fixed location (for voice and Internet dial-up calls) 9. Call termination on individual public telephone networks provided at a fixed location (for voice call only) 10. Transit services in the fixed public telephone network
Fixed location Narrowband data		Idem 8
Fixed location Broadband data		<ol style="list-style-type: none"> 11. Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services 12. Wholesale broadband access 13. Wholesale terminating segments of leased lines 14. Wholesale trunk segments of leased lines 15. Access and call origination on public mobile telephone networks 16. Voice call termination on individual mobile networks 17. International roaming on public mobile networks 18. Broadcasting transmission services, to deliver broadcast content to end-users
Fixed location Dedicated access	<ol style="list-style-type: none"> 7. Minimum set of leased lines 	
Mobile voice		
Broadcasting		

technological basis in the directives adopted by the council and the European parliament. Under the new framework, markets will be periodically re-defined jointly by the commission and the NRAs on the basis of demand and supply substitutability. The leadership of the engineer is replaced by the reign of the economist. And for good or for worse, lawyers can be reassured that they will continue to eat their part of the cake, probably even more than before.

On the one hand, this additional flexibility, which was indeed one of the main aims of the reform, should be welcomed as it will make the framework future proof and ensure regulatory decisions closer to the economic reality of the market. On the other hand, this flexibility and complexity carry some dangers. First, they could lead to additional regulatory divergences across member states if NRAs were to adopt different solutions for similar problems. Second, complexity will surely increase regulatory costs. The administrative burden for the NRA to collect and analyse data in order to define appropriate markets, and for the industry to provide these data, has been substantially increased. All the more so that market boundaries set by the NRAs would not necessarily correspond to the ones used by the marketing departments of the operators, hence requested data would not be easily available. Moreover, complexity may increase legal challenges and legal uncertainty so much feared by today's investors[69].

To ensure that the telecom reform would benefit end-users, both dangers should be alleviated. NRAs should actively co-operate with their counterparts to achieve a common regulatory culture[70]. Moreover, they should do their job properly, requiring only a reasonable amount of data to the operators. National courts should then show deference to the NRAs and reform their decisions only in cases of manifest error. Moreover, judges should not necessarily set a burden of proof as high as the one set for the antitrust authorities.

The three selection criteria: a new regulatory paradigm

The second conclusion is that the three markets selection criteria change radically the rationale justifying the SMP regulation. Under the 1998 framework, the scope of the SMP regime was rigidly determined in the directives and related to the competitive conditions under which infrastructures have been deployed. It mainly applied to markets previously under legal monopoly (fixed voice networks and services and leased lines) and was thus linked to the so-called "original sin" of the previous monopolists. Under the new directives, the scope SMP regulation is determined more flexibly, and is dis-connected from the original sin to be linked with antitrust inefficiency to control market power. This is a radical shift of the regulatory paradigm. It is now up to the commission and the NRAs to decide the scope of the SMP regime on the basis on economic criteria.

Again this reform is two-sided. It should be welcomed as it may ensure more efficient choice between the use of

antitrust and sectoral regulations. But it carries two dangers. First, the new paradigm may create variation of the SMP regime's scope across Europe. Indeed, this scope may be narrower in the member states having a very efficient antitrust authority than in the countries having a much less efficient antitrust authority. Second, the new paradigm may increase or even perpetuate regulation, even though the new directives were aimed to be de-regulatory. Indeed, it is now possible to apply regulation to markets that developed under competitive conditions, and that will be decided by the commission and the NRAs on the assumption that antitrust would be inefficient to regulate market power[71].

To alleviate the first danger, the three selection criteria should be related to the relative efficiency of the legal instruments, and not to the efficiency of the competition authorities compared to the NRAs. In other words, it should be linked to market structure and type of market power to be controlled, and not to institutional issues. This distinction may be difficult to apply in practice as the efficiency of a legal instrument is surely linked to the efficiency of the authority in charge. Nevertheless, that should be the line of thinking to ensure a common scope for the SMP regime across Europe, and NRAs should co-ordinate themselves to try to achieve common solutions. The second danger is even more critical because it is not clear that the NRAs (and the Commission to a lesser extent) have the incentive to refrain from regulation. It is thus of the utmost importance these authorities apply the selection criteria reasonably in full consultation with the competition agencies (which have less incentive to maintain regulation), and if in doubt refrain to regulate. Fortunately at this stage, the first recommendation on relevant markets does not appear to extend regulation dramatically.

The market delineation: a second best alignment on competition law principles

The third conclusion is that even though sectoral law has been aligned to antitrust principles, markets defined by the NRAs will not necessarily coincide with the ones defined in competition law cases[72]. The markets identified in the recommendation are sometimes broader and delineated more according to technologies than the markets defined by the commission in its competition practice. Indeed, the use of identical methodologies in different contexts may lead to different results. Regulators start from a broader perspective, identify a structural problem and build around the market with a prospective approach. On the other hand, antitrust authorities deal with a precise event (abuse of dominant position, anti-competitive agreement or concerted practice, concentration) that may be linked to one or more undertakings around which the market is defined.

This divergence leads to the assessment of the relevance of importing antitrust methodologies in a sectoral context. Among others, Larouche (2002, p. 148) argues that competition law has been stretched beyond its reasonable limits, and that it would have been preferable to keep both

policy instruments clearly separate. As market definition is only a means to an end, we should investigate if delineating market boundaries according to antitrust principles helps to achieve the objectives of the SMP regime. Sectoral economic regulation (from which the SMP regime is a subset) aims to control hard-core market power requiring prescriptive, speedy and far reaching intervention. In telecom, four sources of market power justify regulation[73]:

- (1) important economies of scale and scope, justifying regulation of fixed local access network;
- (2) negative externality due to the calling-party-pays principle, justifying regulation of call termination;
- (3) positive externality generated by network effects, justifying regulation of interconnection; and
- (4) positive externality due to the control of proprietary standards, justifying regulation of the standardisation process.

The three first reasons base the SMP regime[74]. The appropriate question is thus to what extent the market definition helps to detect these three types of hard-core market power.

At first sight, the market delineation exercise does not seem not very useful at finding hard-core market power because it is just a means to measure market power independently of its source. For instance, the weakness of the SSNIP test to detect natural monopoly has been illustrated with the essential facilities cases (Temple Lang, 1994, 2000). It is debatable if the essential facility is limited to the control of natural monopoly (Lipsky and Sidak, 1999, p. 1220; Werden 1987, p. 476) or goes beyond (Doherty, 2001, p. 424), but for the simplicity of the argument, let us say that it is the competition law tool to regulate natural monopoly. In the main essential facility case in Europe[75], the Court of Justice used two different tests to define a market and to qualify an essential facility[76], the second one being stricter (indeed it could amount to a natural monopoly test). Ultimately, only this second test matters to decide the imposition of third-party access, hence the definition of market is largely irrelevant. Similarly, to decide if (and at which point) access should be given to the fixed local access network, a sort of essential facility test should be undertaken by the NRAs (Hausman and Sidak, 1999)[77], and the mere market definition will not suffice.

Should we then conclude that the use of antitrust market delineation was an unfortunate policy option, at best a waste of time and at worst a device for misleading results. Not necessarily. Surely, this option offers at least two advantages. First, it ensures more rigorous economic analysis in the regulatory decisions. Antitrust principles are not able to find the hard-core market power that should be regulated, but it may guarantee that markets are rigorously built around the detected problems. Second, it ensures some harmonisation across Europe and that the additional flexibility of the new regulatory framework is not introduced at

the expense of the realisation of the common market. Indeed, the option forces NRAs to rely on strongly Europeanised principles and enhances the powers of the equally Europeanised national competition authorities and the Competition Department of the European Commission.

Therefore, it is true that antitrust market delineation principles would not detect the hard-core market power that sectoral regulation is deemed to control. It is equally true that in the best possible world, it would have been preferable to get one European regulator (or a very close network of national regulators) that is instructed to intervene when they face hard-core market power and is free to decide which economic methodology to follow in order to detect these types of market power. But, given the institutional structure of the European telecom regulation composed of several national authorities only loosely connected and not all accustomed to economic analysis, the use of antitrust principles was perhaps a second best option.

Again this reform is two-sided. It should be welcomed as it will ensure more economic analysis in regulatory decisions. But it carries two related risks: to isolate the market delineation from the rest of the SMP process; and to expect identical results under sectoral law and antitrust (with judicial appeal in case of divergences). To alleviate these dangers, NRAs and national judges should make sure that market delineation is undertaken in view of the objectives of the sectoral regulation. It is only one step – and surely not the most important one – to detect and regulate hard-core market power. The selection criteria and the choices of obligations are much more critical.

The way to the heaven?

“La route de l’enfer est pavée de bonnes intentions.” Surely, the new European regulation for electronic communications and the alignment of the SMP regime on antitrust methodologies is based on sound premises. It should deliver a more flexible, efficient and economic regulation. But it carries several dangers, like dis-harmonisation or increase in regulatory costs, which may lead the sector to hell. It is up to all the actors, in particular the NRAs and the national courts, to alleviate these dangers. Then, progress will be made on the way of the so promising e-society! ■

Notes

- 1 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 (Framework Directive), OJ 24.4.2002, L 108/33; 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 (Authorisation Directive), OJ 24.4.2002, L 108/21; 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 services (Access Directive), OJ 24.4.2002, L 108/7; 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 (Universal Service Directive), OJ 24.4.2002, L 108/51.
- 2 Note from the Commission services/DG XIII of 1 March 1999, *Determination of Organisations with Significant Market Power*, available at: <http://europa.eu.int/ISPO/infosoc/telecompolicy/en/SMPdeter.pdf>
 - 3 The comments received during the public consultation held on the recommendation are available at: www.europa.eu.int/information_society/topics/telecoms/regulatory/publicconsult/index_en.htm
 - 4 Nevertheless, two types of markets have a special regime. First, if a selected market has a trans-national dimension (i.e. covers the community of a substantial part thereof), the role of the Commission is more important due to the additional European interest at stake. It should define the product but also the geographical dimension of the markets, and adopt a decision that is legally binding for the NRAs. Second, some markets to be analysed by the NRAs are pre-defined in the directives, hence should not be identified again in the Commission Recommendation: Article 6 of the Access Directive (conditional access systems), Article 18 of the Universal Service Directive (minimum set of leased lines), Article 19 of the Universal Service Directive (access to and use of the public telephone network at a fixed location).
 - 5 Any recommendation or soft law instruments should be taken into account by national authorities and national courts, see Grimaldi C-322/88 (1989) ECR I-4407 para 18. Due to the veto power of the Commission on the NRA's market definition, the legal force of the recommendation on relevant markets is further reinforced.
 - 6 United Brands 27/76 [1978] ECR 207; Hoffman-La Roche 85/76 [1979] ECR 461; Gencor T-102/96 [1999] ECR II-753; Compagnie Maritime Belge C-395/96, C-396/96P [2000] ECR I-1365; AirTours T-342/99 [2002] ECR II-2585.
 - 7 Articles 8 to 13 of the Access Directive. Exceptionally and with the prior agreement of the Commission, the NRA may also impose other remedies, possibly structural ones like divestiture.
 - 8 Article 8(4) of the Access Directive and Article 17(2) of the Universal Service Directive, and Guidelines on market analysis, para 118.
 - 9 Article 8 of the Framework Directive.
 - 10 Article 17 of the Universal Service Directive
 - 11 For instance, in several consultation documents of March and April 2003, Oftel decided to review the following clusters of markets: (1) fixed narrowband retail markets, (2) fixed narrowband wholesale exchange line, call origination, conveyance and transit, (3) wholesale international services, (4) wholesale unmetered narrowband Internet termination, fixed geographic call termination, (5) wholesale broadband access, (6) leased lines, and (7) mobile access and call origination, available at: www.oftel.gov.uk/publications/date_order/2003_pubs.htm
 - 12 Article 7 of the Framework Directive and Commission Recommendation on notifications under Article 7 of the Framework Directive, to be adopted.
 - 13 Recital 38 of the Framework Directive.
 - 14 Recital 19 of the recommendation on relevant markets. If an NRA does not notify for review its decision to the Commission, the consequences have yet to be tested. The Commission may take an infringement procedure against the Member State under Article 226 EC. In addition, it is possible that the Court of Justice will decide that the NRA measure is not enforceable against individuals the national in legal order. For a similar solution in the context of the transparency Directive (at the time of the cases, Directive 83/189/EEC), see: CIA Security International C-194/94 [1996] ECR I-2201 paras 45-55 and Sapod Audic C-159/00 [2002] ECR I-5031 paras 47-53.
 - 15 Article 15(1) Framework Directive provides that "The Recommendation shall identify [...] those product and service markets within the electronic communications sector, the characteristics of which may be such as to justify the imposition of regulatory obligations set out in the Specific Directives" and Recital 27 provides that "It is essential that ex ante regulatory obligations should only be imposed where [...] national and Community competition law remedies are not sufficient to address the (competitive) problem".
 - 16 Recitals 9 to 16 of the Recommendation on relevant markets, as explained by Section 3.2 of the Explanatory Memorandum.
 - 17 The termination charges are the wholesale charges that the calling network pays to the called network. This charge is then passed on as a retail charge to the calling customer.
 - 18 This criterion is only based on structural elements, and should not pre-empt the market analysis done by the NRA.
 - 19 European Commission (2003: Tables I and II) for a correspondence between the market areas defined under the 1998 regulatory framework and those identified in the recommendation. The Annex contains also one market that was not regulated under the 1998 framework (the roaming market), as the European legislature wanted to be sure that this market will be analysed by the NRAs.
 - 20 Competition authorities follow three steps: definition of market, calculation of market shares, and inference of market power on the basis of the market share. It should be stressed that market shares alone do not give much indication and should be linked to the extent of the market as well as to the barriers to entry. For instance, 50 per cent market shares on a narrowly defined market may indicate less market power than 10 per cent market shares on a broadly defined market.
 - 21 European competition practice distinguishes between supply substitution and potential competition (European Commission, 1997, paras 20-24). The first refers to short-term supply substitutability and is taken into account at the market definition stage. The second refers to long-term supply substitutability and is taken into account at the dominance assessment stage.

- 22 In Article 82 EC investigations or in sectoral regulation, the starting price to apply the SSNIP test should be the competitive price (most of the time the marginal cost). As this competitive price is often unknown, the authorities may be tempted to rely on the prevailing price in the market. But this existing price may be higher than the competitive price because firms have already abused their market power. Using prevailing price leads to an overly broad defined market, and possibly no finding of dominance where there is indeed market power. This shortcoming of the SSNIP is known as the cellophane fallacy, after the 1956 duPont case, when the US Supreme Court has fallen in the trap and defined an overly broad market of cellophane (European Commission, 1997, para 29; European Commission, 2002a, para 42).
- 23 The market definition may be more complex if the incumbent does not offer retail DSL services, but the newcomer wants access to the local loop to offer DSL services. It seems to me that even in this case, a market for local loop or bitstream may be defined, otherwise innovation may be slowed down. That does not mean that every type access requested by a new entrant should be defined as a market, some substitutability test having to be done.
- 24 For instance compare the early global strategic alliances cases (like Commission Decision of 27 July 1994, Concert, OJ 27.8.94, L 223/36; Commission Decision of 17 July 1996, Atlas, OJ 19.9.1996 L 239/23; Commission Decision of 29 October 1997, Unisource, OJ 20.11.97 L 318/1) and the later full merger cases (like Commission Decision of 13 October 1999, Telia/Telenor, M. 1439, OJ 9.2.2001, L 40/1, Commission Decision of 10 July 2002, Telia/Sonera, M. 2803). The first cases centred market definition on the target customers and defined for instance "market for the provision of global advanced telecom service to multinational corporations", or "customised packages of corporate services and packet-switched data services". The second stream of cases focused more on technological differences and defined for instance a market for the provision of local loop.
- 25 That has been the long practice of the Commission: Commission Decision of 4 October 1995, GSM in Italy, OJ 23.11.1995 L 280/49; Commission Decision of 18 December 1996, GSM in Spain, OJ 18.3.1997 L 76/19; Telia/Telenor, para 94; Commission of 20 September 2001, Pirelli/Editizione/Telecom Italia M. 2574, para 33.
- 26 That is not the case yet: Communication from the Commission on the Status of voice on the Internet under Community law, OJ 22.12.2000, C 369/3.
- 27 Calls from fixed location to mobile telephones or to non-geographic numbers are considered to be part of the broad local and national calls. Indeed, if the demand substitution are fairly limited (for a consumer, a call to a mobile number is not substitutable to a call to a fixed number), the supply substitution may be important (a fixed telephone provider may be in a position to purchase the wholesale elements needed like mobile termination if a hypothetical monopolist of the fixed to mobile calls attempts to increase prices).
- 28 Similarly, Telia/Telenor, paras 85-7 built the relevant market analysis around the conventional split of services and concludes that local, long distance and international calls can be treated as separate markets.
- 29 European Commission (2003, p. 4) notes that the NRA may collect data on any market covered by the new regulatory framework, regardless of whether it is identified in the Recommendation.
- 30 Articles 3 to 15 of the Universal Service Directive.
- 31 Some argued that at the limit each customer should be defined as a relevant market. As explained below, when dealing with the route-by-route aspect of the product market, that would only make sense if the network provider were able to charge its customers differently. Until this discrimination is not feasible for commercial and legal reasons and tariffs are "averaged", all customers should be part of the same relevant market.
- 32 See similarly Telia/Sonera, para 32. The single network market definition does not mean that every terminating network operator has SMP; this depends on the degree of any countervailing buyer power and other factors potentially limiting the market power.
- 33 The minimum bandwidth for broadband access varies according to the authors and regulatory authorities and will evolve and increase over time according to technological developments (for instance, Crandall *et al.*, 2002 use 56kbits/s referring to the FCC practice, whereas Oftel in a recent document of 28 April 2003 is thinking to use a limit of 256kbits/s, see: www.oftel.gov.uk/publications/eu_directives/2003/state0403.htm). Even in the European regulatory framework, the minimum may differ as in the recommendation on relevant markets, broadband is defined as capacity in excess of 128 kbits/s (footnote 33 of the Explanatory Memorandum), whereas in the Universal Service Directive, broadband is understood as a capacity in excess of 56kbits/s (Recital 8 of the Directive).
- 34 Internet dial-up access has been distinguished from dedicated access (Telia/Telenor, para 105; Commission Decision of 27 March 2000, BT/Esat, M. 1838, para 7).
- 35 Hausman *et al.* (2001) consider that broadband and narrowband are in two separate markets. Squire-Sanders-Dempsey and WIK-Consult (2002, p. 229) and others (references in Crandall *et al.*, 2002: note 51) consider that they are part of the same market because there is not yet sufficient hungry capacity applications and/or there is a chain of substitution between the different levels of bandwidth access. A possible distinction between narrowband and broadband has been considered, but left open in Commission Decision of 11 October 2000, AOL/TimeWarner, M. 1845, OJ 9.10.2001 L 268/28, para 38-41; Commission Decision of 24 January 2001, UGC/LibertyMedia, M. 2222, paras 12-13.
- 36 There may be a distinction between dial-up Internet access offered to different subsets of customers: residential, SME, corporate (*inter alia* Telia/Telenor, para 60; Commission Decision 27 May 1998, Telia/Telenor/Schibsted, JV. 1, para 17; AOL/TimeWarner, para 33).
- 37 The recommendation on relevant markets left open the definition of Internet connectivity markets. A distinct market for the provision of "top-level" or "universal" Internet connectivity has already been

- identified (Commission Decision of 8 July 1998, WorldCom/MCI, M. 1069, OJ 4.5.1999 L 116/1, paras 62-70; and Commission Decision of 28 June 2000, WorldCom/Sprint, M. 1741, paras 57-60).
- 38 Similarly, see Commission Decision of 15 September 1999, BiB/Open, OJ 6.12.1999 L 312/1, para 38.
- 39 In addition and to clarify the relationship between market definition and choice of obligations, the European Commission (2003, p. 13) considers that it is not necessary to define each technical area as a relevant market in order to impose access to this area. It suffices to prove that this access is proportionate in order to remedy a competition problem on an identified market. For instance, it is not appropriate to define a market for co-location facilities but it suffices to consider this access as part of the overall remedy related to the unbundling of the local loop. Nevertheless, some overlap between the market definition and the choice of remedies is inevitable, and what ultimately matters is that the obligations imposed will ensure an overall long-term efficiency.
- 40 Article 2 of the Access Directive. Sub-loop means the partial local loop connecting the network termination point at the subscriber's premises to a concentration point or a specified intermediate access point in the fixed public telephone network (Article 2 of the Regulation 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, OJ 30.12.2000, L 336/4, hereinafter Unbundling Regulation).
- 41 Article 2 of the Unbundling Regulation.
- 42 Existing cable networks without upgrade or the Wireless Local Loop systems were not considered to be an immediate substitute for the PSTN network (Communication from the Commission on the unbundled access to the local loop, OJ 23.9.2000, C 272/55, para 3.2; Telia/Telenor, para 32 and 35). The electricity cable was not considered to be substitutable to the telecom network (Commission Decision, 18 March 1998, Nortel/Norweb, M. 1113, para 8).
- 43 The European Commission (2003, p. 24) considers that resale of an end-to-end broadband offer (like the resale of the DSL offer of the incumbent) is not in the same market as wholesale broadband access because resale offers do not include the provision of interconnection or transmission capacity in such way as to allow new entrants to offer their own tailor-made DSL offers. The selection of this resale market was not deemed to be justified because the aim of the new regulatory framework is ultimately to achieve a situation where there is full competition between a number of different infrastructures.
- 44 The NRA should not manipulate the market definition in order to achieve specific industrial policy goals. For instance, the NRA should not limit wholesale broadband access market to bitstream over telecom network and not include cable even though the substitution test would point to the contrary, only because it wants to regulate legacy networks.
- 45 In general, the delineation of market boundaries and the fulfilment of selection criteria move together, according to the technological and market developments. The more the markets are defined broadly, the greater the probability that the selection criteria to be met will be small.
- 46 See Chapter 1 of the Commission List of standards and/or specifications for electronic communications networks, services and associated facilities and services (interim issue), OJ 31.12.2002, C 331/32; and Article 18 of the Universal Service Directive.
- 47 The leased lines offers have generally been examined in competition cases within the context of the broader wholesale market for carriers services, and the question of whether the provision of carriers services should be defined in terms of country pairs or on a more global basis was sometimes left open (Phoenix/GlobalOne, para 10; Unisource, para 28; Commission Decision of 30 March 1999, BT/AT&T, JV. 15, para 74-79). But the Commission Working Document on the initial results of the Leased Lines Sectoral Inquiry, 8 September 2000, p. 11 proposed a narrower definition than used previously: distinction between short distance and long distance leased lines, and also according to the capacity of the relevant circuits.
- 48 Similarly, Commission Decision of 11 March 1994, RWE/Mannesmann, M. 408, para 11-14.
- 49 See *inter alia* Commission Decision of 12 April 2000, Vodafone/Mannesmann, M. 1795, para 11. It is not yet clear if the voice market covers 3G as well. In its Communication of 11 June 2002: "Towards the full roll-out of third generation mobile communications on 3G" COM (2002)301 at para 3.1, the Commission leaves the question open by noting that "it is difficult at this stage to foresee how services will develop in the context of 3G networks or the way in which they will be deployed and 3G services offered. Many of the services provided over 3G are likely to constitute new or emerging markets."
- 50 In the recommendation on relevant markets (p. 29), the Commission states that retail roaming is part of the broader outgoing calls market because supply substitutability is easy. In its working document on the Initial Findings of the Sector Inquiry into Mobile Roaming Charges, 13 December 2000 (p. 15), the Commission considers that retail roaming is a separate market mainly on the basis of a demand-side analysis. In its competition practice, the Commission has also identified a separate retail market for seamless pan-European mobile telecommunication services to internationally mobile customers (Vodafone/Mannesmann, paras 12-21).
- 51 This market covers different sorts of mobile virtual network operators (MVNO) accesses.
- 52 Similarly, Telia/Sonera, para 19; Commission Decision of 26 June 2001, Vodafone/Airtel, M. 2469, para 13. Three markets have been distinguished: wholesale roaming to foreign mobile network operators, national roaming to mobile network operators, and wholesale airtime to national service providers (Commission Working Document on the Initial Findings of the Sector Inquiry into Mobile Roaming Charges, 13 December 2000, p. 14).
- 53 See also Telia/Sonera, para 31. That is also the position adopted *inter alia* by Oftel in 2001, and upheld on appeal by the

- Competition Commission in 2003, see: reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks, February 2003, available at: www.competition-commission.org.uk/reports/475mobilephones.htm#full
- 54 The single network definition is not based, nor does it imply, that mobile termination is an essential facility. Mobile networks do not have the characteristics of the essential facility as there are numerous in each country. In addition, the market failure related to mobile termination, i.e. negative externality, is not the same as the market failure related to essential facility, i.e. natural monopoly. In addition, the literature (Shapiro, 1995) and the case law (Hugin, 22/78 [1979] ECR 1869; Hilti T-30-89 [1990] ECR II-163; Pelikan/Kyocera cited in the XXVth Commission on Competition Policy, 1995, p. 140) on secondary markets is irrelevant here. Termination cannot be considered as a secondary product because the customer does not pay for it.
- 55 Surprisingly enough, these retail on-net offers are sometimes substantially lower than the wholesale termination charges, which may be an indication of anti-competitive price squeeze.
- 56 The regulation of mobile termination is hotly debated among economists (Armstrong, 2002; Crocioni, 2001; Hausman, 2002).
- 57 The Commission competition practice tends to distinguish between free-TV, pay-TV, and interactive services (Commission Decision of 21 March 2000, BSKyB/KirchPayTV, JV. 37, paras 23 and 40; BiB/Open, paras 23-4).
- 58 Analogue and digital platforms have consistently held to be part of the same market (Commission Decision of 27 May 1998, Bertelsmann/Kirch/Premiere, M. 993, OJ 27.2.1999 L 53/1, para 18; Commission Decision of 3 March 1999, TPS, OJ 2.4.1999 L 90/6, para 26; BiB/Open, para 25; BSKyB/KirchPayTV, para 26).
- 59 On this point, the Commission competition practice varies according to countries and over time. Cable and satellite were considered to be in separate markets in Germany (Commission Decision of 9 November 1994, MSG Media Service, M. 469, OJ 31.12.1994 L 364/1, para 41; Commission Decision of 27 May 1998, Deutsche Telekom/BetaResearch, M. 1027, OJ 27.2.1999 L 53/31, para 19-21; BSKyB/KirchPayTV, para 62-63). Similarly, cable and satellite were considered to be in separate markets in the Nordic region (Commission Decision of 19 July 1995, Nordic Satellite Distribution, M. 490, OJ 2.3.1996 L 53/20, para 57). On the other hand, no distinction between platforms was made for the pay-TV market in the UK or in France (BiB/Open, para 26; TPS, para 30).
- 60 For a definition of these concepts: Article 2 of the Framework Directive. Different markets for the provision of CAS, for services relating to access the EPG, for service relating to the writing of applications compatible with the API have been defined (BiB/Open, para 30).
- 61 A division of markets between technical services for cable pay-TV and for satellite pay-TV has not been favoured, but the question was left open (Bertelsmann/Kirch/Premiere, para 21; DeutscheTelekom/BetaResearch, para 18).
- 62 Article 6 of the Access Directive.
- 63 Ahmed Saeed C-66/86 (1989) ECR I-803 at paras 40-41.
- 64 Nevertheless, if these constraints do not exist, the market may be segmented on a route basis. For instance, international voice telephony services may be broken down by individual call traffic routes between any country pair (Commission Decision of 15 May 1997, BT/MCI (II), M. 856, OJ 8.12.1997 L 336/1, para 19; BT/AT&T, para 84; BT/Esat, para 19).
- 65 Larouche (2000b, p. 419) notes that the geographical component of the customer requirements is related to the coverage, the quality, the pricing and the nature of the service under review. For instance, residential customers have low or average quality requirements that can be met by interconnecting different networks, hence they tend to be less sensitive to the network coverage of their telecom suppliers. On the other hand, business customers can be very sensitive to the quality of the call, hence pay a lot of attention to the network coverage under direct control of their suppliers. Therefore, the product market for large customers should be limited to large international networks, whereas the market for residential customers should encompass more geographically limited networks.
- 66 Markets have been considered national for call termination (Telia/Sonera, para 51), the local loop, except in particular circumstances like the historical local monopoly of Kingston Communications (Telia/Telenor, para 121); international roaming (Telia/Sonera, para 49). They have been considered to be national or covering linguistic region for broadcast transmission networks and the linked ancillary services (MSG Media Service, para 45; Nordic Satellite Distribution, para 71; DeutscheTelekom/Beta Research, paras 23-24; BiB/Open, para 44; Commission Decision of 1 August 2000, Blackstone/CDPQ/Kabel Baden-Württemberg, JV. 50, para 26).
- 67 Markets for national leased lines may be narrower than national (possibly consisting of "larger metropolitan" and "rest of country" segments) given the geographically unequal development of competition in most member states. On the other hand, markets for international leased lines appear to be at least European if not global (Commission Working Document on the initial results of the Leased Lines Sectoral Inquiry, 8 September 2000, p. 11).
- 68 It is interesting to note that in certain cases a similar system is used in the USA. Markets are selected if a player proves that there is or could be lack of competitive performance, and the boundaries of the markets are delineated according to the Horizontal Merger Guidelines of 1992 (United States Department of Justice and Federal Trade Commission, 1992): Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy and Rules Concerning the Interstate, Interexchange Marketplace, CC Dkt. No. 96-149, 12 F.C.C. Rcd. 15,756, 15,804 (1997), pp. 16-80.
- 69 The number of legal challenges may increase for two additional reasons. First, the scope of legal challenges has been broadened

- by the new directives as it should now cover not only procedural matters but also the merits of the case (Article 4 of the Framework Directive). Second, the incentives of to challenge an NRA decision increase, as the methodology to define markets has been aligned to antitrust. Indeed, a successful challenge in sectoral regulation may impact antitrust procedure, or in other words, the new directives introduce economies of scope for legal challenges.
- 70 The regulatory framework provides some mechanisms to encourage this co-operation (see Article 7(2) of the Framework Directive) and set up the European Regulators Group composed of the NRAs of all the member states and the Commission: <http://erg.eu.int>
- 71 To extend the scope of the SMP regime, there is no need any more to go through the cumbersome co-decision procedure between the Council and the European Parliament, as was the case under the 1998 regulation (see the example of the Unbundling Regulation).
- 72 Article 15(1) of the Framework Directive safely provides that markets defined for ex ante purposes are without prejudice of those defined in specific competition law cases. See also European Commission (2002a, pp. 24-32).
- 73 Squire-Sanders-Dempsey and Analysis (1999, p. 147) identified several bottlenecks or market failures that may currently justify ex ante regulation: interconnection (especially termination practices), access to networks or digital gateways, local loop, distributions and access to scarce resources. For the future, they identified also: intellectual property rights; directory services; programming guides; control over interfaces/Web navigators.
- 74 Part of the third reason and the fourth one base another layer of the economic regulation outside the SMP regime: interconnection to ensure any-to-any connectivity (Article 5 (1a) of the Access Directive), and standardisation (Articles 17 and 18 of the Framework Directive).
- 75 Bronner C-7/97 [1998] ECR I-7791. See also: Ladbroke T-504/93 [1997] ECR II-923 para 131; European Night Services T-374/94, T-375/94, T-384/94, T-388/94 [1998] ECR II-3141, paras 208-9.
- 76 An Austrian Court asked on a preliminary ruling if the newspapers' delivery scheme of the media company MediaPrint was an essential facility to which compulsory access to another and smaller media company Bronner could be imposed. The Court of Justice left (at para 34) the national court to define the relevant market and decide if in case of a price increase from 5 to 10 per cent for the access to the delivery scheme, the marginal customer (Bronner and others) would switch to other delivery mechanisms like the postal scheme or will build an alternative scheme. The court was thus implying that the delivery scheme might not be substitute by other means, hence constitute a separate market. But at the same time, the court stated the two conditions for a facility to be essential, i.e. its access is indispensable to enter the retail market because there is no actual alternative access even if less favourable (i.e. where there is no existing substitute), and it is not legally or economically possible to build an alternative access (i.e. where there is no potential substitute). The court then decided (at paras 43-4) that the MediaPrint scheme was not an essential facility because alternative methods could be used, albeit less advantageously, to deliver newspapers (see Bergman, 2000, p. 418).
- 77 The local loop has been considered to be a possible essential facility in Telia/Telenor, para 166. The WorldCom MCI Internet backbone network has also been identified as an essential facility in WorldCom/MCI, para 126.

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