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The Integration of Competition Law Principles in the New European Regulatory Framework for Electronic Communications

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A new regulatory framework for electronic communications (fixed and mobile telephony, Internet, cable TV, . . .) is due to be applicable in the Member States of the European Union in July 2003. One of the main important aspects of the framework is the regulation of the operators enjoying significant market power, which has now been aligned on competition law principles. This article describes the three steps to be followed by a national regulatory authority to impose obligations upon these operators: selection of markets to be regulated and delineation of their boundaries, determination of the dominant operators on these markets, and choice of the remedies to be imposed. The article then characterises the remaining differences between sectoral law and general competition law. Finally, the article underlines the implicit vision of the new framework: economic sectoral law is a complementary tool—and not a substitute to—competition law, and would only intervene in case of hard-core market power that antitrust would be inefficient to control.

The European Union has recently reformed substantially the regulatory framework for electronic communications networks and services (fixed and mobile telephony, Internet, cable TV, . . .). One striking feature of the reform was to base the main part of the new regulation aimed at controlling market power, the so-called *Significant Market Power (SMP) regime*, on the European competition law methodologies and principles. This article aims to describe and assess this option. Section I sets the stage and sketches the different layers of regulation in order to identify at which the layer competition law methodologies play a role. Section II studies in more detail the use of antitrust market definition principles, which is the starting point of the SMP regime. Section III describes how the designation of the operators having Significant Market Power has been aligned to the concept of a dominant position. Section IV details the obligations that may be imposed on the operators having significant market power. Section V compares antitrust and sectorspecific regulation and tries to clarify their complex relationship. Finally, Section VI concludes by appraising the use of competition law methodologies in an *ex-ante* context and calls for a coherent vision of the regulation of electronic communications.

The questions raised in this article are interesting for several reasons. First, the reform of electronic communications' regulation is important as *inter alia*, it bases

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most of its economic part on antitrust methodologies, leading to a sort of "preemptive competition law". This move may generate some unfortunate confusion between the role and the scope of competition law and that of sector-specific regulation. Indeed finding the right mix between those two public intervention instruments and ensuring an efficient use of sector-specific regulation is of the utmost importance for a rapid development of the Information Society referred to in the *e*Europe 2005 Action Plan.[1] Second, the regulation of electronic communications is most advanced among network industries and could pave the way for the organisation of the other sectors. Hence the balance between the different regulatory instruments described here may be followed elsewhere in the future. Finally, the extensive use of antitrust principles explained in this article is far more important than in other jurisdictions, like the US for instance,[2] and may be explained by the important competition powers of the Commission under the EC Treaty. Electronic communications is thus an interesting case study on the influence of the European institutional structure on its policies.

I. THE DIFFERENT LAYERS OF SECTOR-SPECIFIC REGULATION

After more than ten years of liberalisation in the electronic communications sector, the European Union had decided to introduce significant reforms. It does so in the face of the market problems[3] remaining after the so-called 1998 regulatory package,[4] in particular the continuing regulatory fragmentation (with regard to retail tariff re-balancing and leased lines' prices) and the continuing domination of the national markets by incumbents (for traditional services like voice telephony as well as for new services like broadband Internet access). Several justifications have been offered for this move: to ensure a technologically neutral regulation taking into account the technological convergence (i.e. any type of service—telephony, TV, Internet—being able to be provided on any type of infrastructure); to give more flexibility to the National Regulatory Authorities (NRA) to guarantee that their decisions better match the economic realities of the market; and to ensure an enhanced harmonised regulatory culture across the different Member States and achieve a true single market for electronic communications.

[1] Communication from the Commission of 28 May 2002, *eEurope 2005: An information society for all*, COM(2002) 263.

[2] H.A. Shelanski, *From sector-specific regulation to antitrust for US telecommunications: The prospects for transition*, Telecommunications Policy, 2002, 335-355.

[3] Communication from the Commission of 3 December 2002, *Eighth Report on the Implementation of the Telecommunications Regulatory Package*, COM(2002) 695.

[4] On the 1998 package, see: M. Cave and L. Prosperetti, *European Telecommunications Infrastructures*, Oxford Review of Economic Policy 4, 2001; P. Larouche, *Competition Law and Regulation in European Telecommunications*, Hart, 2000; J. Scherer (Ed.), *Telecommunications in Europe*, Sweet & Maxwell, 1998; I. Walden and J. Angel (Eds), *Telecommunications Law*, Blackstone Press, 2001.

The new package[5] is mainly composed of four Directives[6] adopted in March 2002 and whose national transposition measures are applicable in July 2003. The *Framework Directive* comprises the general provisions on the institutions and their co-ordination to ensure a European regulatory culture, the provisions on the assessment of Significant Market Power, and some provisions on the facilities needed to operate in a telecom market (such as numbering, naming and addressing, rights of way). The *Authorisation Directive* organises market entry and rolls back any unnecessary red tape. The *Access Directive* organises the wholesale markets (i.e. relationships between providers of electronic communications networks and services) and aims at ensuring a true single and effectively competitive market. The *Universal Service Directive* organises the retail markets (i.e. relationships between operators and end-users) and aims at ensuring the best possible deal for the European citizens.

As suggested by its denomination, the scope of the new package covers not only telecommunications but also all electronic communications networks, services and associated facilities.[7] It applies to all networks permitting the conveyance of signals (being wire or wireless, circuit or packet switched, used for telecom, broadcasting or other services), all the services consisting of the conveyance of signals on these networks, and all facilities that are associated with them (like conditional access systems 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 ecommerce services.

The new framework may be divided in three layers of regulation,[8] classified according to their objectives. First, "entry regulation" deals with entry on the market and the allocation of scarce resources like spectrum frequencies or numbering. Second, "economic regulation" aims at ensuring the functioning of an effective competitive market, thereby maximising economic efficiency, taking into account the characteristics of the electronic communications sector. In particular, it takes account of the

[5] On the new framework, see: M. Cave and P. Larouche, *European Communications at the Crossroads*, CEPS Report, 2001; A. de Streel, R. Queck, P. Vernet, *Le nouveau cadre réglementaire européen des réseaux et services de communications électroniques*, Cahiers de droit européen, 2002, 243-314; C. Koenig, A. Bartosh and D. Braun (Eds), *EU Competition and Telecommunications Law*, Kluwer, 2002, Chapters 7 to 9; S. Farr and V. Oakley, *EU Communications Law*, Palladian Law, 2002.

[6] *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*, 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*, 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*, 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*, OJ 24.4.2002, L 108/51.

[7] Articles 1 and 2 of the *Framework Directive*, as note 6 above.

[8] On the regulation in general, see: S. Breyer, *Regulation and its Reform*, Harvard University Press, 1982; R. Baldwin and M. Cave, *Understanding Regulation: Theory, Strategy and Practices*, OUP, 1999; H. Intven (Ed.), *Telecommunications Regulation Handbook*, 2001, available at: <http://www.infodev.org/projects/ 314regulation-handbook>; A.E. Kahn, *The Economics of Regulation: Principles and Institutions*, MIT Press, 1988; T. Prosser, *Law and the Regulation*, Clarendon, 1997.

important economies of scale and scope, the externalities generated by network effects, and the presence of infrastructure deployed with exclusive or special rights and/ or financed with public funds. In fact, the economic regulation mainly aims to regulate market power when antitrust law would be insufficient to do so. According to the new Directives, economic regulation may be divided in two sub-categories: (i) the obligations imposed independently of a specific designation by the authority when an operator enjoys a significant market power[9] and (ii) the obligations that are imposed on operators having specifically been designated as having Significant Market Power (SMP). In fact, this sub-category constitutes the majority of the regulatory obligations.[10] Third, "social regulation" aims to ensure that the needs of the citizens which are considered to be important by the legislature are satisfied even though they are not necessarily guaranteed by the market alone. Hence, it covers an enhanced consumer protection and the universality of access to some basic electronic networks and services provided for in the Universal Service Directive.[11]

This article focuses on the second sub-category of economic regulation, i.e. the SMP regime, under which obligations are imposed in three steps. In the first step, markets to be analysed are defined in two sequences. The Commission periodically adopts a Recommendation[12] 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. Taking account[13] of this Recommendation on relevant markets and the Commission Guidelines on market analysis,[14] the NRA then defines markets appropriate to national circumstances, in particular their geographical dimension within its territory, in accordance with the

[9] Compulsory access to networks to ensure end-to-end connectivity (Articles 4 and 5 of the *Access Directive*), compulsory access to associated facilities to ensure media pluralism (Article 5 and 6 of the *Access Directive*), standardisation and in particular interoperability of digital interactive television services (Article 17 and Article 18 of the *Framework Directive*), co-location and facility sharing (Article 12 of the *Framework Directive*), accounting separation (Article 13 of the *Framework Directive*), as note 6 above.

[10] Articles 14 to 16 of the *Framework Directive*, Article 8 of the *Access Directive* and Article 17 of the *Universal Service Directive*, as note 6 above. See also the website of the European Regulators Group, which is composed of the NRAs of all the Member States and the Commission: <http://erg.eu.int>.

[11] Chapter II, IV and V of the *Universal Service Directive*, as note 6 above. On this Directive, see: A. de Streel, *The Protection of the European Citizen in a Competitive eSociety: The New E.U. Universal Service Directive*, Journal of Network Industries, 2003.

[12] Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, C(2003)497 hereinafter *Recommendation on relevant markets*.

[13] 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. The legal force of the *Recommendation on relevant markets* is further reinforced as the Commission may veto any different product and service market that an NRA may wish to define.

[14] Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ 11.7.2002, C 165/6, hereinafter *Guidelines on market analysis*.

principles of competition law. 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 enjoy a dominant position (as defined under European competition law) or could leverage a dominant position from a closely related market. In the third step, 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 Access Directive for the wholesale markets and in the Universal Service Directive for the retail markets. Conversely, if the market is effectively competitive, the NRA must withdraw any obligation that may be in place and shall not impose or maintain a new one.

This process is to be repeated periodically to ensure that obligations are adapted to the market evolution. During the whole process, the role of the Commission is very important. It starts the procedure by adopting and updating the Recommendation on relevant markets. More importantly, the Commission may review[15] all the NRAs decisions that would affect the trade between Member States.[16] It can veto a product and service market definition that differs from those of the Recommendation and an SMP (or a non-SMP) designation. It can also give a non-binding opinion on the choice of regulatory obligations.

This three-step process has been radically reformed. Under the 1998 regulatory package, the market areas to be regulated were pre-defined in the Directives on the basis of their technical characteristics[17] and the SMP threshold mainly equated to 25 per cent market shares in these areas. The NRA then had to impose on the SMP operators the full set of obligations provided in the Directives without being able to choose the most appropriate ones. The new regime is now based on competition law

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[15] Article 7 of the *Framework Directive*, as note 6 above and *Commission Recommendation on notifications under Article 7 of the Framework Directive*, to be adopted. If the NRA does not notify its decision to the Commission, the consequences have yet to be tested. The Commission may take an infringement procedure against the Member State. In addition, it is possible that the Court of Justice will decide that the NRA measure can not have any effect in the national legal order. For a similar solution in the context of the transparency Directive, see: *Securitel*, C-194/ 94, [1996] ECR I-2201, para. 45-55 and *Sapod Audic*, C-159/00, [2002] ECR I-5031, para. 47-53.

[16] According Recital 38 of the *Framework Directive*, as note 6 above, "Measures that could affect trade between Member States are 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. They comprise measures that have a significant impact on operators or users in other Member States . . .". These criteria result from the case law related to competition policy and the Internal market: *Sociéte Technique Minière*, 56/65, [1966] ECR 235, at 249; *Commercial Solvents,* 6/73, 7/73, [1974] ECR 223, para. 30-35.

[17] Under the 1998 regulatory framework, mainly four markets were defined: fixed voice telephony (Directive 98/10 and Annex 1 Part 1 of the Directive 97/33), mobile voice telephony (Annex 1 Part 3 of the Directive 97/ 33), leased lines (Directive 92/44 and Annex 1 Part 2 of the Directive 97/33), national fixed and mobile interconnection (Article 7(2) of the Directive 97/33). See: 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>.

methodologies[18] and this move was justified for several reasons: firstly, to make the regime more flexible than was the case previously and get regulatory decisions closer to the economic reality of the market; secondly, to maintain legal certainty, as decisions will be based on more than forty years of well-established antitrust case-law; thirdly, to ensure a better harmonisation of regulatory decisions across Europe, as they will be based on legal principles that are strongly "Europeanised" and the control of the Commission over the NRAs' decisions will be reinforced (due to the Commission's important antitrust powers under the EC Treaty); fourthly, to ensure a progressive removal of obligations as competition develops on the different markets (market-by-market sunset clauses) and facilitate the transition towards the pure application of competition law when sectorspecific regulation will no longer be necessary. Nevertheless, while all these rationales are worth pursuing, some may be contradictory (like flexibility and legal certainty), whereas others may not be fully achieved with the framework of antitrust principles (like legal certainty) as will be shown in the concluding section.

FIGURE 1. THE SIGNIFICANT MARKET POWER REGIME

Step 1: Market Definition
(Article 15 of the Framework Directive)

Step 1a: Market selection, by the Commission in a Recommendation
Step 1b: Product market delineation, by the Commission in a Recommendation
Step 1c: Market selection, by the NRA in a decision
Step 1d: Product and geographical market definition, by the NRA in a decision

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Step 2: Market Analysis
(Article 14 and 16 of the Framework Directive)

Determination if one or several operators enjoy a dominant position, by the NRA

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Step 3: Choice of Obligations
(Article 16 of the Framework Directive, 8 of the Access Directive,
7 of the Universal Service Directive)

– In case of SMP operator → Imposition of the appropriate obligations, by the NRA
– In absence of SMP operator → Removal of any obligation, by the NRA

[18] On the use of competition law in the electronic communications sector: *Commission Guidelines on the application of EEC Competition rules in the Telecommunications sector*, OJ 6.9.1991 C 233/2; *Commission Notice on the application of competition rules to access agreements in the telecommunications sector,* hereinafter *Access Notice*, OJ 22.8.1998, C 265/2C. See also: C.D. Ehlermann and L. Gosling (Eds), *European Competition Law Annual 1998: Regulating Communications Markets*, Hart, 2000; J. Faull and A. Nikpay (Eds), *The EC Law of Competition*, OUP, 1999, Chapter 11; L. Garzaniti, *Telecommunications, Broadcasting and the Internet: EU Competition Law and Regulation*, 2nd Edn, Sweet & Maxwell, 2003; P. Larouche, *Competition Law and Regulation in European Telecommunications*, Hart, 2000, Chapter 3; P. Roth (Ed.), *Bellamy and Child: European Community Law of Competition*, 5th Edn, Sweet & Maxwell, 2001, Chapter 14; J. Temple Lang, *Media, multimedia and European Community antitrust law*, in B. Hawk (Ed.), *Fordham Corporate Law Institute*, 1997, 377-448; H. Ungerer, *EU Competition law in the telecommunications, media and information technology sectors*, in B. Hawk (Ed.), *Fordham Corporate Law Institute*, 1995, 465-519.

II. First Step: Market Definition

A. 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.[19] In the Recommendation on relevant markets,[20] the Commission has interpreted both provisions by referring to three cumulative 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. 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. That may be the case for the last mile of the telecom fixed infrastructure (the so-called local loop between the customers' premises and the operators' Main Distribution Frame) in countries where there are no other substitutable technologies like cable. 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. 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. 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

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19 Article 15(1) *Framework Directive*, as note 6 above, 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".

20 Recitals 9 to 16 of the Recommendation on relevant markets, as explained by the Section 3.2 of the Explanatory Memorandum. For the first Recommendation on relevant markets, the Commission was instructed by the European legislature to include all the markets listed in the Annex I of the *Framework Directive*, as note 6 above. This list mainly corresponds to the markets regulated under the 1998 regulatory framework, albeit defined more precisely.

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 would for example include 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.

Finally, it should be noted that new and emerging markets, in which market power may be found to exist because of "first mover" advantages, should not in principle be subject to selection. This is because premature imposition of *ex ante* obligations 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.[21]

In fact, these criteria boil down to three topical situations 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 on-going basis (hence sectorspecific regulation would be more efficient than competition law). The first situation is the presence of natural monopoly conditions where the cost structure and the level of the demand are such that is more efficient to have only one operator on the market. 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. The second situation is the presence of externalities (either due to network effects or tariff principles) where one customer 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 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). Finally, the third situation arises when the characteristics of the market are such that undertakings have incentives to tacitly collude and reach, without concluding any explicit agreement, a long-term equilibrium which does not maximise the social welfare. As demonstrated by recent economic research, that will rarely be the case in the electronic communications sector. It appears thus that the list of markets contained in the first Commission Recommendation on relevant markets covers and is limited to these three topical situations.

21 *Guidelines on market analysis*, para 32.

Moreover, these three criteria show that the rationale justifying the regulation of operators having Significant Market Power has been radically revised. Under the 1998 framework, the SMP regime was mainly 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[22]) and was thus linked to the so-called original sin of the previous monopolist. Under the new directives, the SMP regulation is disconnected from the original sin, and is linked to the inefficiency of antitrust to control market power. It thus represents a radical shift of the regulatory paradigm. Ironically, this may lead to an extension or even a perpetuation of sectoral regulation, even though the new directives were aimed to be de-regulatory. Indeed, the first Commission Recommendation on relevant markets identifies 18 markets to be analysed, and would probably lead to more regulation (at least in the mobile sector).

B. Delimitation of the relevant markets[23]

According to Article 15 of the Framework Directive, the markets to be analysed by the regulators should be defined in accordance with the principles of competition law. These principles, which result from Commission practice and the case law of the Court of Justice, have been codified in the Commission Notice on market definition.[24] 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 products or services, in which 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 these dimensions, the competitive constraints that will discipline the firms' behaviours should be identified. They can be twofold: demand substitution (in the case of a relative price increase, customers would switch to other products or to suppliers located elsewhere) and 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). One way of assessing these substitutions is to

[22] There was nevertheless a slight possibility of regulating the mobile sector, that has been used more and more over time by the regulators across Europe: Article 7(2) of the Interconnection Directive 97/33.

[23] S. Bishop and M. Walker, *The Economics of EC Competition Law*, 2nd Edn, Sweet & Maxwell, 2002, Chapter 3; M. Motta, *Competition Policy: Theory and Practice*, CUP, 2003, Chapter 3; W.M. Landes and R.A. Posner, *Market Power in Antitrust Cases*, Harvard Law Review 94(5), 1981, 937-996; G.J. Stigler and R.A. Sherwin, *The Extent of the Market*, Journal of Law and Economics 28, 1985, 555-585; D. Harbord and G. von Greavenitz, *Market Definition in Oligopolistic and Vertically Related Markets: Some Anomalies*, European Competition Law Review 3, 2000.

[24] *Commission Notice on the definition of relevant market for the purposes of Community competition law*, OJ 9.12.1997, C 372/5.

apply the so-called "hypothetical monopolist test". The NRA should start with a specified product in a specific area that is supposed to be offered by one supplier, the hypothetical monopolist. The authority should then determine if, the prices of other products remaining constant, a small but significant (between 5 to 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, 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.

Applying these principles,[25] the regulator starts by characterising the *retail product markets* over a given time horizon, taking into account demand-side and supply-side substitutions. The market definition should be primarily based on the needs of the endusers, and not necessarily on the technology used.[26] Clearly, customers needs and preferences may be linked to specific technologies. For instance, fixed and mobile telephony are not in the same market because of the additional mobility feature offered by the latter,[27] or voice over Public Switch Telecom Network and voice over Internet Protocol may be in separate markets due to the additional quality of the former.[28] But as technologies converge, consumers preferences will not be linked to technologies. For instance, consumers may be indifferent to receiving their broadband Internet connections via Digital Subscriber Line technologies over a telecom copper pair or via a cable modem over a broadcast cable infrastructure. In summary the customer categories (large, medium and small corporate customers as well as individuals) should be more appropriate than technological categories as a basis to define product markets.[29] In addition, as sector-specific regulation intervenes *ex ante* and in the future, the markets should be defined on a forward-looking basis taking into account the developments foreseen over a reasonable period of time.

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[25] See Section 4 of the Explanatory Memorandum of the *Recommendation on the relevant markets*. In addition, see three studies made for the Commission services: Squire-Sanders-Dempsey and WIK Consult, *Market Definitions for Regulatory Obligations in Communications Markets*, July 2002; Europe Economics, *Market Definition in the Media Sector—Economic Issues*, November 2002; Bird and Bird, *Market Definition in the Media Sector: Comparative Legal Analysis*, December 2002, available at <http://europa.eu.int/comm/competition/publications/publications/ #media>.

[26] *Guidelines on market analysis*, para 63-69.

[27] Decision of the Commission of 20 September 2001, *Pirelli/Editizione/Telecom Italia*, M. 2574, para 33. The Commission found that fixed and mobile telephony belong to different product markets since there is no demandsubstitution between products and evidence shows that customers do not generally cancel a fixed telephone subscription when they buy a mobile telephone. For that reason, the Recommendation on relevant markets distinguishes between services provided at a fixed location and services provided at non-fixed locations.

[28] *Communication from the Commission on the Status of voice on the Internet under Community law*, OJ 22.12.2000, C 369/3.

[29] For that reason, the *Recommendation on relevant market* distinguishes the retail services provided to residential and non-residential customers (respectively markets 1, 3, 4 and markets 2, 5, 6)

On the basis of the retail market definition, the regulator then defines the relevant linked wholesale or intermediate product markets as 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. For instance, if it is considered that Digital Subscriber Lines and cable modem are in the same retail Internet broadband access market, then it could be deduced that, for that purpose, telecom and cable infrastructures are part of the same wholesale market.[30] At this stage, the consideration of supply-side substitution is of the utmost importance and the markets should not be defined too narrowly.

Some difficulties may arise due to the specific features of the electronic communications sector. First, electronic communications are often characterised by high fixed sunk costs and continuous innovation. A benchmark price based on the marginal cost and a small mark-up (5 to 10 per cent) as practised with the hypothetical monopolist test may be insufficient to recoup these fixed costs, and therefore would lead to a too narrow market definition (and consequently a finding of market power where actually there is none). As put by Gual,[31] the benchmark and the mark up should generates sufficient revenues to cover fixed costs without leading to excess profit. Moreover, the sector is often driven by important and continuous innovation and the competition often takes place *for* the market instead of *in* the market. The hypothetical monopolist test leads to a static measure of the degree of competition in the market and is a poor guide to dynamic competition, often more relevant in electronic communications. Again, it may lead to a too narrow market definition, or at least a too frequent finding of market power.

Second, the sector may be characterised by externalities that may lead to a very narrow market definition. For instance, in the European mobile industry, the prevalent tariff principle is the calling-party-pays: the called party—who chooses the network which has to be called—does not have to pay for the call, whereas the calling party—who usually cannot choose the network—has to pay for the call. There is a dichotomy between the person who pays and the one who chooses, or in other words, the called party imposes a negative externality on the calling party. It is thus plausible that the called network may increase profitably from 5 to 10 per cent its termination charges[32] because on the one hand, the calling network (and ultimately the calling customer) has

[30] For this reason, the *Recommendation on relevant market* identifies a wholesale broadband access market (market 12) covering bitstream access via telecom infrastructure and other wholesale access provided over other infrastructures (like cable) if they offer facilities equivalent to bitstream access. In the United States, some consider also that DSL and cable should be part of the same relevant market: R.W. Crandall, J.G. Sidak, and H.J. Singer, *The Empirical Case Against Asymmetric Regulation of Broadband Internet Access*, Berkeley Technology Law Journal 17, 2002, 953-987. See further: P. Kremmyda, *Walled Gardens? Cable Provided Broadband Internet and European Competition Law*, 24W.Comp. at pp. 181-198.

[31] J. Gual, *Market Definition in the Telecoms Industry*, p. 12, presented at the Conference on the Economics of Antitrust in the Telecommunications Sector, September 2002, available at <http://europa.eu.int/comm/competition/antitrust/others/telecom/conference.html>.

[32] The termination charges are the wholesale charges that the calling network pays to the called network to terminate a call. For instance, if a customer of Vodafone calls a customer of Orange, Vodafone will pay to Orange a charge for the call to be terminated on Orange's network.

no choice but to use the called network, and on the other hand, the called customer will not switch to another network as he does not pay the termination charge. Each network may thus be defined as a separate market with regard to wholesale termination.[33]

Obviously, the market definition is an empirical exercise and others factors may constrain the pricing behaviour of the called network. For example, the person called may be sensitive to the price to be reached (in case of close users groups or family and friends when the called party actually pays the invoice of the calling party), or there may be a choice between the different network to be used (using call back or multiple SIM cards if available[34]). If these factors are present, termination may be defined more broadly and comprise all the mobile networks of a specific country. But the general point is that the market may be defined very narrowly due to the specific tariff structure.

Turning now to the geographical dimension of the market, it used to be determined by (1) the existence of legal and other regulatory instruments; and (2) the area covered by the network.[35] Concerning the first criterion, it should be noted that in the past, regulatory and technical restrictions clearly divided telecommunications markets along national or regional borders. Monopoly rights of the national telecommunications provider conferred its market an obvious national dimension. Nowadays, as a consequence of the liberalisation of telecommunications networks and services and the harmonisation of technical standards and licensing procedures across Europe, electronic communication services can increasingly be provided or sold across national borders with no restriction. As a consequence the geographic markets may tend in some cases to expand towards a European dimension.[36]

Some[37] have criticised the second criterion and consider that the network coverage should play a role for the product dimension of the market, instead of its geographical dimension. They argue that the product market definition is stained with a geographical aspect as every product or service is geographically bound. Indeed, when defining markets, the NRA should take into account the geographical component of the customer requirements, which is linked to the coverage, the quality, the pricing and

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33 The *Recommendation on relevant market* identifies a market for voice call termination on individual mobile network (market 16). The same market definition was used in the Decision of the Commission of 10 July 2002, *Telia/Sonera*, M. 2803, para 31. That is also the position adopted *inter alia* by the British regulator in 2001, and confirmed 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: <http://www.competition-commission.org.uk/ reports/ 475mobilephones.htm#full>. On the regulation of mobile termination, see also: P. Crocioni, *Should telecoms liberalisation stops at call termination?*, Telecommunications Policy 25, 2001, 39-58.

34 The call back means that the called party will call back the calling party. The multiple SIM cards mean that the mobile handset of the person called contains several SIM cards, hence several networks may be used to reach him.

35 Guidelines on market analysis, para 55-60.

36 It should also be noted that the traditional media sector is content-oriented. It is still characterised by cultural and language differences as well as by national or regional restrictions on cross-border provision of services (e.g. ownership restrictions and local content). These factors militate to define the relevant geographic market alongside national borders and linguistic regions.

37 P. Larouche, *Relevant Market Definition in Network Industries: Air Transport and Telecommunications*, Journal of Network Industries, 2000, 407-445.

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 would be limited to large international networks, whereas the market for residential customers will encompass more geographically limited networks. The definition of the geographical dimension of the market definition should thus mainly focus on the regulatory conditions of providing electronic communications services.

In summary, market definition is much more complex than under the 1998 regulatory framework. It is not any more an engineering exercise that is based on technological differences, but it is a economist task based on the relative substitutions. The use of antitrust principles makes market definition more flexible and at the same time rigorous and harmonised across Europe. However the difficulties and the related risks of multiple legal challenges should not be ignored. It is thus of the utmost importance that the NRAs do their job properly and that the Courts show deference to them by limiting intervention on a marginal basis in case of manifest errors.

III. Second Step: Assessment of Significant Market Power

Having defined the markets, the NRAs must then analyse them to find out if they are effectively competitive, which amounts to determining if any operator enjoys a dominant position or is able to leverage its dominant position. If there is one or more dominant operator (or if they can leverage their dominant position from another closely linked market), they should be designated as having Significant Market Power (SMP) and the market deemed to be not effectively competitive. On the other hand, if no operator is dominant, the market is deemed to be effectively competitive.

According to the case law of the Court of Justice, a firm enjoys a dominant position when, alone or collectively with others, it has sufficient market power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers.[38] A dominant position may thus be enjoyed by one firm (single dominance) or several ones (collective dominance). It corresponds to a certain degree of market power that enables its beneficiaries to behave without much constraint and that has been judged necessary to justify antitrust interventions. As the SMP threshold has now been aligned to dominance, the same level of market power will also trigger sector-specific regulation. Moreover as an NRA intervenes *ex ante* and for the future, the market power should be appraised on a forward-looking basis by considering the expected and foreseeable developments over a reasonable period (linked to the

[38] *United Brands*, 27/76, [1978] ECR 207; *Hoffman-La Roche*, 85/76, [1979] ECR 461; Article 14(2) of the *Framework Directive*, as note 6 above.

characteristics and the timing of the next market analysis), with past data being taken into account when relevant.[39]

The assessment of *single* dominance[40] is not an easy task limited to the review of an exhaustive checklist, but requires a thorough and overall analysis of the economic characteristics of the relevant market to determine if one undertaking enjoys sufficient market power to behave independently. An important criterion, indeed the starting criterion, is the market shares: below 25 per cent, absence of a dominant position may be presumed, whereas above 40 per cent, a dominant position will equally be presumed, both presumptions being refutable.[41] The market shares should preferably be measured in value because telecoms services are differentiated, and not in volume or in terms of the number of lines or termination points.[42] Other criteria are also important.[43] overall size of the undertaking, technological advantage or superiority, absence of or low countervailing buying power, easy or privileged access to capital markets, product diversification, economies of scale and scope, vertical integration, a highly developed distribution network, absence of potential competition, barriers to expansion, or the control of essential facilities.[44]

The assessment of collective dominance is more difficult as this concept is newer in terms of economic theory[45] and legal practice.[46] Two or more undertakings are in a collective dominant position when, albeit remaining independent, they behave like a single dominant entity. This parallel behaviour may be due to structural links between the firms (like agreements) or market structure such that firms align their behaviours without any concerted practices (pure tacit collusion). As noted in *AirTours*,[47] the proof of tacit collusion requires three conditions to be fulfilled: transparency, possibility of retaliation and no countervailing reaction of the fringe competitors or the consumers. The appraisal of collective dominance is complex, and Annex II of the Framework Directive provides some assistance to the regulators with a list of criteria that are neither exhaustive nor cumulative: *inter alia* concentrated market, transparency, mature market, similar cost structure and market shares, possibility of retaliatory mechanisms.

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39 *Guidelines on market analysis*, para 20 and 75.

40 *Guidelines*, para 72-82; see also: V. Korah, *Concept of a Dominant Position within the Meaning of Article 86*, CMLR, 1980, 395-414; E. Fox, *What is Harm to Competition? Exclusionary Practices and Anti-competitive Effect*, Antitrust Law Journal 70, 2002, 371-411.

41 Recital 15 of the *Council Merger Regulation* 4064/89/EEC; *Akzo*, C-62/86, [1991] ECR I-3359, para 60; *Irish Sugar*, T-228/97, [1999] ECR II-2969, para 70.

42 *Guidelines on market analysis*, para 76-77; *Notice on market definition*, para 53-55; 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>.

43 *Guidelines on market analysis*, para 78.

44 As noted in the *Access Notice* at para 69 and in the *Guidelines on market analysis* at para 81, the control of an essential facility is a higher threshold than the dominant position, hence the control of an essential facility implies a dominant position but the reverse does not hold.

45 G. Stigler, *A Theory of Oligopoly*, Journal of Political Economy 72, 1964, 44; C. Shapiro, *Theories of Oligopoly Behaviours*, in R. Schmalensee, R. Willig (Eds), *Handbook of Industrial Organization*, North Holland, 1989, 329.

46 *Guidelines on market analysis*, para 86-106; *Gencor*, T-102/96, [1999] ECR II-753, para 276-277; *Compagnie Maritime Belge*, C-395/96, C-396/96P, [2000] ECR I-1365, para 39; *AirTours*, T-342/99, [2002] ECR II-2585, para 62. See also: G. Niels, *Collective Dominance: More Than Just Oligopolistic Interdependence*, ECLR, 2001, 168-172.

47 *AirTours*, as note 46 above, at para. 62. See also *Guidelines on market analysis*, para 96.

Furthermore, the Commission has already adopted several merger decisions where the concept of collective dominance has been applied to the electronic communications sector.[48] It was considered that the characteristics of the mobile telephony market in Germany[49] and in Belgium[50] may lead to tacit collusion; whereas the characteristics of the market for dial-up Internet access in Ireland[51] or the market for the provision of pan-European mobile services to internationally mobile customers[52] would not lead to tacit collusion. But in general, few electronic communications markets appear to fulfil the conditions of collective dominance, particularly since the concerns about the likelihood of tacitly collusive behaviours by operators in setting bilateral termination charges have now been abated by recent economic research.[53]

Finally, when an operator enjoys a dominant position on a specific market, it may be deemed to have SMP on a closely related market if the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market.[54] But this possibility may lead to excessive regulation, in particular when applied to emerging markets[55] and should be used with extreme caution for two reasons. First, vertical integration is usually not anti-competitive. When a firm enjoys substantial market power, there is only one monopoly rent to be gained and there is usually no need to use vertical integration and foreclosure strategies to reap this rent. It is thus only in exceptional circumstances when the monopoly rent can not be gained on the monopolised market that vertical integration and market foreclosure are anticompetitive strategies.[56] Second, even if vertical integration would be antic-ompetitive, it is more appropriate to impose obligations on the dominated market (often the upstream infrastructure market) where the source of the competition problem lies, instead of imposing obligations on the leveraged market (often the downstream service market) where the consequences of the anti-competitive strategy are felt. Therefore, the regulation of the downstream market would only be justified

[48] See also: P. Rey, *Collective Dominance and the telecommunications industry*, September 2002, available at <http://europa.eu.int/comm/competition/antitrust/others/telecom/conference.html>.

[49] Decision of the Commission of 21 May 1999, *Vodafone/AirTouch*, M. 1430, para 28. The criteria taken into account were: highly regulated market entry because licences were limited by reference to the amount of available radio frequencies, and market transparency.

[50] Decision of the Commission of 11 July 2000, *France Telecom/Orange*, M. 2016, para 26. The criteria taken into account were: parallel behaviours during the previous four years and transparent pricing.

[51] Decision of the Commission of 27 March 2000, *BT/Esat*, M. 1838, para 10-14. The criteria taken into account were: growing market demand and not stable market shares, non-homogeneity among Internet access products, important technological developments.

[52] Decision of the Commission of 11 July 2000, *France Telecom/Orange*, M. 2016, para 39-40. The criteria taken into account were: emerging market characterised by an increasing demand and many types of different services on offer and on price, significant asymmetries between market shares of the players.

[53] M. Armstrong, *The Theory of Access Pricing and Interconnection*, in M. Cave, S. Majumdar, I. Vogelsang (Eds), *Handbook of Telecommunications Economics, V.I: Structure, Regulation and Competition*, Elsevier, 2002, 297-386.

[54] Article 14(3) of the *Framework Directive*, as note 6 above. See also: *Tetra Pak II*, C-333/94P, [1996] ECR I- 5951.

[55] *Guidelines on market analysis*, para 84. See also: S. Taylor, *European Commission's Draft Guidelines on Market Analysis and the Calculation of Significant Market Power: The Extension of Tetra Pak II to Regulation*, Computer and Technology Law Review 6, 2001, 129-135.

[56] P. Rey and J. Tirole, *A Primer on Foreclosure*, Mimeo, 1996; P. Rey, P. Seabright, and J. Tirole, *The Activities of a Monopoly Firm in Adjacent Competitive Markets: Economic Consequences and Implications for Competition Policy*, Working Paper, University of Toulouse, 2001.

when upstream regulation is impossible or too late due to the lack of transparency of the wholesale terms and conditions. For instance, if an incumbent operator wish to leverage in an anti-competitive way its dominant position on the wholesale fixed local access to the retail DSL services, it is more appropriate to regulate the local access market.

IV. Third Step: Obligations that may be Imposed on SMP Operator

A. Obligations imposed regarding wholesale markets[57]

The wholesale or intermediate markets refer to the relationships between the providers of electronic communications networks and services. When an operator enjoys Significant Market Power on one of these markets, the regulator must impose at least one obligation and may impose more than one, to be chosen from the menu of ascending remedies provided in Articles 9 to 13 of the Access Directive.

First, the NRA may impose a "transparency obligation" (Article 9 of the Access Directive), requiring the operator to make public specified information, such as technical specifications, network characteristics, accounting information, or terms and conditions for supply and use. In particular, the authority may require the publication of a reference offer,[58] which shall be sufficiently unbundled, and it may even impose changes to these offers. The disclosure of technical information for a firm's access to technical facilities may be useful to achieve interconnection or network access, although the standardisation process may have already placed much of the information in the public domain. On the other hand, disclosure of price data may be an instrument of collusion or price leadership and hence is particularly unsuitable in cases of collective dominance.

Secondly, the NRA may impose a "non-discrimination obligation" (Article 10), requiring the operator to apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services. Vertically integrated firms should provide services and information to others under the same conditions and quality as it provides for its own services or subsidiaries. Differences may only be justified if the supply conditions are not the same (in particular different supply costs) or if the customers are not offering equivalent services, i.e. are not active in the same or closely related relevant markets.[59] This obligation is primarily relevant in the case of an SMP operator that is vertically integrated into a competitive market to prevent exclusionary

57 This section relies extensively on: M. Cave, *Economic Aspects of the New Regulatory Regime for Electronic Communication Services*, September 2002, available at <http://europa.eu.int/comm/competition/antitrust/others/ telecom/conference.html>.

58 According to Article 9(4) of the *Access Directive*, as note 6 above, when an operator should give access to the twisted metallic pair local loop, the NRA should ensure the publication of a reference offer containing at least the elements set out in Annex II of the *Access Directive* like prices or technical conditions.

59 *Corsica Ferries*, C-18/93, [1994] ECR I-1783, para 43; *Access Notice*, para 120-121, which clarifies that a discrimination may be abusive when customers are active on different but related markets (like mobile and fixed telephony):

behaviour through foreclosure of competition in the upstream or the downstream market. But the NRA should apply this remedy in a nuanced way, as it may be efficient to allow price discrimination according to the customers' willingness to pay or the product demand elasticity (like a Ramsey pricing).[60] For instance, it may be efficient and not anti-competitive for a mobile operator to price the access to its network according to the different willingness to pay of the service providers seeking access. The mobile operator may want to charge providers of content over mobile phones differently, according to the value of their content for the end-users.

Thirdly, the NRA may impose an "accounting separation obligation" (Article 11), requiring in particular a vertically integrated company to make transparent its wholesale and internal transfer prices. The authority may also require that accounting records are provided on request, and it may even specify the format and accounting methodology to be used. As this obligation represents a considerable ratcheting up of the regulatory burden on the SMP operator, it is only justified when there is persistent network monopoly enjoying an entrenched competitive advantage.

Fourthly, the NRA may impose an "access obligation" (Article 12), requiring the operator not to withdraw access, to negotiate in good faith or to give third party access to specific network facilities for fair compensation. This notion of access should be construed broadly, as it covers access to wire and wireless network elements (like access to the fixed local loop, or roaming on other mobile networks), access to associated facilities (like the conditional access system for digital television), access to physical infrastructure (like buildings, ducts and masts), or access to relevant software systems (like operational support system, or number translation system). The NRA could impose access when a refusal would hinder the emergence of a sustainable competitive market at the retail level or would not be in the end-users interests. Therefore the test to impose third-party access under sectoral regulation appears to be broader[61]—more easily met—than the one under competition law. Indeed under the essential facility doctrine, access may only be imposed when the facility is essential,[62] i.e. when its access is indispensable to enter the retail market because there is no actual

60 J. Tirole, *The Theory of Industrial Organization*, MIT Press, 1988, 133-167. See in addition: M. Cave, *Can Regulators Get Smart about Discrimination?*, 2002, available at: <http://users.wbs.warwick.ac.uk/cmur/publications/ mec819.pdf>.

61 The difference should not be overstated. Intervention under sectoral regulation should pass an additional test (market selection) that antitrust intervention does not have. This test may encompass some sort of natural monopoly requirement, which is the main object of the essential facility doctrine. One plausible explanation for the apparent easier compulsory access under sectoral law could be that access to infrastructure laid down with exclusive or special rights and/or financed with public funds should be more easily granted that access to facility developed in a competitive environment (see along these lines, para 66 of the Opinion of the Advocate General Jacobs in *Bronner*, cited in note 62, below). This justification does not hold because the criterion for the *imposition of third party access* should be a current natural monopoly situation and not the competitive conditions under which the infrastructure has been deployed. This latter question should only play a role in the *pricing of the access*, not its imposition.

62 *Ladbroke*, T-504/93, [1997] ECR II-923, para. 131; *Bronner*, C-7/97, [1998] ECR I-7791, para 41, 45, 46; *European Night Services*, T-374/94, T-375/94, T-384/94, T-388/94, [1998] ECR II-3141, para 208-209. See: J. Temple Lang, *Defining Legitimate Competition: Companies' Duties to Supply Competitors and Access to Essential Facilities*, in B. Hawk (Ed.), *Fordham Corporate Law Institute*, 1994, 245-313; M.A. Bergman, *The role of essential facilities doctrine*, Antitrust Bulletin, 2001, 403-434.

alternative access even if less favourable (where there is no existing substitute), *and* it is not legally or economically possible to build an alternative access (where there is no potential substitute). But there is no compelling economic rationale justifying a situation whereby access should be more easily granted under sector-specific regulation than under antitrust,[63] as the same conflict between short-run and long run competition holds. Indeed, short-run interests might best be furthered by the adoption of mandatory access on a wide scale, but such a policy would reduce incentives to invest in competing facilities and would stifle innovation in the long term.[64] Therefore, NRA should be very cautious before imposing access, and in any case, safeguard competition in the long run taking into account the investment and risks taken by the facility owner.

Fifth, the NRA may impose "price control obligations" (Article 13). The authority could prohibit anti-competitive pricing practices like excessive prices, predatory prices, or price squeezes. A price is deemed to be excessive under competition law when it bears no relation to cost.[65] A price is deemed to be predatory if it is below the dominant company's average variable costs, or if it is below average total costs and part of an anti-competitive plan. No proof of recoupment possibility has yet been required by the case law.[66] There is a price squeeze when the margin between the access fee on the wholesale market and the final price of the SMP operator on the retail market is insufficient for a reasonable efficient service operator to make a normal profit.[67]

The NRA could also impose positive price control[68] provided it promotes efficiency and allows the operator a reasonable rate of return on adequate capital employed taking into account the risks involved. Different methods of price control are

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[63] J.E. Hausman and J.G. Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, Yale Law Journal 109, 1999, 417-505. The authors suggest that an NRA imposing compulsory access should use a consumer-welfare test (as captured by the essential facility doctrine) and not a competitor-welfare test.

[64] As noted by Breyer, "Increased sharing by itself does not automatically mean increased competition. It is in the unshared, not in the shared portions of the enterprise that meaningful competition would be likely to emerge. Rules that force firms to share every resource or element of the business would create, not competition, but pervasive regulation, for the regulators, not the market place, would set the relevant terms", quoted in A.E. Kahn, *Whom the Gods Would Destroy or How not to Deregulate*, AEI Press, 2001, 7.

[65] *General Motors*, 26/75, [1975] ECR 1367, para 12; *United Brands*, para 251; *Access Notice*, para 105-109. See also: M. Haag and R. Klotz, *Commission practice concerning excessive pricing in telecommunications*, Competition Policy Newsletter, 1998/2, 35-38.

[66] *Akzo*, 62/86, [1991] ECR I-3359 para 69-74; *Tetra Pak II*, para 144-149; *Access Notice*, para 110-116; Statement of objections against *Wanadoo*, 21 December 2001, IP/01/1899. The application of the *Akzo* criteria in multi-services industries may be problematic, as it has to be decided if the average variable cost (the benchmark below which the dominant firm could no go) should cover fixed costs and/or common costs. The Commission considered that the benchmark should equate to the long-term average variable cost: Commission Decision 2001/354, *Deutsche Post*, OJ 5.5.2001 L 125/27, para 35. See further: T. Lüder, *A new standard for predatory pricing*, June 2002, available at <http://europa.eu.int/comm/competition/speeches/index_2002.html>; P. Nicolaides, *An Assessment of the Commission Decision 2001/354 imposing fine on Deutsche Post for abusing its dominant position in parcel deliveries*, European Competition Law Review, 2001, 390.

[67] Commission Decision 88/518/EEC, *Napier Brown-British Sugar*, OJ 19.10.1988, L 284/41; *Access Notice*, para 117-119; Statement of objections against *KPN,* 27 March 2002, IP/02/483; Statement of objections against *Deutsche Telekom*, 8 May 2002, IP/02/686.

[68] B. Mitchell and I. Vogelsang, *Telecommunications Pricing: Theory and Practice*, CUP, 1991.

possible. The NRA can rely on benchmarking and set prices according to those applied in comparable competitive markets.[69] It can also follow a "retail minus" methodology and set the wholesale price on the basis of a freely determined retail price, minus a mark-up compensating for the retail services (marketing, customer care, . . .). With sufficient information about the actual cost, the authority can use them to directly set prices, possibly relying on different accounting methods than those used by the regulated operator. For the pricing of fixed interconnection[70] as well as for the pricing of unbundled access to the local loop,[71] the Commission recommended the use of a Long Run Incremental Cost (LRIC) methodology, which consists of evaluating the network elements at the current or prospective value of an efficient operator and allocating them in accordance with the principle of cost causation. In addition, the NRA could also rely on a sophisticated pricing design. For example, given the very significant fixed costs in telecoms and the consequent divergence between average and marginal cost, a non linear pricing structure consisting of a fixed fee combined with a unit charge equal to marginal cost may be appropriate.[72] When cost orientation is chosen, the burden of proving that prices are cost oriented lies with the regulated operator. As this last variation of price control is very intrusive, it should only be used with extreme parsimony and be confined to cases close to the existence of an essential facility. That may be the case for the different types of access to the fixed local network (call termination, unbundling of the local loop, bitstream) provided that one operator enjoys a monopoly or position of super-dominance in the relevant geographical area. On the other hand, when there is network duplication like in the mobile industry, non-discrimination or other forms of price control may be preferable.

The choice of obligations[73] made by the NRA should be based on the nature of the problem identified, justified in light of the three objectives of the new framework (effective competition, internal market, and interests of the European citizens[74]). It

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69 Upheld by the Court in *Bodson*, 30/87, [1988] ECR 2479; *Tournier*, 395/87, [1998] ECR 2521, para. 38; *Lucazeau v. SACEM*, 110/88, 241/88, 242/88, [1989] ECR I-2811, para 25. The Commission recommended the benchmarking for the interconnection charges on fixed telecom networks from January 2000 to February 2002, when it was deemed no longer necessary due to the increasing availability of cost accounting systems: *Commission Recommendation of 8 January 1998 on interconnection in a liberalised telecommunications market (Part 1—Interconnection pricing)*, OJ 12.3.98, L 73/42, last amended by Commission Recommendation of 22 February 2002, OJ 28.2.2002, L 58/56.

70 *Commission Recommendation on interconnection in a liberalised telecommunications market—Part 1*, as note 69 above, at para. 3. See also: Europe Economics, *Study on the preparation of an adaptable bottom-up costing model for interconnection and access pricing in European Union countries*, April 2000, available at: <http:// europa.eu.int/ISPO/ infosoc/telecompolicy/en/Study-en.htm>; Independent Regulators Group (which is the association of all the NRAs of the Member States and some other European countries), *Principles of implementation and best practice regarding FL-LRIC cost modeling*, 2000, <http://irgis.icp.pt/site/en/index.asp>.

71 *Commission Recommendation of 25 May 2000 on unbundled access to the local loop: enabling the competitive provision of a full range of electronic communications services including broadband multimedia and high speed Internet*, OJ 29.6.2000 L 156/44, at Article 1(6).

72 See also: M. Cave et al, *Access Prices, Investment and Entry in Telecommunications*, 2002, available at: <http:// users.wbs.warwick.ac.uk/cmur/publications/research_papers.htm>. This paper suggests an access price positively related to the replicability of the asset, and rising over time. This scheme aims to ensure static as well as dynamic efficiency.

73 Article 8(4) of the *Access Directive*, as note 6 above.

74 Article 8 of the *Framework Directive*, as note 6 above.

should also be proportionate, which implies that it should be the least burdensome option possible to achieve the regulatory aim.[75] Table 1 below lists indications and contra-indications for the five remedies and tries to match each of them with the problem to be solved. It appears that the further you go on the ascending scale of remedy, the more you need to prove that the SMP position is strong and persistent.[76] This "proportionalisation" of the obligations is one of the key innovations of the new regulatory framework as previously the NRAs had to apply automatically the whole set of remedies to the SMP operator. Finally, it should also be noted that the choice of obligations might be constrained by the international commitments taken by the Member States, in particular at the WTO.[77]

In exceptional circumstances, the regulator may also impose other obligations than those listed in the Access Directive, provided it gets the prior agreement of the Commission.[78] For instance, if justified, the NRA could impose technical solutions (like the use of multiple SIM cards in mobile handsets) or changes in the tariff principles (like imposing receiving-party-pays instead of the current calling-party-pays principle) to address the mobile termination problem. More importantly, the fact that the obligations listed in the Access Directive are all behavioural does not exclude structural solution. The NRA could thus rely on this provision to impose divestiture and the much discussed structural separation of the local loop.[79] Nevertheless, if possible in theory, this remedy would be very difficult to apply in practice as the Commission, and the courts in case of legal challenges against the NRA's decision, should be convinced that the available remedies are insufficient and that a structural separation is the only way forward.[80]

B. Obligation imposed on retail markets

The retail markets refer to the relationship between the providers of electronic communications networks and services and the end-users (being business or residential

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[75] *Guidelines on market analysis*, para 118. On the proportionality principle, see: P. Craig and G. de Burca, *EU Law*, 3rd Edn, OUP, 2002.

[76] The degree and the intensity of market power may be one criterion to decide the type of obligation. This would be similar to the concept of a super-dominant firm whose special responsibility not to impede competition is increased, and correlatively the finding of an abuse becomes more likely (see para 136 of the Opinion of Advocate General Fennelly in *Compagnie Maritime Belge*). But this criterion cannot be the only one.

[77] Council Decision 97/838/EC on the results of the WTO negotiations on basic telecommunications services, and its annex containing the additional commitments take by the European Communities and their Members States, OJ 18.12.1997 L 347/45. For the markets covered by the commitments, the NRAs should impose at least three obligations (transparency, non-discrimination, cost-orientation). See also: M. Bronckers and P. Larouche, *Telecommunications Services and the World Trade Organization*, Journal of World Trade 31, 1997, 5-47; J. Scherer (Ed.), *Telecommunications in Europe*, Sweet & Maxwell, 1998, Chapter 24.

[78] Article 8(3) of the *Access Directive*, as note 6 above.

[79] OECD Working Paper 2-3 December 2002, *Structural Separation of the Incumbent Telecommunications Carriers*, DSTI/ICCCP/TISP(2002)13.

[80] Several arguments militate against the separation of the local loop at this stage of market development, in particular the difficulty to identify a stable dividing line between potentially competitive and non-competitive activities and the related problem of co-ordinating investment activities between the network company LoopCo and the service company ServCo. See M. Cave, *Is LoopCo the Answer?*, Info, 2002, 4, 25-34

customers). In contrast with wholesale markets, two conditions must be fulfilled in regulating a retail market: (1) one or more operators should enjoy an SMP position on a relevant market; and (2) the obligations that may be imposed on wholesale markets would not be able to achieve the three objectives of the new framework, in particular effective competition. Indeed, as most of retail anti-competitive behaviour stems from the exercise of market power on an upstream wholesale market, it is more appropriate to regulate this intermediate market (source of the problem) than the retail market (manifestation of the problem). By analogy to the principles applicable to leverage, retail regulation is justified only when wholesale regulation would be too late or too complex to put in place due to the lack of transparency of wholesale terms and conditions.

The thrust of the new framework is thus a severe reduction of retail regulation as markets should be left alone as far as possible and the regulator should only intervene when competition is not possible or will take time to emerge (i.e. where there are high barriers to entry, hence mainly on the wholesale markets). Clearly if retail regulatory interventions were to be as intense as in the monopoly era, albeit in a modified form, the liberalisation programme would be rendered useless. However, in practice, it remains to be seen whether NRAs will be ready to free retail markets from their obligations.

When justified, the NRA may thus impose one or more obligations, to be chosen from the non exhaustive list provided in Article 17 of the Universal Service Directive. As for wholesale markets, obligations must be based on the problem identified, as well as being justified and proportionate. The NRA may impose the same type of price control listed above (prohibition of anti-competitive pricing practices or positive price control), possibly adapted to take account of the characteristics of the market to be regulated. Moreover, as the SMP regime mainly aims at ensuring effective competition, the retail tariffs control should only ensure competition, hence the orientation of prices towards costs. They should not guarantee other objectives such as general accessibility and affordability of certain services, hence tariffs below costs (which is the remit of the universal service). To ensure effective price control, the regulator could impose the implementation of appropriate cost accounting systems,[81] with specific format and methodology and whose compliance would be verified by a qualified independent body. Going beyond price control, the NRA could also impose other types of obligations such as the prohibition of discrimination between end-users or unreasonable bundling of services,[82] or any other remedies that may be appropriate.

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81 See further the Study made for the Commission services: Andersen, *Implementation of cost accounting methodologies and accounting separation by telecommunications*, July 2002.

82 *Hugin*, 22/78, [1979] ECR 1869; *Hilti*, T-30-89, [1990] ECR II-163, para 118-119, upheld in appeal by *Hilti*, C-53/92P, [1994] ECR I-667; *Tetra Pak II*, C-333/94P, [1996] ECR I-5951, para 37 judging that tying may be abusive even where tied sales of two products are in accordance with commercial usage or there is a natural link between the two products.

TABLE 1. AN ECONOMIC EVALUATION OF THE OBLIGATIONS

Obligation	**Indication**	**Contra-indication or adverse effects**
Transparency	Technical information indispensable to successful interconnection	Price disclosure may ensure excessive/rigid prices
Non-discrimination	Partial remedy against margin squeeze	Too broad a prohibition may reduce consumer welfare; conditions for discrimination may not exist
Separate accounting	Potentially useful for persistent monopoly; essential for many price squeeze investigations	Costly
Mandatory access	Useful for dealing with persistent network monopoly	Reduces incentives to invest and innovate
Cost-oriented pricing	Useful for dealing with persistent network monopoly	Reduces incentives to invest and innovate
Retail price control	Can maintain distorted retail price structure; possible approach to consumer protection issues (e.g. ignorance)	Widespread mandatory access by resellers an alternative

Source: M. Cave and P. Larouche, European Communications at the Crossroads, CEPS Report, 2001, p. 14.

V. COMPARISON BETWEEN SECTOR-SPECIFIC REGULATION AND COMPETITION LAW[83]

Even though the new economic sectoral regulation has been aligned on competition law methodologies, the two sets of public intervention instrument (competition law and sector-specific regulation) do not coincide and should not be confused with each other. In general, they should be seen as complementary[84] and not as substitutes.

The *objectives* of both instruments tend to converge. The three goals of sectoral regulation (effective competition, an internal market and the interests of European citizens) boil down to effective competition with regard to the Significant Market

[83] For a comparison between Competition law and the 1998 regulatory framework: B. Doherty, *Competition Law and Sector-Specific Regulation*, Computer Technology Law Review 8, 2001, 225-232; ITU, *Competition Policy in Telecommunications*—Background paper for the workshop held on 20-22 November 2002, available at: <http:// www.itu.int/osg/spu/ni/competition/documents.html>; M. Kerf and D. Géradin, *Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation*, Berkeley Journal of Law and Technology 14, 1999; P. Larouche, *Competition Law and Regulation in European Telecommunications*, Hart, 2000, Chapter 4; P. Nihoul, *Convergence in European Telecommunications: A case study on the relationship between regulation and competition law*, International Journal of Communications Law and Policy 2, 1998, available at: <http:// www.ijclp.org/basic/ archive.html>.

[84] *Guidelines on the application of EEC Competition rules in the Telecommunications sector*, para 17; Access Notice, para 58.

Power regime. The purpose of competition policy is also to ensure effective competition and long term efficiency.[85]

The *scope* of both instruments overlap. Sectoral regulation applies to market structures where antitrust would be inefficient to control market power. Competition policy applies across the board to all types of market structure, and thus necessarily to markets where the SMP regime is also applicable.

On the other hand, the *conditions of intervention* vary according to the instruments. The SMP regime is limited to market structures fulfilling certain criteria, but then applies generally each time there is a dominant operator (designated using antitrust methodologies). Competition law is only triggered by a specific behaviour of the firms (agreement or concerted practice, concentration or abusive behaviour) that should be shown to be anti-competitive. Therefore, the burden of proof for an NRA is fairly high when selecting a market, but becomes quite low to intervene. It is certainly lower than under competition law as there is no need to show any specific anti-competitive behaviour to intervene. This solution is appropriate because on the one hand sectoral regulation applies to markets where an on-going intervention is needed, and on the other hand, it intervenes *ex ante* to prevent anti-competitive behaviour and not to punish *ex post* condonable behaviour.

Moreover, the *appraisal of the intervention conditions* (definition of market and assessment of market power) may differ under antitrust and sectoral regulation as the use of identical methodologies in different contexts may lead to different results.[86] The market is usually defined more broadly under sector specific law than under competition. An NRA starts from a broader perspective and adopts a prospective approach, whereas the antitrust authority deals with a precise event (abuse of a dominant position, agreement or concerted practice, concentration) that may be linked to one or more undertakings around which the market is defined. Similarly, an SMP operator does not necessarily enjoy a dominant position under Article 82 EC, as the relevant market may be defined differently and SMP is assessed more prospectively. *A fortiori*, the SMP designation does not lead, nor presume that the regulated operator has committed any abuse.

Finally, the *remedies* that may be imposed, or at least the principles guiding their selection, also differ under both instruments. With the decentralisation of competition law[87] and the new electronic communications Directives, it is now clarified that both behavioural and structural remedies may be imposed under antitrust and sectoral law. But the priority principle will vary. Under sectoral law and under Article 82 EC, there is a priority for behavioural remedies. In addition, some sectoral remedies may go

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85 On the goals of Competition law, see: C.D. Ehlermann and L.L. Laudati (Eds), *European Competition law Annual: The Objectives of Competition Policy*, Hart, 1997.

86 *Guidelines on market analysis*, para 24-32.

87 Article 7(1) of the Council Regulation 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Article 81 and 82 of the Treaty, OJ 4.1.2003, L 1/1.

further than the antitrust ones.[88] Under Merger control, there is a priority for structural remedies.[89]

Therefore, even though the new regulatory framework brings economic sectorspecific regulation and competition law closer together, both are and remain different. Table 2 attempts to capture some of these differences. Whereas the objectives and the scope of the two instruments may overlap, the conditions to intervene and the remedies available diverge. Under sectoral regulation, the intervention takes place *ex ante*, is relatively easy on the selected markets, and the obligations focus mainly on the behaviour of the firms. That makes its intervention particularly useful (and more efficient than antitrust) for markets needing on-going intervention,[90] i.e. markets fulfilling the three criteria identified by the Commission in its Recommendation on relevant market (high barriers to entry, absence of dynamic elements behind the barriers, and relative efficiency of sectoral remedies).[91]

VI. CONCLUSION

The Significant Market Power process, which is at the cornerstone of economic regulation of the electronic communications sector, has been radically reformed by the new regulatory framework and aligned to competition law methodologies. This new regime has several advantages. It is more flexible and guarantees that National Regulatory Authorities' decisions are based on sound economic principles and reflect the reality of the market. It also ensures a progressive removal of obligations as competition develops on the relevant markets (market-by-market sunset clauses) and facilitates the transition towards a pure application of competition law. Finally, it increases the control of the Commission on the NRAs decisions, thereby favouring a regulatory harmonisation.

But the new regime carries with it significant risks. Due to the very fact that it is more flexible, its implementation is also more complex. If the NRAs do not do their job properly and/or if the courts do not show any deference to these authorities, their decisions will be constantly challenged by the regulated operators and the new

88 Access Notice, para 15. For instance, compulsory access or cost orientation may be more easily imposed under sectoral regulation than antitrust.

89 *Commission Notice on remedies acceptable under Council Regulation 4064/89/EEC and under Commission Regulation 447/98/EC*, OJ 2.3.2001 C 68/3. As merger control is mainly about market structure, structural remedies should be preferred, but behavioural remedies may be accepted provided they have some sort of effect on the structure of the market: *Gencor*, T-102/96, [1999] ECR II-753, para 319. With the extended scope of the new regulatory framework and the consecutive increased possibility to rely on behavioural remedies under sectorspecific regulation, it is hoped that the use of behavioural remedies in merger control will decrease and that the cooperation between the Merger Department of the Commission and the NRAs will be enhanced, see A. de Streel, *European Merger Policy in Electronic Communications Markets: Past Experience and Future Prospects*, 2002, available at: <http://www.tprc.org/TPRC02/Agenda02.HTM#merger>.

90 See also the non-successful experience in New Zealand which relied exclusively on competition law to regulate telecoms: M. Webb and M. Taylor, *Light-handed Regulation of Telecommunications in New Zealand: Is generic Competition Law Sufficient?*, International Journal of Communications Law and Policy, Winter 1998/99, available at: <http://www.ijclp.org/basic/archive.html>.

91 See also the Table 5-1 of H. Intven (Ed.), *Telecommunications Regulation Handbook*, 2001.

TABLE 2. DIFFERENCES BETWEEN SMP REGIME AND COMPETITION LAW

Feature	SMP Regime	Competition law
Policy focus	– Three policy objectives (effective competition, internal market, interests of the citizens), but the SMP regime mainly aimed at ensuring effective competition – Increase competition or mimic competition if not possible	– Objective to reduce conduct or prohibit concentrations which impede competition – Maintain a level of competition that is satisfactory, or increase competition if necessary and easily possible
Scope	– Industry specific (greater sectoral expertise) – Selected market structures where competition law remedies would be inefficient	– Economy wide, multiple industries – All market structures
Conditions intervention/ Process	– Low burden of proof to intervene on the selected markets – Prospective – Decision of general application and specific issue proceedings – Mix of formal and less formal procedures with public consultation	– High burden of proof to intervene, particularly for ex post control – Retrospective under Article 82 EC or prospective under Merger control – Complaint or investigation driven (adjudicative process) – Formal investigative procedures
Remedies	– Broad scope for public intervention: used to prescribe – Strong emphasis on behavioural remedies, needing on-going monitoring – Remedies may be far reaching but should be proportionate	– Narrow scope for public intervention: used to proscribe – Emphasis on behavioural remedies for *ex post* control or structural remedies for *ex ante* control

framework could end up being like Communist thinking: interesting in theory but a failure in practice. It is thus of the utmost importance that NRAs, and in fact the entire industry, co-operate to take quick and efficient decisions. It is only under this condition that the *e*Society will develop for the benefits of all European citizens.

More fundamentally, some have argued that competition law has been stretched beyond its reasonable bounds.[92] This article shows the need to distinguish between antitrust principles and antitrust interventions. The antitrust principles are only a rigorous economic way of looking at the market and decrypting the forces at play. Their use should not be limited for antitrust intervention in markets whose competitive structures are *a priori* satisfactory. They could equally be used for sectoral regulation to control market power when antitrust would be inefficient to do so.

Others maintain that the new framework fails to outline a coherent vision of regulatory activity. If it is true that the new directives does not outline an explicit regulatory vision, nevertheless, an implicit one may be found. The basic thrust is that

[92] P. Larouche, *A closer look at some assumptions underlying EC regulation of electronic communications*, Journal of Network Industries, 2002, 148.

citizens' interests are best served by competitive markets and that public intervention isonly justified to guarantee competition on the markets or to ensure that needs not satisfied by market left alone would be fulfilled. That leads to three layers of regulation: market entry, social and economic. The market entry and the social regulations have always been considered as permanent, whereas the role and the duration of the economic regulation (the SMP regime and other obligations to control market power like access to ensure any-to-any connectivity) is more complex. The three main European institutions[93] have argued that it should disappear over time to be replaced by the mere application of competition law. But a thorough analysis of the new framework shows that economic regulation applies when and until it can control market power more efficiently than antitrust. This is mainly the case when there are significant economies of scale and scope, or important externalities (due to network effects or tariff principles). As long as these effects are at play, economic regulation is justified and will be maintained. It appears thus that the new framework contains a clear implicit vision of the regulation.

To conclude, the integration of competition methodologies in the economic sector-specific regulation is a big challenge for the regulators of the Member States, and indeed for the whole electronic communications sector. If it fails, the national authorities and operators will be entangled in multiple legal challenges to the detriment of the whole industry. If it succeeds, the authorities' decisions will be focused and efficient to the benefit of the European citizens.

[93] The Commission (Communication of the Commission of 10 November 1999, *Towards a new framework for Electronic Communications infrastructures and associated services—The 1999 Communications Review*, COM(1999) 623 at 49); the European Parliament (Point A of the *Resolution of the European Parliament of 13 June 2000 on the 1999 Communications Review of the Commission*, A5-0145/2000, OJ 1.3.2001, C 67/53); and the Council (Para II.1 of the *Statement of Reasons of the Council Common Position 38/2001 of 17 September 2001 on the Framework Directive*, OJ 30.11.2001, C 337/51).