Title
Innovation and Market Definition under the EU Regulatory Framework for Electronic Communications

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Publication Date
2005-12-13

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"Draft"

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[Forthcoming in *World Competition* No. 29:1, March 2006, Kluwer Law International]

Abstract

This article provides with a thorough analysis of market definition under the EU regulatory framework for electronic communications. It is stressed that, under a forward-looking approach to market definition, *demand-side substitution* must address the competitive constraints imposed by the *emerging services* and that, in assessing *supply substitution*, regulators should take into account the likelihood of *potential competitors* to enter the market *within a reasonable time frame*. Accordingly, *potential competition* must be addressed in defining market (and not subsequently when assessing market power) whenever the financial ability and the profitability for potential competitors to enter the market is established. Assessing the constraints imposed by the emerging Voice over Internet Protocol (VoIP) services that are substitutable for traditional telephony is necessary to conduct a consistent market analysis and accurately apply *ex ante* regulation, especially given the development of *bundling strategies*.

Key words: telecommunications / EU electronic communications regulation / competition law / market definition / potential competition / Internet Protocol / VoIP/ bundling

Introduction

In 2003 the new European framework for the regulation of electronic communications ("The EU regulatory framework")[1] replaced the previous regulatory regime in order to adapt to more complex and dynamic markets.[2] This transition is to be achieved through a new methodological approach to regulation and the fulfilment of a range of policy objectives. As regards the methodological approach, the application of the competition law concept of dominance and the adoption of a dynamic market analysis aim at lowering the level of regulation.[3] As to the public policy objectives pursued, the National Regulatory Authorities ("NRAs") are asked, in particular, to promote competition from a static as well as from a dynamic point of view by *"encouraging efficient investment in infrastructure and promoting innovation"*.[4] In fact, the core of the EU regulatory framework is to strike the right balance between ensuring competition in the short-term and promoting investment and innovation that will secure more competition in the long-term.[5]

To that end the EU regulatory framework has implemented a unique instrument with the overall forward-looking assessment of the structure and the functioning of the electronic communications markets. Because e*x ante* regulation must only address a lack of effective competition that is expected to persist over a given horizon, the NRAs are required to assess whether the communications markets are *"prospectively"* competitive and whether the lack of effective competition is durable before imposing *ex ante* regulation.[6] Such a prospective or forward-looking market analysis required the regulators to accurately ascertain the impact of the innovation process throughout a three-step process. First, the NRAs must define a relevant product or service market on the basis of the Commission Recommendation on Relevant Markets, which identifies 18 markets susceptible of *ex ante* regulation.[7] Then the NRAs are required to determine whether the relevant market is effectively competitive, which amounts to verify whether there are one or more firms with significant market power on this market. Finally, in the third step, the NRAs are allowed to impose *ex ante* remedies when a firm is found to be dominant on the identified market and if competition law alone would not adequately solve the problem.[8]

As regard to market definition, sector-specific regulation embraces the competition law guiding principles. Under EU competition law, market definition is a tool used to identify and define the boundaries within which firms compete.[9] The main purpose is to identify in a

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1 The new package is composed of five Directives: the *Framework Directive* (Directive 2002/21/EC), the *Authorisation Directive* (Directive 2002/20/EC), the *Universal Service Directive* (Directive 2002/22/EC), the *Access and Interconnection Directive* (Directive 2002/19/EC) and the *Data Protection Directive* (Directive 2002/58/EC).

2 See Recital 25 Framework Directive.

3 Generally on the New Framework see P. Nihoul and R. Redford, *EU Electronic Communications Law - Competition and Regulation on the European Telecommunications market*, Oxford University Press, 2004; A. Bavasso, *Communications in EU Antitrust Law*, The Hague, Kluwer Law International, 2003; W. Maxwell, *Electronic Communications: The New EU Framewor*k, New York, Oceana, 2002. On the adoption of competition law principles under the New Regulatory Framework see A. Bavasso, "Electronic communications: A New Paradigm For European Regulation", (2004) 41 *C.M.L. Rev.* 87-118.

4 See Article 8.2 Framework Directive.

5 NRAs are bound to resolve this trade-off when imposing *ex ante* regulation. See European Regulatory Group, *"Common Position on the approach to appropriate remedies in the new regulatory framework"*, ERG (03) 30 Rev. at 58.

6 See Recital 27 Framework Directive.

7 See Commission Recommendation on Relevant Product and Service Markets within the Electronic Communications Sector, OJ [2003] L 114/45.

8 For a discussion of the three stage process see A. de Streel, "The Integration of Competition Principles in the New Framework for Electronic Communications" (2003) 26 *World Competition* 489-514.

9 See Commission Notice on the Definition of the Relevant Market for the Purposes of Community, OJ [1997] C372/5 at § 2 [hereinafter the *Notice on the Definition of the Relevant Market*]. This article focuses on product market definition and does not address the geographical market definition.

systematic way the competitive constraints faced by the undertakings involved. Market power is limited by the presence of substitutes to which buyers may turn (cross-demand elasticity) and by the ability of other existing producers or new entrants to expand output from existing facilities or by building new capacity (elasticity of supply). Delineating accurately the market boundaries thus entails identifying actual as well as potential constraints on the firms active on the relevant market. In that regard, firms may be subject to three main competitive constraints: *"demand substitutability"*, *"supply substitutability"* and eventually *"potential competition"*.

The EU regulatory framework requires the relevant electronic communications markets to be defined in accordance with the same criteria. However, in this fast innovative industry, market definition depends largely on the *"prospective time horizon considered"* [10]. Accordingly, the regulators are required to address these criteria under a forward-looking approach so as to take into account any expected or foreseeable technological or economic developments.[11] Conducting such a dynamic market analysis is not an easy task. Because of constant innovation and rapid technological convergence, any current market definition runs the risk of rapidly becoming irrelevant. As the European Commission has announced a revised version of the Recommendation on relevant markets by July 2006[12], an overview of the market analyses already concluded by the NRAs provide us with a first understanding of how regulators address the innovation process when defining electronic communications markets.

Part 1 is questioning the implementation of the forward-looking approach to market definition in the context of the fast innovation process driving the electronic communications sector. ***Section 1*** argues that *demand-side substitution* must address the competitive constraints imposed by the *emerging services*. **S*ection 2*** stresses that *supply-side substitution* is becoming a criterion increasingly relevant to delineate market boundaries given the convergence process. ***Section 3*** points that, under the forward-looking approach to market definition, regulators are required to take into account the likelihood of potential competitors to enter the market *within a reasonable time frame*. Accordingly, it is argued that *potential competition* must be addressed in defining market (and not subsequently when assessing market power) whenever the financial ability and the profitability for potential competitors to enter the market is established. ***Part 2*** illustrates the challenges posed to the NRAs as the regulation of the emerging *Voice over Internet Protocol* services *("VoIP services")* comes under the EU policy spotlight. ***Section 4*** argues that VoIP services put at risk the present definition of the relevant markets. In particular, regulators should carefully consider whether *Voice over Broadband* services *("VoB services")* are substitutable for traditional telephony. ***Section 5*** stresses that addressing the constraints imposed by the substitutable VoIP services at the stage of the market definition is necessary to conduct a consistent market analysis and accurately apply *ex ante* regulation, especially given the development of *bundling strategies*.

[10] See Commission Recommendation on Relevant Product and Services Markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC - Explanatory Memorandum [hereinafter the *Explanatory Memorandum*] at 7.
[11] Ibid at 8.
[12] See SPEECH/05/515.

Part 1 – Addressing Innovation under the Forward-Looking Approach to Market Definition

The time dimension is crucial in the communications industry where the characteristics of products and services are continually evolving. Dynamic competition theories teach that because innovation is a key component of the competitive process, identification of market power is much more complicated in high-tech industries where competition takes the form of *"Schumpeterian"* rivalry.[13] In such a dynamic environment, indeed, market power is mainly a function of time since the market structures are successively redefined. Standard approaches to competition run then the risk of assigning market power incorrectly to an innovative firm.[14] In order to cope with the innovation process, and in particular with the on-going *"convergence"* phenomenon in the telecommunications, media and information technology sectors (as result of which similar services can be delivered over different types of networks), a single regulatory framework covering all types of infrastructures has been adopted in the EU.[15] Moreover, under the forward-looking approach to market definition, the impact of the innovation process must be taken into account in addressing demand substitution (I), supply substitution (II) and potential competition (III).

I. Innovation and Demand Substitution

In principle, under an approach aimed at lowering the level of regulation, the *"newly emerging markets"* are deemed not to require *ex ante* regulation.[16] In the view of the Commission, when market power exists because of *"first mover"* advantages, premature imposition of *ex ante* regulation may unduly influence the competitive conditions taking shape within an *"emerging market"* where, *de facto*, the market leader is likely to have a substantial market share. Accordingly, under the EU regulatory framework, emerging or innovative markets should be regulated only on an *ex post* basis, and the antitrust authorities are thus responsible for preventing any market power leveraging from a *'regulated'* market into an *emerging 'non regulated'* market.[17] To that end, the identification of "*emerging markets"* to which *ex ante* regulation may apply has been made particularly difficult to achieve for NRAs. Only if a market passes a three prong test, *i.e.* the presence of high and non-transitory barriers to entry is asserted, the structure of the market is not moving towards effective competition, and the application of competition law alone would not adequately address the market failures concerned can it be identified as a relevant market subject to *ex ante* regulation.[18] Therefore, given the burden of proof, it is unlikely that regulators will often depart from the 18 markets already defined by the Commission to impose *ex ante* regulation.[19]

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13 See J. Ellig, *Dynamic Competition and Public Policy,* Cambridge, 2001 at 1-16.

14 See T.M. Jorde and D.J. Teece, *Antitrust, Innovation, and Competitiveness*, Oxford University Press, 1992 at 7.

15 Point (5) of the Framework Directive. The EU regulatory framework addresses all communications infrastructure in a consistent manner, but does not cover the content of services delivered over and through those networks and services. See P. Larouche, "EC competition law and the convergence of the telecommunications and broadcasting sectors" (1998) 22 *Telecommunications Policy* at 219-242; D. Geradin and C. Humpe, "Regulatory Issues in Establishment and Management of Communications Infrastructure: The Impact of Network Convergence", (2002) 3 *Journal of Network Industries* at 99–127.

16 See Recital 27 Framework Directive; See also the Commission Guidelines on market analysis and the assessment of significant market power, OJ [2002] C165/03 at § 32 [hereinafter the *Guidelines on market analysis*]. The regulatory framework does not provide with any clear criteria to define an emerging market. For a description of this concept see OPTA, "Regulating Emerging Markets", *Economic Policy note*, n°5, April 2005.

17 See Recommendation on relevant markets, *supra* note 7 at Recital 15.

18 Ibid at Recital 9. This test should in general be prospective in nature and not rely on purely historic data. See EC, SG (2003) D/231934.

19 So far, only ARCEP the French regulator went beyond the Commission Recommendation and identified a new market for wholesale SMS termination as being susceptible to ex-ante regulation.

However, an innovative service may nevertheless exert a competitive constraint on other communications services already offered on a given market. EU competition law provides that *"a relevant product 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 prices and their intended use*".[20] Demand substitution constitutes, in fact, the most immediate and effective disciplinary force constraining the suppliers of a product.[21] Accordingly, market definition must primarily address how consumers may opt for *"new services"* of electronic communications instead of the services already offered. Especially, on these markets characterized by the rapid pace of innovation, measuring the reaction of consumers to the introduction of emerging products and services is essential to correctly assess cross-elasticity of demand. In certain merger cases, the Commission had already endorsed such a prospective approach to market definition in order to identify the constraints imposed by new competing products offered on the relevant market.[22] Likewise, in assessing demand side substitution under EU electronic regulation, the focus must be placed on the competitive constraints imposed by the *"emerging services"* so as to accurately define the arena of competition. The Commission has firmly recalled this principle and, in particular, made clear to the British regulator (Oftel) that 2G mobile services and 3G mobile services that are not distinguishable from a demand-side perspective "*at present"* and in the *"near future"* are deemed to be part of the same relevant product market.[23] Such a dynamic market analysis allows regulators to adequately assess the impact of the innovation process on the market boundaries and, thus, avoid a wrong market definition.

II. Innovation and Supply Substitution

Under the EU electronic communications regulation, supply-side substitution is a criterion increasingly significant to assess market boundaries. In the context of the rapid technical innovation driving the communications sector, the ability of producers to switch production and enter another relevant market in the short term increases.[24] Regulators must then carefully consider the degree of substitutability on the supply side of the market in order to comply with the *"technological neutrality"* principle (*i.e.* they must neither impose nor discriminate in favour of the use of a particular type of technology).[25] It is worth recalling that this key principle has been introduced to provide the necessary flexibility to deal with emerging and converging technologies in media, internet and communications. Accordingly, market regulation must be based on the nature of the products or services provided, and not on the technological platform used to provide them.[26]

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[20] See Notice on the Definition of the relevant market, *supra* note 9 at § 7. See Case 85/76 *Hoffmann-La Roche* v *Commission*, (1979) ECR 461, Case 27/76 *United Brands* v. *Commission*, (1978) E.C.R. 207.

[21] See Notice on the Definition of Market, *supra* note 9 at § 13.

[22] See Case No COMP/M. 1795 (2000) *Vodafone AirTouch/Mannesmann*. See also Case IV/34.857 (1994) *BT-MCI* and Case IV/M.561 (1995) *Securicor Datatrak*.

[23] See EC, SG (2003) D/231466. However, *"new enriched 3G services"* may develop into a separate *"emerging market"* if not substitutable for current 2 G services. See also EC, SEC(2004)1535, Commission Staff Working Paper, vol 1, Annex to the European Electronic Communications Regulation and Markets 2004 (10th Report) at 72 where the Commission recalls *"that termination of voice calls on 3G networks is not as such to be considered as a novel service or newly emerging market, but rather a product that in principle should be part of the market for voice call termination on individual mobile networks."*

[24] See P. Larouche "Relevant Market Definition in Network Industries: Air Transport and Telecommunications", *Journal of Network Industries* (2000) 1 at 417. See also A. J. Padilla, "The Role of Supply-side substitution in the Definition of the relevant market in Merger Control - A Report for DG Enterprise A/4", European Commission, June, 2001.

[25] See Framework Directive Recital 18.

[26] The Commission has constantly recalled this core principle of the EU electronic communications regulation. See Commission Communication *'Mobile broadband services*', COM(2004) 447; Commission Communication '*Connecting Europe at high speed: recent developments in the sector of electronic communications'* COM(2004) 61 final. See also EC, SG (2003) D/231466.

As a result, the forward-looking approach to market definition makes it necessary to take into account the services provided through emerging technologies. That is to say, because technical convergence increasingly allows substitution between infrastructures, NRAs must assess the substitutability between services offered through a mature technology and services accessible through newly developed technology.[27] Where new types of infrastructure are used to provide existing services, any regulatory intervention (in respect of that new type of infrastructure) would depend on a revised market analysis.[28] The services provided through the new technology may be found to belong to a separate market if their characteristics differ from the ones already offered. But when the same services are offered to the same class of customers by means of alternative easily accessible competing networks and that the consumers find the latter services substitutable for the former ones, they are belonging to the same relevant market.[29] The adequate definition of the market rests then on a thorough analysis of substitutability between the services provided through the available technologies.[30]

The definition of the broadband access markets (*i.e.* markets for high-speed connection to the Internet) illustrates the necessity to correctly assess cross-elasticity of supply. In the 2003 markets review, the Commission noted with regard to this market that :*"At the current time, upgraded cable systems are not sufficiently widely developed or deployed although the situation might change in some parts of the Community (…..). Consequently the only reasonable widespread means of supplying the end user is over local access network loops of the PSTN* [the traditionally public switched telecommunications network]*"*[31]. Accordingly, the constraints presented by cable operators were not considered in defining the relevant market. However, under a prospective market analysis, NRAs are required to give due consideration to the technical, practical and economic feasibility for alternative operators to deliver broadband services equivalent to those provided by the traditional communications operators.[32] And, indeed, the market structures are changing in the broadband markets. The growing ability of cable operators to deliver broadband communications over their networks makes them increasingly able to compete with traditional telecommunications operators.[33] Therefore, at present, under a forward-looking approach to market definition, the regulators should consider, in defining the broadband access market, whether broadband access via cable networks competes with broadband access via the traditionally public switched telecommunications network in view of both supply side as well as demand side substitutability considerations.[34]

Because technical convergence increasingly blurs the distinction between communications infrastructures (*e.g.* terrestrial, satellite, and cable), a prospective approach is ever more necessary to assess the exact boundaries of the broadband communications markets, which are likely to be amongst the fastest changing markets among those currently regulated under the EU regulatory

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[27] In that respect, demand-side substitution and supply-side substitution are intrinsically correlated when conducting the prospective market analysis required under the regulatory framework.

[28] See Explanatory Memorandum, *supra* note 10 at 15.

[29] See Guidelines on market analysis, *supra* note 16 at § 68.

[30] See EC, SG (2003) D/206323. In view of that, the Commission recalled the German regulator (RegTP) that it had to assess to what extent an emerging technology (*"newly"* developed fibre glass connections) could substitute to the technology traditionally operated (metallic loops and sub-loops) for the purposes of providing broadband and voice services.

[31] See Explanatory Memorandum, *supra* note 10 at 24.

[32] See the Annex of the Recommendation on relevant markets, *supra* note 7, which provides that the *"market for wholesale broadband access"* covers access services delivered on traditional telecommunications networks (PSTN-based bitstream access) as well as *"wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bit-stream access"*.

[33] See ERG(04)19rev1, *"Wholesale Broadband Access via Cable"* and ERG (05) 24, *"Wholesale Broadband Access via Cable - Consultation report"*.

[34] See the analysis conducted by the Portuguese regulator (Anacom), which defined a market for broadband services including also broadband services provided over the cable TV networks (EC, SG-Greffe (2004)D/206322). See D. Maldoom, R.A.D. Marsden, J.G. Sidak and H.J. Singer, *Broadband in Europe*, Springer, 2005 at 80-82. Based on a number of studies and surveys, the authors conclude that there is compelling evidence of competitive interaction between DSL and cable.

framework. For instance, with regard to the mobile network access market, regulators should consider the increasing competitive constraints imposed on 2G and 3G services by emerging 4G technologies such as WLAN (e.g.WiFi or Blutooth).[35] Although they have considered marginal such constraints under the first market review,[36] and that the impact of these technologies on the industry is still uncertain, it would be most opportune to verify whether services delivered through the new technologies may be substitutable for the ones delivered with 2G and 3G networks.[37]

III. Potential Competition and Innovation

A. Market Definition and Potential Competition

Under competition law, defining a relevant market makes it necessary to identify *"potential competition"*. This last criterion directly refers to the temporal dimension of the market. Competition on a market depends on the competitive constraints imposed by competitors already active in the relevant market but also by firms that are not yet on the market. The conditions under which potential competitors will actually represent an effective competitive constraint, then, rests on the analysis of specific factors and circumstances related to the conditions of entry in the market.[38] Accordingly, competition law draws a theoretical distinction between potential competitors able to enter the market in the *"short term"* and potential competitors that can do it only in the *"medium or long term"*. If a firm can switch its production capacity in the short term to enter the market at issue, the competitive constraint is immediate on the firms already active on this market and therefore must be addressed in defining the relevant market under the *supply substitution* test. But, when a firm can enter the market only in the longer term (and after occurring some costs) the potential constraint it represents is too uncertain to be relevant at the stage of market definition.[39] As a result, under competition law, *potential competition* is generally regarded as a source of competitive constraint to be considered in assessing market power and not in defining the relevant market.[40]

The EU regulatory framework, which has adopted the competition law principles, also requires the NRAs to consider the constraints imposed by potential competitors primarily in assessing market power.[41] In order to decide whether or not a firm enjoys dominance, regulators are required to take into account the likelihood that some undertakings not currently active on a market may enter in the "*medium term"* (following a small but significant non-transitory price increase).[42] Accordingly, the Commission recalled the Austrian regulator (TKK) that *"a potential source of competition"* is to be, in principle, *"considered in terms of the SMP assessment and not the market definition"*.[43] However, in practice, drawing a clear distinction between *"short term"* and *"medium or long term"* is rather difficult to achieve in the electronic communications industry. Product substitutability between services increasingly arises as a result of the convergence and makes conceivable the entry of new competitors within a somewhat uncertain time frame. For that reason, in determining the scope of supply substitution, regulators are also required to consider *"the likelihood that some undertakings not currently active on the relevant market may decide to enter the market*

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35 See J. Björkdhal, E. Bohlin & S. Lindmark, "Financial Assessment of Fourth Generation Mobile Technologies", *Communications & Strategies* (2004) 54 71-94.
36 See for instance Oftel, "*Mobile access and call origination services market: Identification and analysis of market and Determination on market power - Explanatory Statement and Notification"*, 4 August 2003 at 3.68-3.69.
37 In that way see ERG (05) 24, *supra* note 33 at 5.
38 See Notice on the definition of the market, *supra* note 9 at § 24.
39 Ibid at § 14.
40 Ibid at §23and §24 .
41 See Guidelines on market analysis, *supra* note 16 at §74, §78 and §80.
42 See ERG (03)09rev2, *"Working paper on the SMP concept for the new regulatory framework"* at § 18.
43 See SG-Greffe (2004) D/203603.

within a *<u>reasonable time frame</u>"*.[44] As a result, under the EU regulatory framework, assessing the competitive constraints presented by *potential competition* must also be regarded in defining the market.

At first glance, it seems that is not a big issue. Thus, the key issue is not the market definition for its own sake, but an identification of the extent and strength of competitive pressures. What matters is that potential entry from other suppliers is taken into consideration at some stage of the relevant market analysis, that is, either at the initial market definition stage or at the subsequent stage of the assessment of market power.[45] In that way, in reviewing the broadband access market analyses conducted by the NRAs, the Commission generally considered that the conclusion of the exact scope of the product market was not relevant because, although the exclusion of cable services from the broadband access markets may lead to a narrower market definition, it did not result, in the particular cases at stake, in a different assessment of market power.[46] In addition, under the EU regulatory framework, regulators must ensure an ongoing survey of market conditions. Accordingly, a regulator that won't have taken into account the potential competition constraint while defining the relevant market would still be able to revise its analysis at any time and, if needed, impose *ex ante* regulation. For instance the Commission required the Irish regulator to *"monitor the effective developments of the emerging competitors very closely in the near future"* since the competitive ability of a fringe competitor could change rapidly after the prospective market analysis has been conducted.[47]

However, antitrust theory teaches that the time span selected for assessing elasticities of demand and supply determines whether the market is more or less inclusive.[48] Moreover, under EU electronic communications regulation, the three steps of the market analysis (market definition, market power assessment and choice of remedies) are related to each others. Deciding whether to take into account potential entry under a short term (in defining the market) or potential entry under a medium and long term (in assessing market power) may then considerably impact the delimitation of the markets boundaries and thereby the regulation applicable. For instance, the inclusion to cable access in the wholesale broadband access may have a direct impact on the implementation of the remedies. In particular, it follows from the principle of technological neutrality that access regulation imposed on to a PSTN-network operator must be imposed equally to a cable network operator if such an obligation is considered proportionate and justified.[49] Also, adopting such a market definition may indirectly impact the implementation of the remedies since the dominant operators might decide to implement new strategies in order to be relieved from *ex ante* regulation.[50] From that perspective, assessing the entry of competitors in the short term (in defining the market) rather than in the medium or long term (in assessing market power) may thus in fact profoundly modify the delimitation of the relevant market and, besides, the regulation regime applicable. Selecting an appropriate time period for assessing elasticities of supply is then a key issue under the dynamic market analysis.

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[44] See Guidelines on relevant market, *supra* note 16 at § 52.
[45] Ibid at footnote 24.
[46] See for instance EC, SG-Greffe (2004)D/200485.
[47] See EC, SG-Greffe (2005) D/200269.
[48] See P. Areeda and D.F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and their Application*, vol II, Toronto: Little, Brown, 1978, at 348.
[49] See ERG(04)19rev1, *supra* note 33 at 17. This is the case in Portugal where an operator (the PT Group) is offering broadband services through its telecommunications subsidiary (fixed network) as well as through its cable subsidiary. The regulator (Anacom) defined the relevant product market as the provision of broadband access services over both technologies. The Commission was dubious about the exact market boundaries and questioned whether it was appropriate to include in the relevant market broadband access services via the cable network. Nevertheless, the Commission agreed with the market definition since the exclusion of broadband access services via the cable network would not have led to a different result in the SMP analysis. But, the Commission also required Anacom to justify why the proposed remedies were imposed only to the PSTN-network operator (See EC, SG-Greffe (2004)D/206322).
[50] Ibid. The Commission noted that, should the operator decide to divest its cable business, *"the use of the current definition of the relevant market may have a major impact on the SMP finding"* and will require the regulator to *"re-conduct its market analysis and the proposed remedies"*.

B. Differentiating Supply Substitution with Potential Competition

In practice, under competition law, the distinction between the supply-side substitution test applied to define market boundaries and the potential competition test designed to assess market power is not clear-cut.[51] The confusion between the two standards appears to be greater in markets driven by rapid innovation on which competitive constraints come from threats from potential competitors that are not currently in the market but are likely to enter within a relatively short term. In particular, the Commission plainly acknowledges that distinguishing between supply-side substitution and potential competition in electronic communications markets may be more complicated than in other markets given the dynamic character of the sector.[52] The vagueness of the applicable provision ("*within a reasonable time frame*") underlines the fact that the timing of the potential entries to take into account in assessing supply side substitution is rather difficult to determine in the electronic communications industry. In fact, the Commission admits that *"the time frame to be used to assess the likely responses of other suppliers in case of relative price increase will inevitably depend on the characteristics of each market and should be decided on case-by-case basis"*.[53]

However, EU competition law gives the antitrust authorities some indications to decide at which stage (market definition or market power assessment) to analyse the competitive constraint imposed by the likelihood of entry of competitors in the market. The *Notice on Market Definition* proposed a subjective criterion to differentiate both standards. Potential competition analysis focuses on the ability of competitors to enter the market in the *"long term"*. In contrast, supply-side substitution means that suppliers are able to switch production to the relevant products and market them in the *"short term"* without incurring significant additional costs or risks in response to small and permanent changes in relative prices.[54] The EU Regulatory Framework adopts the same line of demarcation. Accordingly, supply substitution responds promptly to a price increase whereas potential entrants may need *"more time"* before starting to supply the market.[55]

Besides this subjective criterion, antitrust theory teaches that policy makers must use a set of objective criteria to assess more precisely whether potential competitors are able to enter the market in the short term or in the longer term. A firm is not likely to enter a market if it lacks the capital, technical resources, marketing channels or skills. Probable entry may therefore be shown by proof that (1) the firm has the requisite economic capabilities for substantial entry and (2) such entry is economically attractive.[56] Under merger control rules, the likely entry on the market of potential competitors is identified as a factor limiting the effect of a concentration since customers would switch totally or partially to alternative providers should the merging firms attempt to raise prices to supra-competitive levels. Accordingly, the antitrust authorities verify on the basis of a set of quantitative conditions whether a merger will prevent potential new entrants from attempting to enter the market. Such a methodology usefully provides some guidelines for the NRAs to decide whether competitive constraints must be addressed in defining market boundaries or in assessing market power.

The first objective criterion relates to the economic capability of the firm to enter the market in the short term. The *"short term"* is a period that does not entail a significant adjustment of existing tangible and intangible assets.[57] This is mainly because supply substitution involves no additional significant costs whereas potential entry occurs at significant sunk costs.[58] Accordingly, it must not be given great weight to potential competition for supplies in defining the relevant

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[51] See also D. Hildebrand, "The European School in EC Competition Law" *World Competition* (2002)1 at 11.
[52] See Guidelines on market analysis, *supra* note 16 at footnote 24.
[53] Ibid at footnote 37.
[54] See Notice on the definition of the market, *supra* note 9 at § 20.
[55] See Guidelines on market analysis, *supra* note 16 at § 38.
[56] See P.A. Areeda & H. Hovenkamp, *Fundamentals of Antitrust Law*, Aspen, 2003, vol V § 1116b.
[57] See Notice on the definition of the market, *supra* note 9 footnote 4.
[58] See Guidelines on market analysis, *supra* note 16 at § 38.

market unless there is some real evidence of a company with the financial ability to enter the market in the foreseeable future. In that way, *"in circumstances where the overall costs of switching production to the product in question are relatively negligible, then the product may be incorporated into the product market definition."* [59] On the contrary, entry that would requires high sunk cost to create new production facilities must not be considered by NRAs at the stage of the market definition but rather in assessing market power.[60] Accordingly, the European Commission requires regulators to prove the economic capability of competitors to enter the market in the short term in order to consider potential competition in defining the relevant electronic communications markets.[61]

The second objective criterion is whether such entry is economically attractive for the new competitor. The fact that a rival firm possesses some of the assets required to provide a given service is immaterial if significant additional investment is needed to market and *"profitably"* offer the service in question.[62] For entry to be likely, it must be sufficiently profitable taking into account the price effects of injecting additional output into the market and the potential responses of the incumbents.[63] The costs of failed entry will be higher, the higher is the level of sunk cost associated with entry[64]. Of special relevance for the electronic communications markets, merger control rules stress that network effects may make entry unprofitable unless the entrant can obtain a sufficiently large market share.[65] If a thorough analysis of these quantitative conditions proves that entry in the market in the short term would be unprofitable, then the NRAs must not include into the market the potential entrants but rather must take into account the competitive constraints in assessing market power.

Selecting an appropriate time period for assessing elasticities of supply thus depends on a correct appraisal of the financial ability and the profitability for potential competitors to switch production to a particular communications market. Conducting such an analysis in the early stage of market definition would have the merit to clearly differentiate between immediate potential constraints and medium to longer-term prospects for competition (that are unlikely to have a significant effect during the time scale of the market review). It would thereby provide the NRAs with a workable pattern to address the forward-looking market definition required under the EU regulatory framework.

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59 Ibid at § 52.
60 In that way see P.A. Areeda & H. Hovenkamp, *Fundamentals of Antitrust Law*, Aspen, 2003, vol II § 519b.
61 See EC, SG-Greffe (2004)D/206322, where the Commission found that the regulator's conclusion as regard *"the economic feasibility"* for PT, the historical operator in Portugal, to provide wholesale broadband services over the cable network *"is not fully substantiated"*. See also EC, SG-Greffe (2004) D/203603 and EC, SG-Greffe (2004) D/203617.
62 See P.A. Areeda & H. Hovenkamp, *supra* note 60 § 519b.
63 See EC, Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03) at § 69.
64 Ibid.
65 Ibid § 72. Interestingly, the British regulator conducted such an analysis in assessing dominance on the wholesale broadband access market (see Oftel, *"Review of the Wholesale Broadband Access Markets - Identification and analysis of markets, Determination of market power and Setting of SMP conditions Final Explanatory Statement and Notification"*, 13 May 2004 § 3.43-3.53). In particular, Oftel points that what matters for the profitability of new entry is the price that would arise from competition between firms post-entry. In that respect, cable companies would have to cover greater sunk costs to build and upgrade their backhaul rings than ADSL incumbent providers. This means that cable operators would face high barriers to entry and therefore they don't represent a credible potential constraint to ADSL incumbent providers in the short term.

Part 2 - VoIP Services and Regulatory Challenges

Defining market boundaries in the fast evolving communications industry largely depends on a correct assessment of potential competition. Conducting such a prospective market analysis will certainly take an increasing importance given the profound transformation of the electronic communications sector expected over the next years, especially with regard to the emerging Voice over Internet Protocol ("VoIP") services. For instance, regulators must carefully address constraints imposed by these emerging VoIP services in order to adequately delimit the voice telephony markets (IV), conduct a consistent market analysis and accurately apply *ex ante* regulation (V).

IV. VoIP Services and Market Definition

Public telephone services are still generally provided via traditional telecommunications networks (PSTN). However, a wide range of emerging technologies are already used commercially (or likely to be used in the near future) to provide public telephone services. In particular, the Internet Protocol (IP) networks offer the ability to deliver not only voice communications but also the seamless convergence of data and video applications and devices. In such an innovative technological environment, a wide range of new voice services will be offered.[66] Already, a progressive migration has begun from the traditional telecommunications networks ("circuit switched"), which are built to carry only the voice to IP networks ("packet switched") enabling the transport of a common package of voice, data, video and multimedia services. The transition will lead to a shift where the electronic communications markets become heavily integrated with information society services.[67] This technological evolution is driving the *"telecommunications - information-society – audiovisual"* convergence and will, according to all predictions, profoundly transform the electronic communications sector over the next several years. Accordingly, the European Commission has just re-launched the Lisbon Strategy by focusing in particular on investment and innovation in the emerging digital services based on VoIP.[68]

In fact, emerging VoIP services may at present impact considerably on the definition of the relevant markets since some of them might be considered as potential substitute for traditional communication services. A recent opinion issued by the French Competition Authority ("Conseil de la concurrence") requesting the French regulator ("ARCEP", ex "ART") to reconsider its market definition to include a new VoIP service called Voice over broadband ("VoB") illustrates this issue.[69] In this case, following the requirements under the EC regulatory framework, the ARCEP carried out a market analysis on the markets for fixed telephony in France and submitted it to the Competition Authority. Whereas most of its analysis has been validated by the Competition Authority an important divergence of views arose regarding the assessment of the new VoB services enabling telephony over the Internet Protocol. The ARCEP considered that such a new voice service could not be dissociated from the provision of "*retail broadband access"*.[70] The Competition Authority, disagreed with this analysis and considered instead

[66] See Analysys, *"Final Report for the European Commission, IP Voice and Associated Convergent Services"*, 28 June 2004 at 19-24. For an overview of the IP technologies available see E. Bohlin & S. Lindmark, "Incentives to Innovate with Next Generation Networks", *Communications & Strategies* (2002) 48 97-117.
[67] See Cullen International & Devoteam Siticom, *"Regulatory implications of the introduction of next generation networks and other new developments in electronic communications"*, Report for the European Commission, May 16, 2003.
[68] See speech by Viviane Reding, *"i2010: The European Commission's new programme to boost competitiveness in the ICT sector"*, 31 January 2005. See also ETNO Reflection Document RD207 (2005/01).
[69] See Conseil de la Concurrence, Avis n°5-A-05. See also Conseil de la Concurrence Press Release, 17th February 2005.
[70] See ART, *« Marchés de la téléphonie fixe, Document transmis au Conseil de la concurrence sur l'analyse des marchés de la téléphonie fixe : délimitation des marchés pertinents et identification des opérateurs puissants, Décembre 2004 »* at 13.

that the VoB service could soon constitute a substitute and directly compete with traditional telephony on the *"retail fixed telephony market"*. Indeed, the demand-side substitution analysis demonstrated that the voice services offered over the emerging VoB technology were, in the views of the consumers, totally substitutable for the voice services provided via traditional telecommunications networks in terms of quality and functionalities.[71] Moreover, the supply-side substitution analysis proved the ability of producers that were currently supplying voice over traditional network technology to switch production and produce voice over Internet Protocol within a relatively short term. Since they could soon exert a competitive pressure on the voice services offered via traditional network technology such potential offers were to be considered in the market for *"retail fixed telephony"*.[72]

This case points out the necessity for the regulators to correctly assess the potential competitive constraints imposed by the emerging VoIP technology so as to adequately delineate the communications market boundaries. The technological IP environment is evolving rapidly in Europe with a progressive migration from the traditional telecommunications networks to the IP networks, which makes this analysis highly relevant. Accordingly, although the British regulator (Oftel) rightly considered in 2003 that VoB services were not likely to constitute an effective retail substitute to PSTN voice calls[73], this position could be revised soon, especially with regard to British Telecommunications' (BT) announcement to turn its entire PSTN network into an IP-network by 2009.[74] The same evolution is likely to occur all over Europe where the main historical monopoles are expected to convert their traditional networks into IP-networks in the medium term making them potentially able to offer VoB services as a substitute for PSTN voice telephony.[75]

Besides the case of the VoB services, market definition will be a growing concern for policy-makers confronted with the problem of how to regulate the new IP environment. Indeed, there is a large array of other emerging services that broadband access may support in the future.[76] For instance, broadband mobile internet services are emerging based on new technologies (EDGE, WAP, GPRS, etc). At the moment, the absence of demand-side substitution and the irrelevance of supply-side substitution mean that a hypothetical monopolist in the supply of fixed broadband internet access would not be constrained to pricing at the competitive price level by the availability of mobile internet access.[77] Therefore, broadband internet access constitutes a market separate from mobile internet access. However, the potential for demand side competition from mobile internet access may develop in the future. Indeed, one of the aspects where VoIP differs from traditional telephone service is the fact that users can be nomadic and use their telephone device at different locations. In that context, some of the VoIP services might become a real substitute for the 3G mobile voice service.[78] This market evolution

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[71] See Conseil de la concurrence, *supra* note 69 at § 30-35. This analysis applies to VoB services and not to basic voice telephony services such as the one provided by Skype.

[72] Ibid § 35-39. The Competition Authority pointed out that France Telecom has confirmed its intent to commercialize ADSL access and VoB services as an alternative to existing access offer via the traditional PSTN network. In addition, this operator has announced that the migration from its traditional network access technology to the new DSL access technology will cover 90% of its network at the end of 2005. Consequently, a large number of consumers will have the ability to switch from traditional telephony services to voice services offered via the new VoB technology.

[73] See Oftel, *"Review of the Wholesale Broadband Access Markets: Identification and analysis of markets Determination of market power and setting of SMP conditions - Final Explanatory Statement and Notification"*, 13 May 2004 § 2.90.

[74] See BT news, on line at http://www.btplc.com/news.

[75] See RegTP, *"Consultation Voice over Ip (VoIP)"*, on line http://www.bundesnetzagentur.de/media/archive/2368.pdf

[76] See ERG (05)12, *"ERG Common Statement for VoIP regulatory approaches"* .

[77] See Oftel *"Review of the Wholesale Broadband Access Markets", supra* note 73 *at* § 2.84.

[78] See J. Björkdhal, E. Bohlin & S. Lindmark, "Financial Assessment of Fourth Generation Mobile Technologies", *Communications & Strategies* (2004) 54 at 84. According to the authors, WLAN services (because of technical constraints) cannot be seen at the moment as a substitute for 3G services. However, building on the WLAN technologies, new networks are being developed (e.g. WiMax) which could technically be considered as an alternative to the traditional cellular technologies. Thereby, the traditional mobile voice services would have to be considered in the same relevant market as VoIP.

will certainly not be achieved before several years. However, since under the EU regulatory framework, market definition analysis is prospective in nature, the NRAs must take into account all relevant emerging services and emerging technologies.

V. VoIP Services, Bundling Strategies and *Ex ante* Regulation

Industry players have warned that the IP technological environment will dramatically impact the current divide between network and services and thereby the application of sector specific regulation and competition law.[79] Regulators agree that a totally new conceptual framework from market definition to the SMP assessment and the design of remedies needs to be reinvented to cope with such technological innovation.[80] However, the regulatory handling of the VoIP services remains unclear under the EU regulatory framework. The Commission has issued a number of policy documents regarding the regulatory treatment of internet telephony. In 1998, the Commission concluded that internet telephony did not meet the definition of voice service as provided for under the Telecoms Services Directive.[81] In 2000, the Commission re-examined the issue and reached the same conclusion.[82] Under the current regime, the status of internet access and IP services is still uncertain. In line with the principle of technological neutrality, the EU regulatory framework expressly provides that internet access and transmission services should be treated in the same way as any other transmission services.[83] But although the Commission recognizes the impact of the convergence of various technologies on product substitutability between voice communications services[84], regulators have so far been reluctant to put VoIP services under scrutiny. In fact, the European regulators favour an EU-wide *"hands off"* approach to internet telephony as the best way to encourage innovation and competitive entry in the market. [85] Accordingly, so far, in their views, allowing VoIP emerging technologies and services to flourish requires regulatory restraint. Such innovative services should not in principal be subject to *ex ante* regulation but should preferably fall under general competition law to address specific market failures.

The reasons of this approach are to be found in the somewhat conflicting policy goals underlying the EU regulatory framework. As noted above, besides ensuring that there is no distortion or restriction of competition in the short term, the NRAs must *"encourage efficient investment"* in infrastructure and *"promote innovation"* that will bring more competition in the long-term. [86] It appears clearly that, in the case of IP services, they have so far favoured long-term investments and innovation and, as a result, exempt these emerging services from *ex ante* regulation.[87] However, in some circumstances, such a forbearance approach might be detrimental

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[79] See Independ and OVUM, *"Achieving the Lisbon Agenda: the contribution of ICT"*, January 2005.

[80] ETNO lists as a top priority the adaptation of *ex ante* regulation favouring the development of new networks and innovative IP-based services (ETNO Reflection Document RD207 (2005/01).

[81] Notice by the Commission concerning the status of voice on the Internet under Directive 90/338/EEC, OJ C 6 10.1.1998.

[82] Commission Review of the 1998 Notice on the Status of Voice on the Internet under Community Law, and in Particular Under Directive 90/388/EC.

[83] Framework Directive Article 2(a) explicitly includes the new *"packet-switched"* infrastructures in the definition of *"electronic communications networks"*.

[84] Competition between VoIP and traditional voice telephony was in fact predicted (See Guidelines on market analysis, *supra* note 16 at § 47).

[85] See EC, MEMO/05/46, *"The European Commission's Approach to Voice over IP: Frequently Asked Questions"*. This approach is supported by the Commission and the European Regulators Group (ERG) in order to facilitate the roll out and widespread use of internet telephony in Europe.

[86] The NRAs are asked in the same time to promote competition by facilitating the removal of market power and to promote innovation and investment in infrastructure, which may make acquisition of market power legitimate. See I. Dobbs and P. Richards, "Innovation and the New Regulatory Framework for Electronic Communications in the EU", *ECLR* (2004) 11 718-719.

[87] See the ERG explaining that the overall objective of the VoIP regulatory approach is *"to encourage innovation and new services for consumers"* (ERG press release February 11, 2005). See also Commissioner Vivian Reading (IP/05/167) who

to competition on some markets already regulated. In the long run, indeed, it is expected that it would be established players (ex monopolies) investing in the IP upgrade of their own networks, which will continue to dominate the market due to their reputation, reliability, and their established customer base. Regulators anticipate that these dominant operators will adopt bundling strategies bringing more offers to the fixed and mobile markets given the shift towards IP networks and services.[88] Such bundling strategies might give rise to anticompetitive practices. For instance, because they control the access infrastructure (and therefore the supply to end-users), such operators could bundle broadband access with IP-based voice services and thereby leverage their market position from the access component to other part of the value chain while avoiding any *ex ante* regulation.[89] In some cases, failure to act *ex ante* on grounds that a market is innovative may then leave dominant operators' behaviours unchecked.

The French case described above illustrates perfectly this regulatory gap. Besides the disagreement on the market delimitation the Competition Authority feared that excluding VoB services from the analysis of the fixed telephony markets could ultimately create a distortion of competition by treating similar services differently without justification. Indeed, including VoB services in the *"retail broadband market"* (*i.e.*, the regulator's view) and not in the *"retail fixed telephony market"* (*i.e.*, the Competition Authority's view) meant that *ex ante* regulation imposed on operators having market power in the retail fixed telephony market would not, as matter of principle, be applicable to VoB services.[90] Such a regulatory gap could allow the ex-monopoly (France Telecom) to recapture, via the advantageous pricing of the bundled products, the customers lost to the new entrants.[91] For that reason, the Competition authority required the ARN to reconsider the market definition at stake in order, if necessary, to impose *ex ante* regulation on the VoB services.[92] In fact, addressing the constraints imposed by the substitutable VoIP services at the stage of the market definition is necessary to conduct a consistent market analysis and adopt an accurate *ex ante* regulation.

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It is worth noting that the development of bundling strategies will certainly raise complex substantive as well as institutional questions. In particular, it is important to note the gradual linkage between apparently unrelated communications relevant markets, which arises from the expansion of IP networks. Indeed, as VoIP services spread out, the appropriate remedies to adopt on the *"retail fixed telephony"* markets (Relevant Markets 1 and 2) will be linked to the

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sets that *"as the market develops, the European Commission and national regulators will jointly ensure that throughout the EU, the roll-out of new IP-based services will not be hindered by regulatory hurdle."*

88 See ComReg Doc 05/30, *« Forward-looking Strategic Review of the Irish Telecoms Sector »* at 77. See also See D. Maldoom, R.A.D. Marsden, J.G. Sidak and H.J. Singer, *supra* note 34 at 94-95.

89 See ERG (05) 12 at 2. The group of regulators stresses that the end-users' control may be particularly advantageous in the IP environment since the cost structure of IP networks with high fixed costs and low marginal costs of service provision may reinforce a trend towards flat rate tariffs for users. See also M. Cave *« Remedies for Broadband Services – Paper prepared for DG infoSoc"* (2003) at 21-22. The author expects a systematic tendency for more integrated products (wholesale broadband and products providing access to IP networks) to be priced keenly while narrower products which provide fewer services will be expensive and points to the risk of retail margin squeeze.

90 See Conseil de la concurrence, *supra* note 69 at § 49. In this case, ART proposed to relieve all the operators dominant on the *"retail broadband markets"* of regulatory obligations whereas setting more stringent duties on the operators dominant on the *"retail fixed telephony market"*.

91 Ibid.

92 In fine, the ARCEP has reconsidered the market definition to include the VoB services but decided not to impose *ex ante* obligations on VoB principally because this service is provided via wholesale access lines that are already regulated. However, the ARCEP committed to monitor closely this part of the retail market for any anti-competitive practices (e.g. predatory pricing, unfair bundling). See Commission, IP/05/1146.

regulation on the *"wholesale access"* markets (Relevant Markets 11 and 12).[93] As a result, NRAs will be required to ensure a fair access and pricing conditions to Markets 11 and 12 so as to permit competition on Markets 1 and 2. Another important issue concerns the jurisdictional conflict that may occur with regard to the assessment of the bundling offers. The EU electronic framework on electronic communications makes clear that *ex ante* regulation is only justified when the application of competition rules is not sufficient to address the failures identified on a given market. Does that mean that the NRAs should, as matter of principle, leave the NCAs with the responsibility to censure the anticompetitive bundling practices on an *ex post* basis? Or on the contrary, such as for *"margin squeeze"* practices, the NRAs must identify (and remedy if necessary) on an *ex ante* basis any risk of anticompetitive bundling practices?[94] Given the impact of the VoIP emerging services on the market delimitation and on the regulatory scheme applicable, it would be most opportune for the Commission to address these issues in the forthcoming 2006 markets review.

[93] See Analysys, *supra* note 66 at 101-102.
[94] Interestingly, the Canadian regulator, the CRTC assessed the anticompetitive effects of the dominant operators' VoIP bundling strategies and imposed *ex ante* regulation. See Telecom Decision CRTC 2005-28, *Regulatory framework for voice communication services using Internet Protocol*, 12 May 2005.