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THE LEGAL AND ECONOMIC FRAMEWORK OF EU TELECOM MARKET REGULATION

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ABSTRACT: *In this paper we examine ex ante electronic communications market analysis in the European Union's regulatory framework. We start with the analysis of relevant markets in accordance with the 1998 regulatory framework. Then we examine the 2002 regulatory framework through the definition of relevant markets, market analysis, SMP analysis, and adoption of measures for market regulation. We briefly compare the*

new 2007 regulatory framework with the previous ones. At the end we analyse some drawbacks of market analysis according to EU directives that have occurred in practice.

KEY WORDS: *electronic communications markets, EU regulatory framework, SMP analysis, sector-specific regulation, relevant markets, antitrust remedies*

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1. INTRODUCTION

The changes in the telecommunications sector in the last twenty years have primarily been initiated by means of new telecommunications regulatory provisions. Most of the EU Member States completely or partially privatized their national public telecommunications operators, thus forming the basis for the regulation of the open market during the nineties. These institutional changes may be perceived as the outcome of the accelerated development of technologies and of changes in user demand for telecom services, which have consequently brought about changes in the restructuring and reorganization of the competent authorities. This reorganization particularly implies the obligations related to the establishment of independent national regulatory authorities (NRAs). Upon the completion of the liberalization process, which was controlled and led by the European Commission, the economic focus of the telecommunications industry switched from the monopolistic to an open and regulated sector, with prices and quality of services being market regulated for the first time.

As opposed to the model employed in the United States of America, where the Federal Communications Commission (FCC) is in charge of the whole territory of the country in terms of telecommunications services and network regulation, a supranational institution with such competencies is simply non-existent in the European Union (EU). Regulatory activities in the EU are conducted within the framework of a complex relationship between numerous institutions. The rationale behind such an organizational structure lies firstly in the delegation principle, i.e. in the process of delegating telecommunications sector competencies to each of the Member States with the aim of closely monitoring the market behaviour of each of those Member States. The second relevant principle is the harmonization of legislation conducted by the European Commission through various agreements, decisions, recommendations and other provisions. These are later on implemented into national legislative systems, while the regulation of the market falls within the competencies of NRAs. This two-level regulation has contributed immensely to the close cooperation of all participants in the single European market.

The first directives legally regulating the issue of competition in the telecom sector were adopted during the nineties (European Union regulatory framework). These directives focused on raising the level of competition primarily through the possibility of providing telecommunication network access to alternative operators, as well as on the gradual elimination of barriers to entry. Such provisions should exist alongside general measures for safeguarding competition,

the focus of which is on the *ex-post* control in all economic industries. The *ex-post* control implies collecting evidence in the case of an abuse of a dominant market position, as well as the adoption of adequate penalty measures. On the other hand, the sector-specific regulation allows for *ex-ante* control, which implies imposing obligations on all undertakings occupying a dominant position with the aim of preventing potential abuse of such a position. Competition itself can bring added value for end-users (Tintor, 2009) but in many cases additional regulation is needed. The following subsections illustrate the three stages of the EU telecom market regulatory framework, highlighting aspects of the analysis of relevant markets only.

2. THE 1998 REGULATORY FRAMEWORK

The 1998 EU regulatory framework comprised two types of directives, i.e. the liberalisation and harmonisation directives. The liberalisation directives were aimed at eliminating specific and exclusive rights previously granted to state-owned telecommunications companies and at enabling the entry of other prospective operators. In line with these recommendations, national regulatory authorities were to be established in each Member State, with the aim of ensuring objective, non-discriminatory and transparent conditions for all operators. Harmonization directives secured the implementation of the EU telecom sector policy in all Member States.

With the aim of opening the monopolistic telecom sector to new market participants, the appropriate analysis had to be conducted in two stages. The first stage represented the identification of operators with the relevant service market share threshold of 25%. The geographical coverage area was the area for which an operator had been granted a licence (public fixed/mobile telecommunications network and public fixed/mobile telecommunications service). In the case where the market share was below 25% the independent regulatory authorities had to prove the potential strength of such an operator by employing additional criteria, such as the possibility of influencing conditions in the market, lack of countervailing buyer power, and easy or privileged access to capital markets/financial resources; even though this was not very commonly employed in practice.

According to this regulatory framework, telecom market segments that were prone to *ex-ante* regulation were identified in appropriate directives. However,

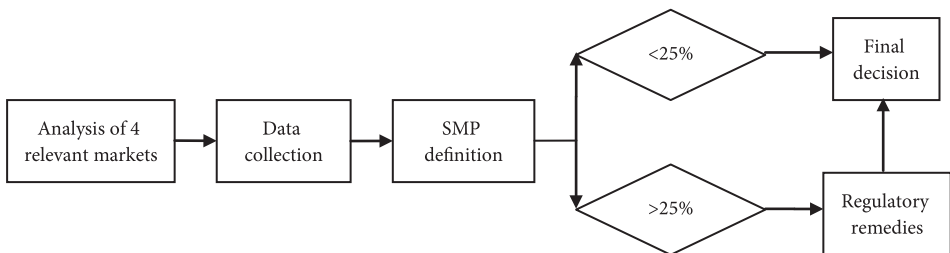
such market segments were not defined in accordance with the provisions of the Competition Law.

The following market segments were regulated within the ONP (open network provision) directives (Directive on interconnection, 1997):

- Fixed telephony (including infrastructure),
- Mobile telephony,
- Leased lines,
- Interconnection.

The regulatory remedies imposed on operators were the following: network access, the principle of non-discrimination, the publication of a reference interconnection offer (RIO), the principles of transparency and cost orientation, separate accounts, etc. A more detailed account of these and other remedies is given below. A graphical illustration of the previously explained principle of market analysis is given in Figure 1.

Figure 1. Analysis of relevant markets according to the 1998 regulatory framework



3. THE 2002 REGULATORY FRAMEWORK

The main characteristics of the 2002 electronic communications regulatory package for sector-specific regulation are related to the simplification and harmonisation of legislative provisions, the principle of technological neutrality, the extension of rights for the European Commission vis-à-vis independent regulatory authorities, and the Competition Law as a basis for protection and promotion of investments and innovations within the telecom sector. The new directives within this regulatory package were drafted as a response to the convergence of technologies and services in the sector of electronic communications. The

main directives securing market regulation are the Framework Directive, Access Directive, Directive on Universal Service and Authorization Directive (European Union regulatory framework).

Since the previous regulatory framework can be characterized as promoting a certain rigid outlook, with decisions adopted solely on the basis of one criterion, in the 2002 regulatory framework the market share and the designation of operators with significant market power (SMP operator) are reached on the basis of several criteria. Furthermore, given the accelerated technological development in this sector, the need for more precise definitions of relevant markets meant an increase in the number of markets. Consequently, the number of potential regulatory remedies that could be imposed on dominant operators increased as well. Regulatory authorities were presented with the possibility of choosing the provisions best suited for the level of market competition and market regulation issues identified. This new regulative package provided the European Commission with a substantial extension of rights (veto rights), in case the regulatory authority's designation of SMP operators and imposition of regulatory remedies had not been accounted for in detail. Furthermore, the transparency of work was significantly increased, with every stage of market analysis necessitating prior consultations. National regulatory authorities were entrusted with the task of encouraging the openness and competitiveness of the electronic communications networks, services and facilities within the EU, as well as fostering EU citizens' interests (Directive on a common framework, 2002).

As regards relevant markets, the regulatory authorities intervene by imposing remedies on undertakings in cases where such markets lack effective competition due to the dominant status of the given undertakings in the market. The concept of domination is defined as a position of economic power, which, to a certain extent, enables an undertaking to act as an independent entity in relation to other competitors, clients, and finally, consumers (Commission guidelines, 2002). To this effect, as opposed to the 1998 regulatory framework, the European Commission and the national regulatory authorities, in identifying markets susceptible to *ex-ante* regulation and assessing whether certain operators should be designated as SMP operators, resort to the principles and methodologies stipulated under the Competition Law.

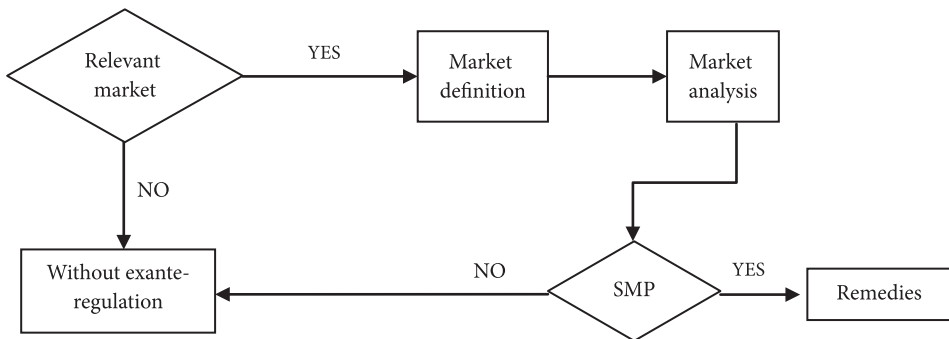
The purpose of *ex-ante* remedies, imposed on undertakings designated as those having significant market power, is to ensure that these undertakings are not able to use their market power to limit or distort competition in the relevant market, or leverage such market power to neighbouring markets. The national

regulatory authority makes an assessment of the effectiveness of the competition with regard to each of these relevant markets, which guarantees that there are no undertakings that alone or in cooperation with other undertakings, hold an individual or collective dominant position.

The necessary stages in the process of market analysis may be divided roughly into the following four steps, graphically illustrated in Figure 2:

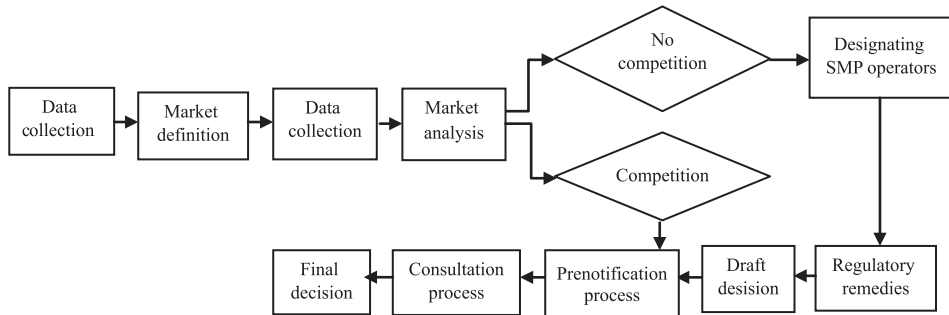
1. Defining relevant markets.
2. Analysis of defined markets.
3. Identifying SMP operators.
4. Imposing measures and remedies with the aim of preventing monopolistic behaviour.

Figure 2. Process of relevant market analysis



The analysis, a painstaking process which may last up to a couple of years, necessitates expertise in collecting large volumes of data for the lawful and appropriate decision to be reached. Figure 3 illustrates the stages of this analysis in the case of the Austrian regulatory authority RTR (Köhler, 2008).

Figure 3. Market analysis in Austria according to 2002 framework



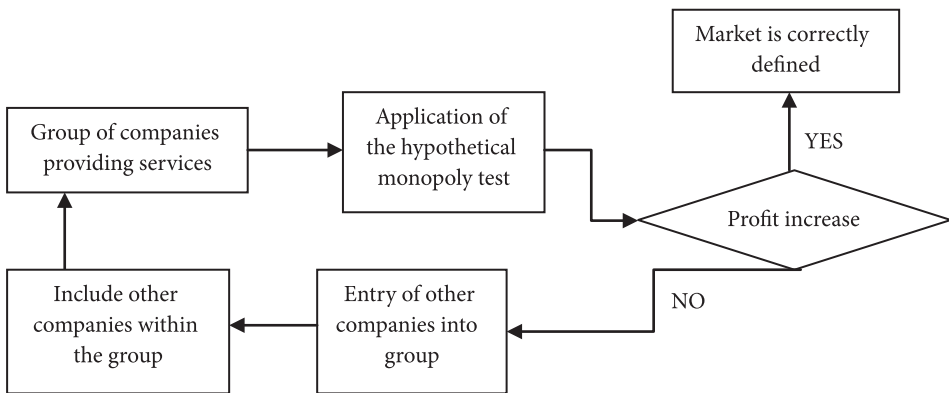
3.1. Defining relevant markets

The process of defining relevant markets is conducted in the first stage. The use of the term *relevant market* implies a description of products or services present in the market and an assessment of the geographical area of the market. Relevant markets defined according to the 1998 regulatory framework were different from the ones defined in accordance with the principles laid down under the Competition Law, since they were based on specific technological aspects of telecommunications, not on the demand and supply criteria which are primarily used in analysis within the scope of the Competition Law. The relevant service/product market comprises all products or services which are sufficiently interchangeable or substitutable, not only in terms of the objective characteristics (price and the intended use) owing to which these products or services are particularly suitable to cater for the increasing consumer needs, but also in terms of competitiveness and/or the structure of supply and demand in that market [5]. Products or services that are mutually interchangeable only to a small or relative degree do not represent a part of the same market.

Demand-side substitution is used to measure the extent to which consumers are willing to substitute other services or products for the service or product in question, whereupon it is not necessary for all consumers to switch to the competitive product. Even the slightest switch to competitive products or services is sufficient for a relative price increase not to be considered cost-effective. Supply-side substitution indicates whether suppliers, other than those offering the products and services in question, would be willing to switch, immediately or in the short term, their line of production, or offer relevant products or services without incurring additional costs.

One of the possible ways of assessing the existence of any demand or supply-side substitution is the application of the so-called 'hypothetical monopoly test' (Commission guidelines, 2002). According to this test, a national regulatory authority should focus its attention on what would happen in the case of a small but significant, lasting increase (between 5 to 10%) in the price of a given product or service, provided that the prices of all other products and services remain unchanged. The responses given by consumers or undertakings concerned will facilitate the process of determining whether substitutable products actually do exist, and if so, where the boundaries of the relevant product market should be delineated. Since an increase in the price of a set of products would most likely lead to sales being lost, it is necessary to determine whether this loss would be sufficient to offset the increased profits that would otherwise be effected from sales made after the price increase. In the case where the price increase results in a profit loss, the indication is that consumers are able to find substitute products in the market which should be included within the framework of the relevant market (Figure 4). In general, the hypothetical monopoly test is relevant only with regard to products and services, the prices of which are freely determined and not subject to regulation.

Figure 4. Hypothetical Monopoly Test



National regulatory authorities may also take into account the likelihood that undertakings not currently active in the relevant product market may decide to enter the market within a reasonable time frame, following a relative price increase, i.e. a small but significant, lasting price increase. In circumstances where the overall costs of switching production to the product in question are relatively negligible, then that product may be incorporated into the product market definition. The fact that a rival company possesses some of the assets

required for the provision of the given service is irrelevant in the case where significant additional investment is needed in order for the services in question to be offered with profit.

The relevant geographic market comprises an area where the undertakings concerned are involved in the supply and demand of the relevant products or services, where the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas where the prevailing conditions of competition are appreciably different (Commission guidelines, 2002).

Within the sector of electronic communications there are at least two main types of relevant markets to consider, those related to services provided to consumers (service markets) and those of access to facilities/infrastructure necessary for the provision of such services (access markets). Within these two broad market definitions, further market distinctions may be made depending on the demand and supply-side patterns. The European Commission has defined a total of 18 relevant markets. Within these 18 markets, there are 7 retail markets. The 11 remaining markets are wholesale, with 3 markets related to fixed interconnection (call origination, call termination and call transit) and 2 mobile network interconnection markets (call origination and call termination on the individual mobile network). The abovementioned markets are given in Table 1 below (Commission recommendation, 2003 and Buigues, 2004). Figure 5 illustrates the designation of relevant markets according to the two regulatory frameworks of 1998 and 2002.

Figure 5. Transition from 1998 to 2003 directives.

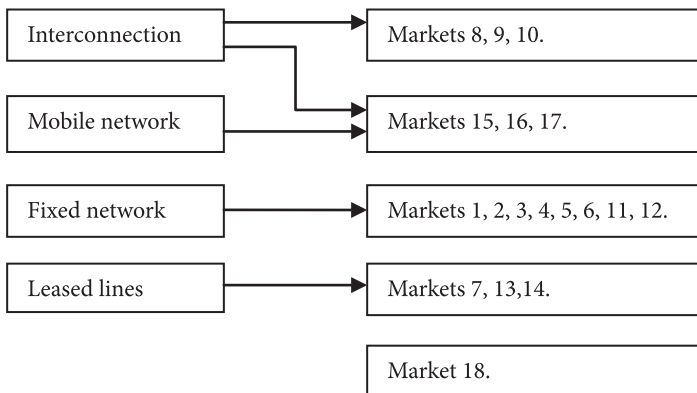


Table 1. List of relevant markets according to the directives from 2003

Type of service	No.	Relevant market
RETAIL		
Public fixed telephone network at fixed location	1.	Access to the public telephone network at a fixed location – residential customers
	2.	Access to the public telephone network at a fixed location - non-residential customers
	3.	Publicly available local and/or national telephone services provided at a fixed location – residential customers
	4.	Publicly available international telephone services provided at a fixed location – residential customers
	5.	Publicly available local and/or national telephone services – non-residential customers
	6.	Publicly available international telephone services – non-residential customers
Lines leased to end-users	7.	Minimum set of leased lines
WHOLESALE		
Interconnection between operators in fixed networks	8.	Call origination on the public fixed network at a fixed location
	9.	Call termination on individual public telephone networks provided at a fixed location
	10.	Transit services in the fixed public telephone network
Access to the public fixed telephone network	11.	Wholesale unbundled access (including shared access) to metallic loops and sub-loop for the purpose of providing broadband and voice services
	12.	Wholesale broadband access
Lines leased to other operators	13.	Wholesale terminating segments of leased lines
	14.	Wholesale trunk segments of leased lines
Voice service in the public mobile telephone networks	15.	Access and call origination on public mobile telephone networks
	16.	Voice call termination on individual mobile networks
	17.	Wholesale national market for international roaming on public mobile networks
Broadcasting	18.	Broadcasting transmission services to deliver broadcast content to end-users

However, it should be noted that national regulatory authorities are given the authority to identify additional markets, provided they are able to prove that such markets are relevant within the observed geographical area and analyse whether the abuse of the dominant position is present in such markets. In this way, the Commission has opened up new opportunities for the observance of specific market behaviours within individual Member States.

3.2 Market analysis

At the beginning of the second stage, and with the aim of identifying the existence of ineffective competition, i.e. markets potentially susceptible to *ex-ante* regulation, the analysis of the defined markets has to be conducted. To this end, the ‘three criteria test’ is employed:

1. The first criterion is the presence of high and non-transitory barriers to entry, which can be of an economic, legal or regulatory nature. An example of economic barriers are high sunk costs, legal barriers typically pertain to patents and licenses, whereas technical barriers refer to scarce resources such as frequencies and numbering. Moreover, there are structural barriers to entry that may, for example, result from the constant control of infrastructure that is not easily duplicated, or economies of scale and scope. Even where the barriers to entry are sufficiently high, an undertaking more efficient than the incumbent is unlikely to enter the market and ensure competition to the benefit of end-users without the intervention of a regulatory authority. The existence of high barriers to entry is therefore considered to be an initial indicator of the necessity of intervention on behalf of the regulatory authority aiming at ensuring the development of the competitive market.
2. The second criterion pertains to market structures that do not tend towards effective competition in a relevant time horizon. Given the structure of the electronic communications market, in order for the regulatory remedies to be justified market structures should be analysed in a dynamic as well as a static manner. Sunk costs may represent a serious barrier to entry. These costs pertain to costs necessary for market entry that cannot be remunerated following market exits, such as investment in networks. The main issue is whether the market, in the absence of regulatory remedies, tends towards effective competition. Market dynamics may gradually eliminate barriers to entry, as is the case with technological developments. The merger of previously different markets may boost competition, or it may simply happen that, regardless of regulatory remedies, there is a sufficient number of active market participants for effective competition. In analysing whether market structures may or may

not justify *ex-ante* regulation, one should also take into account the possibility that a market may tend towards effective competition regardless of barriers to entry.

3. The third criterion pertains to the question of whether the application of the Competition Law alone adequately addresses market failure (in the absence of *ex-ante* regulation), taking into account the specific characteristics of the telecommunications market. *Ex-ante* regulatory remedies (relevant for telecommunication networks and services) should be imposed in cases where legislative measures stipulated under the Competition Law are not sufficient. *Ex-ante* regulation and the Competition Law represent complementary instruments for achieving goals within the telecom sector stipulated by each policy respectively, as well as for resolving the absence of effective competition.

With the purpose of identifying the telecom market in need of *ex-ante* regulation, all three of these criteria should be fulfilled cumulatively.

3.3. SMP analysis

The third stage of the analysis consists of identifying the level of competition, the existence of SMP operators and barriers to effective competition. However, prior to adopting conclusions pertinent to the existence of significant market power, a thorough and comprehensive analysis of the economic characteristics of the given market should be conducted. To this end, the dominant position of an operator is determined by means of numerous criteria designed for the assessment of the power of an undertaking. In applying these criteria, the current state of the market is no longer considered a reliable indicator; yet, future market movements in terms of the development of new technologies, potential competition, etc., must be taken into account as well. Consequently, the market share does not represent a sufficient indicator for assessing the dominant position of the operator. Furthermore, the common practice of the European Commission suggests that an SMP operator's market share usually exceeds 40%. However, as opposed to the previous regulatory framework, this framework does not suggest any strict guidelines, for in some cases an operator may hold a dominant position regardless of low market share rates. The criteria for the assessment of dominance include the following (Commission guidelines, 2002):

- Market share,
- Overall size of an undertaking,
- Control of infrastructure not easily duplicated,
- Technological advantages and superiority,

- Absence of or low countervailing buying power,
- Easy or privileged access to capital markets/financial resources,
- Product/services diversification (e.g. bundled products or services),
- Economies of scale,
- Economies of scope,
- Vertical integration,
- A highly developed distribution and sales network,
- Absence of potential competition,
- Barriers to expansion.

Not all of these criteria need to be fulfilled for an operator to be considered dominant. The dominant position may result from any combination of these criteria, even if these criteria alone do not suggest the significant market power of an operator. Since these criteria are not relevant for every market *per se*, a different set of criteria is applied to each individual market.

3.4 Adoption of measures for market regulation

The last stage pertains to the adoption of the best measure or combination of measures for the regulation of the relevant market. The obligations stipulated in the Directive on Access are the following (European Union regulatory framework): transparency (Article 9), non-discrimination (Article 10), accounting separation (Article 11), obligations of access to, and use of, specific network facilities (Article 12) and price control and cost accounting obligations (Article 13). Apart from this, according to Article 8 of the Directive on Access, NRAs may impose additional measures. In order to do so, NRAs are obligated to seek approval from the Commission, whereas the Commission shall pass a decision to impose such measures following consultation with the Communications Bureau with regard to the issuance of approval for the NRA in question. The obligations stipulated in the Directive on Universal Service include the following: regulatory controls on retail services (Article 17), regulatory controls on the minimum set of leased lines (Article 18 and Annex VII) and carrier selection and carrier pre-selection (Article 19).

Obligations imposed on SMP operators should be justified and directed towards the removal of a specific problem that has been previously identified. General measures and measures pertaining to all operators equally should be avoided.

Measures to be imposed may be divided into two sets.

1. The first set of measures pertains to the wholesale level and includes the following:
 - a. Transparency – a measure related to the right of access and/or interconnection which is imposed by means of the publication of reference interconnection offers (RIOs) and reference unbundling offers (RUOs) which include the official publication of prices.
 - b. Non-discrimination – a measure related to the right of access and/or interconnection imposed by means of the provision of access to infrastructure under equal conditions for SMP subsidiaries as well as for other alternative operators.
 - c. Accounting separation – a measure related to the right of access and/or interconnection which is imposed by NRAs in the form of a specific format of accounting methodology to be used for different telecommunications services to prevent unfair cross-subsidy.
 - d. Access obligations – a measure by which an NRA puts an SMP operator under obligation to provide access to its own network, as well as to its network facilities and equipment (power supply, collocation of equipment, etc.)
 - e. Price control – a measure undertaken by an NRA in order to prevent an SMP operator setting prices that are either exceedingly high or low instead of cost-oriented prices.
2. The second set of measures is related to the retail level and includes the following:
 - a. Price control for telecommunications services – this measure includes the setting of the highest limit of the retail price, the implementation of a specified system for cost accounting, etc. As such, this measure is considered to be strict and is applied only in cases when none of the previous measures is deemed effective.
 - b. Lease of lines – with the application of this measure an NRA defines the minimum set of leased lines that an SMP operator must offer to other operators.

The second set of measures is employed only when the first set of measures is deemed not sufficient and effective. Carrier pre-selection, as one of the additional measures pertinent to fixed networks only, is to be undertaken following the implementation of the first set of measures and prior to the implementation of the second set of measures.

However, the process of market analysis is not completed with the designation of regulatory measures. In the case where an NRA intends to take a measure that

could significantly affect the relevant market, it should provide the interested parties with the possibility of commenting on the draft measure in question. To this end, an NRA is obligated to hold public consultations on its proposed draft measure. Where the draft measure concerns a decision relating to an SMP designation or non-designation it should include the following:

- The market definition used and reasons thereof, with the exception of information that is confidential in accordance with the European and national laws on business confidentiality,
- Evidence related to the finding of dominance, with the exception of information that is confidential in accordance with the European and national laws on business confidentiality together with the identification of any undertakings proposed for SMP designation,
- Full details of the sector-specific obligations that the NRA proposes to impose, maintain, modify or withdraw in regard to the abovementioned undertakings, together with an assessment of the proportionality of the proposed measure.

4. THE 2007 REGULATORY FRAMEWORK

The 2007 regulatory framework implemented reform by eliminating 11 relevant markets from the list. Since the two remaining markets were unified, 7 relevant markets were left for regulation. This simplification enabled a significant reduction of the regulatory burden for operators. Some of the retail markets were fully deregulated, with standard obligations relating to the protection of competition still being imposed. Out of the total of 7 markets, 6 markets are wholesale and only one market is retail (Commission recommendation, 2007):

1. Retail level: Access to the public telephone network at a fixed location for residential and non-residential customers,
2. Wholesale level: Call origination on the public telephone network provided at a fixed location,
3. Wholesale level: Call termination on individual public telephone networks provided at a fixed location,
4. Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location,
5. Wholesale broadband access,
6. Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity,
7. Wholesale level: Voice call termination on individual mobile networks.

The transformation related to the number of relevant markets and their mutual relationship between the two regulatory frameworks in given in Table 2.

Table 2. Transition from 2003 to 2007 directives.

Number		Relevant market	Regulation	Number		Relevant market	Regulation
03	07			03	07		
1.	1	Access to the public telephone network at a fixed location – residential customers	<i>Ex-ante</i> regulation	10.	4	Transit services in the fixed public telephone network	No regulation
2.		Access to the public telephone network at a fixed location - non-residential customers		11.		Wholesale unbundled access (including shared access) to metallic loops and sub-loop for the purpose of providing broadband and voice services	<i>Ex-ante</i> regulation
3.		Publicly available local and/or national telephone services provided at a fixed location – residential customers	No regulation	12.	5	Wholesale broadband access	
4.		Publicly available international telephone services provided at a fixed location – residential customers		13.	6	Wholesale terminating segments of leased lines	
5.		Publicly available local and/or national telephone services – non-residential customers	No regulation	14.		Wholesale trunk segments of leased lines	No regulation
6.		Publicly available international telephone services – non-residential customers		15.		Access and call origination on public mobile telephone networks	
7.		Minimum set of leased lines	<i>Ex-post</i> regulation	16.	7	Voice call termination on individual mobile networks	<i>Ex-ante</i> regulation
8.	2	Call origination on the public fixed network at a fixed location	<i>Ex-ante</i> regulation	17.		Wholesale national market for international roaming on public mobile networks	EU roaming regulation
9.	3	Call termination on individual public telephone networks provided at a fixed location		18.		Broadcasting transmission services to deliver broadcast content to end-users	<i>Ex-post</i> regulation

Each regulatory authority is given the freedom to also analyse other markets (within the 18 markets previously mentioned or even outside these markets) in line with its national context, or to analyse the potential existence of a relevant transnational market. Furthermore, it is recommended that sector-specific national provisions related to the activity of monitoring the market should be based on the 2007 regulatory framework. Each regulatory authority is obligated to cooperate with the competent competition authority and provide notification on the results of its analyses.

5. THE DRAWBACKS OF MARKET ANALYSIS ACCORDING TO EU DIRECTIVES

Given the fact that Competition Law theory often cites examples from the telecom sector, telecom market analysis represents one of the challenging topics within the framework of competition protection. The telecommunications industry falls within the concept of natural monopolies, even though the wording of EU directives aims at diminishing the meaning of this concept through the emerging regulatory principle of technological neutrality which enables the introduction of other alternative operators into the relevant market. Such an endeavour basically means that the traditionally monopolistic sector is nowadays represented as a highly competitive one. Yet, certain drawbacks in market analysis based on EU directives still remain (Baudrier, 2006; de Stree, 2005; Hocepić, 2005; Dobbs, 2004).

One of the issues still open for discussion is the final list of relevant markets within the electronic communications sector. Recommendations dating back to 2003 recognized 18 national markets that NRAs should analyse. Additionally, NRAs have the freedom of adding any other relevant market that has not been adequately regulated. The first implementation of these directives in 2005 resulted in a total of at least 450 analyses of relevant national markets within EU borders for 25 Member States. On the other hand the Commission was obligated to provide comments and adopt or reject the results of the abovementioned analyses. With the implementation of the new 2007 regulatory framework, the number of relevant market analyses decreased to 189 within EU borders. The illustration of market analyses according to the 2003 and 2007 directives is given in the Appendix to this paper. Some authors suggest that out of the total of 7 markets, only two should be considered relevant (market 1 and 4) (Knieps, 2009). Given the fact that within the territory of Europe there is a significant concentration of operators active in numerous states, it is almost paradoxical that a transnational relevant market has not yet been identified. Consequently, in the coming years,

we may expect the list of relevant markets to decrease on the national level and a new market to emerge on a transnational level.

A remark that partially relates to the previous one concerns the question of deregulation. With the introduction of directives aimed at the liberalisation of the European telecom market, the process of deregulation emerged as one of the primary aims. However, previous and current directives have not fulfilled that aim. Market analysis, which is undertaken in several steps, necessitates the collection of data from a large number of market participants, which, in turn, represents a heavy burden for both the operators in terms of updating comprehensive databases, and the regulators in terms of assessment and the need for conducting in-depth economic analyses. However, we are all aware of the consequences of the economic crisis that emerged in late 2008, the cause of which is considered to be the insufficient regulation of financial institutions. Accordingly, deregulation is a necessary, although not invariably a sufficient, prerequisite for effective business activities. From this point of view, the rejection of the full deregulation of this sector seems justified. Even though full deregulation is unlikely to occur, the regulatory framework should be developed in such a way as to strike a balance between a level of sector control sufficient for effective competition on the one hand, and a relatively low level of regulatory burden for operators doing business on the other.

There is also the question of the purpose of the analysis of markets which emerged in a competitive environment. In the beginning, the analysis was related only to the infrastructure built during the monopolistic regime. However, with market development and the development of competition, the analysis spread to other markets as well. Nowadays, for instance, a particularly interesting topic is the optical networks regulation within markets 4 and 5 (Draft Commission recommendation). However, the basic parameters to be taken into consideration when deciding on potential dominance are the possibility of reduplication of infrastructure (natural monopoly) and the existence of sunk costs. Hence, the regulation of access to telecommunications ducts where optical cables are placed is necessary, providing there is a reasonable doubt that alternative infrastructure is likely to be built.

On the other hand, operators often object to excessive freedom vested in regulators during the adoption of measures to be imposed on SMP operators. Along with the new package of directives, the Body of European Regulators for Electronic Communications (BEREC) has been established with the task of assessing the results of analyses in cooperation with the Commission. With the aim of ensuring

transparency of the analysis and several levels at which certain decisions may be susceptible to modification, competition authorities, competent ministries and other European institutions have also been included in the process. The main drawback of such an approach is the question of the possible overlap of certain competencies as well as the unnecessary complication of the whole process. On the other hand, for an industry prone to sudden changes in high technology and the constant development of services, the rules should not be too rigid, or it may result in the regulation being obsolete in comparison with the market. Therefore, based on expertise, experience and in-depth analyses, the regulator must have the freedom to adopt the measures that are the most appropriate in any given situation. In other words, the regulator must reach its decision independently, provided that it has sufficient technological and personnel capacity competent to adopt the decision in line with best practices.

Independent regulatory authorities are bestowed with the task of protecting competition, not competitors. However, another question arises: should the regulator eliminate barriers to entry or should it primarily focus on the prevention of abuse of the dominant position? In other words, should the regulator zero in on the protection of competition or should it promote new investments? These two questions, although related, arise from the fact that European directives emphasize the protection of alternative operators from incumbent operators. An approach where such protection would represent just one of the elements for the removal of barriers to entry would most certainly be a more proactive approach for boosting competition.

The protection of competition within the telecom sector has traditionally been related to infrastructure. Monopoly within this market segment has been eliminated by means of access obligations imposed at different levels. But is this enough? Should the concept of regulatory activities reflect a long-term strategy for alternative operators that would be based solely on leased infrastructure, or should operators be encouraged to build their own infrastructure? European directives focus primarily on access obligations. Of course, even though the process of building new infrastructure is not banned, granting state subsidies for building new infrastructure is prohibited. Every NRA should follow a basic pattern: ensure competitive prices for the lease of infrastructure in the short-term, and in the long run encourage the building of new infrastructure. The directives have not yet defined this pattern with any precision.

The current regulatory framework has had a positive impact on the electronic communications market in terms of safeguarding competition, which has in

turn secured the further development of this sector. On the other hand, future obligation entails an additional effort aimed at adapting the regulatory policy to new challenges.

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APPENDIX

Graphical overview 18/7 market analysis results for all EU Member States

Single firm SMP	Joint SMP	No SMP
1, 2, 3, ... = Final decision on round 1, 2, 3, ... analysis adopted		

	Access to PSTN for residential and non-residential users		Call origination on fixed networks		Call termination on fixed networks		Wholesale (physical) network infrastructure access		Wholesale broadband access		Terminating segments of leased lines		Voice call termination on mobile networks		Retail local/national fixed calls for residential users		Retail international fixed calls for residential users		Retail local/national fixed calls for non-residential users		Retail international fixed calls for non-residential users		Retail leased lines		Transit on fixed networks		Trunk segments of leased lines		Access/call origination on mobile networks		Broadcasting transmissions services	
Markets 2007	1	2	3	4	5	6	7																									
Markets 2003	1	2	8	9	11	12	13	16	3	4	5	6	7	10	14	15	18															
Austria	2	2	2	2	2	2	2	3	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Belgium	1	1	1	1	1	1	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Bulgaria	1	1	1	1					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cyprus	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Czech Rep.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Denmark	1	1	1	1	2	2	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Estonia	2	2	2	2	2	2	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Finland	1	1	2	2	3	3	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
France	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Germany	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Greece	1	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Hungary	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Ireland	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Italy	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Latvia	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Lithuania	1	1	1	1	1	1	1	2	2	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Luxembourg	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Malta	1	1	2	2	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Netherlands	2	2	2	3	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Norway	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Poland	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Portugal	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Romania	1	1	1	1	-	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Slovakia	2	2	2	1	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Slovenia	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Spain	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Sweden	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Switzerland																																
UK	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

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