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Duplicative regulatory policy in telecommunication market

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Abstract

This paper refers to the relationships between competition law and Sector-specific Rule and how those two rules interact regarding ex ante interventions through the national regulatory authorities or ex post interventions through the national competition authorities. This paper also focuses on the interaction especially, when vertically integrated firms sell inputs to competitors who also compete on a retail market, in a downstream market. Electronic Communications in EU provide legitimate mechanisms for the national regulatory authorities to intervene with controlling access and price in Telecommunications sectors. In telecommunications industries, although a well-established ex ante mechanism treats a market function, ex ante interventions on the basis of the sector-specific rule have some different aspects from ex post intervention based on competition law in terms of the regulatory objectives. The distinction between two interventions may give rise to duplicative regulations at the stage of implementation. The clear division of works at the stage of implementation may not only diminish institutional regulatory concerns but also encourage them to enable more consistent applications together. However, in the procedural aspects, the national regulatory authorities are able to impose obligations on incumbents, whereas the national competition authorities are unable to impose any obligation under competition law. This feature may result in some remedial problems, which may discourage to find a fair or correct price to the Commission and the Courts, and ultimately, an increase of false positive errors arising from the Commission and the Courts, at the stage of enforcement.

Keywords: competition, regulation, telecommunications

1. Introduction

Telecommunications markets have been known as monopolized industries which are run by state-own infrastructure. However, such long tradition has shifted from state fully control towards regulatory intervention based on controlling access to end-users.

The characteristics of telecommunications market had considered as a natural monopolistic industry provided by the government. In general, the local loop costs a lot to replicate since it requires digging up the streets and burying bunches of copper wires into the ground. In this respect, local loop is considered as bottlenecks (Koenig et al., 2009: p. 440). Given that local loop owned by a small number of operators has a role of a bottleneck for accessing actual or potential competitors on a relevant market, access to the local loop

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managed by national regulatory authorities ("NRAs") is important to foster effective competition and benefits of consumers. Access to the local loop is obliged in all European Union's Member States on behalf of end-customers using networks cheaper (Koenig et al., 2009: p. 440). Since establishment and development of the internal market in telecommunications market are important tasks of the NRAs, according to the Framework Directive on Electronic Communications ("Framework Directive"), it remains some problems related to coherent visions and responsibilities of Member States (Larouche, 2002a: p. 142). Current telecommunication markets are characterized by convergence, which is required to consider economic sectors as well as more foundations regarding the proper functioning of the whole economy and society (Larouche, 2002a: p. 142).

Promoting the proper functions for each constituent sector to contribute to the whole economy and society is more likely close to the objective of competition law. In contrasts, electronic communications based on physical networks are likely to focus on specific economic sectors, notably, so-called network-based one (Larouche, 2002a: p. 142). Sector-Specific Regulation ("SSR") relying on physical networks needs to deliver some desirable outcomes before handing over competition law, which the development of physical networks and competition law principle are enough to replace ex ante interventions. Telecommunications regulations and measures in internal market dimension have to be taken to improve coordination at the implementing states. This may lead to conclusion that EU regulatory approach can feature a coherent vision of regulatory action (Larouche, 2002a: p. 146).

The national governments control the interconnection charge between operators in the wholesale market as well as an access to the public operators in both wholesale and retail markets. This vertically two-tier market system allows government to regulate either SSR (so-called ex ante intervention) or competition law (so-called ex post intervention), which have been an interplay on a relevant market.

Due to the EU hierarchically institutional interplay, the distinction between ex ante intervention and ex post intervention becomes blurring the line to take regulatory approaches. The primary objective of this paper is to figure it out following concepts: 1) the regulatory problems on the stage of implementations 2) the remedies based on substantive interplays 3) conflicts between SSR and competition law; and institutional distinction and limitation between NRAs and NCAs. The last mainly focuses on duplicative interventions by the cost-benefit affecting other factors, such as consumer welfare, entry barrier, and investment.

This paper is divided into four parts. The first part refers to the regulatory distinction based on legal and institutional mechanism in the telecommunications market. The second part is to analyze substantive rules on the concept of margin squeeze and anti-competitive behaviors on the implementation and enforcement linked with SSR and competition law. Although the SSR and competition law are likely to ensure consistent regulations, the goals and expected results delivering in telecommunications markets are different between two specialized institutions, such as price and access control of NRAs and restricting anticompetitive practices of NCAs. To some extent, it gives rise to conflicts of price policy and jurisdiction arising from *Deutsche Telekom* and *Telefónica* cases. The third part is more concerned with error costs stemming from vertical and horizontal overlaps of regulatory institutions. Conflict of two different substantive rules on the same market may result in high probability of duplicative proceedings at the stage of enforcement. In addition, those duplicative procedures and enforcement before passing on the courts may increase false positive errors, which would result in an increase of social concerns, as results of deterring investment, decreasing dynamic economic growth and suffering consumers. Last part refers to some alternative solutions how to reduce inefficient procedural duplication between institutions in order to promote regulatory efficiency according to the significant distinction between ex ante intervention and ex post intervention.

2. Different regulatory approaches

2.1 A regulatory type

If no single firm holds a dominant position on a relevant market, call termination market has become similar problems like whether NRAs rely on the concept of 'access market' or use another concept of competition law. As an example, it can be collective dominance incorporating restrictive practices concerned in regulatory features. However, for dealing with the situation where regulatory intervention is certainly defensible, to use both concepts of competition law and SSR is stretched to their limits and potentially even over-extended (Larouche, 2002a: pp. 139-140).

When downstream operators need to compete with new entrants, they are not willing to share their inputs with new entrants. Regarding alleging margin squeeze, the price strategies would be exclusive harms on new entrants based on competition law (Geradin and O'Donoghue, 2005: p. 360). Abuse of market power is likely to be controlled under competition provision of Article 102 Treaty on the Functioning of the EU ("TFEU") or SSR. Article 102 on TFEU provides a non-exhaustive list of abuses by a dominant undertaking, whereas SSR may mandate incumbents to give access to their infrastructure or imposing price control on wholesale or retail services to prevent abuses of market power on incumbents (Geradin and O'Donoghue, 2005: p. 361).

Competition law is not willing to give NCAs any basis for ordering a vertically integrated dominant firm to take a lower proportion of its overall profit or its downstream profits (Geradin and O'Donoghue, 2005: p. 361). In contrast, Framework Directive seems to allow NRAs to mandate the incumbents to grant access to their network infrastructure. Although competition law cannot impose any obligation on dominant operators unless they are not reluctant to abuse their dominant positions on relevant markets, SSR can apply asymmetric regulation as ex ante obligations to SMP (significant market power) firms.

Throughout the movement of adopting the competition and eliminating legal or technical obstacles to achieve the goal between harmonization and liberalization in emerging markets, there is a question as to whether the regulation by SSR still needs while telecommunications market has become mature enough having private operators access. For instance, regarding liberalization process, one of NRAs' essential roles according the ex ante intervention is to set the balanced price between incumbents and newcomers. However, the concept of price methodology is likely to be in line with competition law.

When setting the interconnection charges, the levels of interconnection charges are likely to play the role as bottlenecks to newcomers. If the NRAs set high charges in favour of incumbents, it may result in degradation of competition, prolongation of the cost inefficiencies and impacting the existing entrants' behaviours and ultimately consumers via continued high costs (Walden, 2009: p. 86). On the other hand, if the NRAs set low charges as opposed to the level of network costs, incumbents cannot recover their network costs, which would, in turn, result in decreasing in investment and innovation. The incumbents are only likely to rush to recover their costs by a short-term rather than invest in technology by a long-term, which may not expect to contribute to overall industry growth (Walden, 2009: p. 86). It is thought that determining the level of interconnection for the NRAs is price control[1)] as well as access control[2)] setting the tariffs on a relevant market.

Two differences are concerned with the application between competition law and SSR, either on wholesale market or on retail market. Firstly, Recital 1 of the Access directive[3)] states that NRAs' access-related obligation

1) Recital 20 of Directive 2002/19/EC (Access Directive).

2) Recital 6 of Access Directive.

3) 'Non-public networks do not have obligations under this Directive except where, in benefiting from access to public network, they may be subject to conditions laid down by Member States.'

no longer includes non-public network operators on the wholesale market. Thus, SSR frustrates all attempts by regulating any private operator who is willing to escape from its obligation by public characters or a disguised private operator in an attempt to avoid its obligation according to SSR (Nihoul and Rodford, 2011: p. 177). Secondly, the NRAs mainly control access and price on the wholesale market in telecommunication markets, as opposed to ex post regulating general industries throughout competition law.

However, if downstream market operators compete fiercely on the upstream market, some anti-competitive problems might occur because dominant downstream operators are willing to leverage their dominance on the upstream market with exploitive pricing practices, which may give rise to disparity of interconnection charges (between termination market and retail market) (Walden, 2009: p. 190). The interplay between competition law and SSR may happen to regulate telecommunications markets in a complementary sense, between private operators and public operators, and between on the wholesale market and retail market.

2.2 Different legal basis on implementation

Competition law aims at preventing the abuse of their dominance from restricting competition towards other operators. In that regards, competition law may prohibit operators from refusing to deal with buyers, imposing predatory prices and discriminatory prices on different buyers for the provision of similar services under similar conditions, and conditioning the sale of a product on the purchases of another (Kerf and Geradin, 2014: pp. 6-7). Meanwhile, SSR seeks to promote or preserve competition. Interconnection rules enable a long-distance company to interconnect with the local network and compete in the long-distance market against the local network or services of incumbent (Kerf and Geradin, 2014: pp. 6-7). SSR is more likely to assign procedural, technical and pricing conditions pertaining to interconnection agreements (Kerf and Geradin, 2014: pp. 6-7).

Because of a vertically integrated market, margin squeeze may occur when a downstream market operator has a dominant position by owing the local loop, which is indispensable as infrastructure for other operators to access upstream markets. If the dominant operator imposes a high level of price to operators who need to access retail markets in downstream markets, those operators are unable to make any profit in the upstream market, and also, do not equally compete with the downstream dominant operators in upstream market.[4)]

As to whether a form of exclusive abuse under Article 102 in TFEU, the concept of margin squeeze may be interpreted much narrower scope than SSR which aims at promoting competition regardless of actual abuses (Amory and A. Verheyden, 2008: p. 7).

2.3 Analysis on relevant cases

When ex ante intervention and ex post intervention coexist in a relevant market, the issues are likely to be whether NRAs can review appropriately potential anti-competitive consequences and whether regimes on the basis of competition law would create inconsistency. The inconsistency of the latter either mandates or frustrates the operations of the regulatory process (Hovenkamp, 1999: p. 704).

The ruling of *Trinko* [5)] also refers to the different way between the regulatory regime and antitrust regime in the United States, relating to margin squeeze claims. *Trinko* brought the claim by alleging that Verizon breached its duty to provide competitors with access to its networks. The Supreme Court discussed antitrust enforcement in the context of a regulated industry highlighted the concerns regarding the institutional limitations that necessarily shape the Court's approach to antitrust and enforcement (Schoen, 2005: p. 1637). The Supreme Court emphasized the importance of weighing the marginal benefits of judicial antitrust

4) Case T-271/03, Deutsche Telekom AG v. Commission, 2008.

5) Verizon v. Trinko, 540 U.S. 398, 2004.

enforcement against its cost where a regulatory scheme exists with the purpose of fostering competition. Comparison to regulatory agencies highlighted the institutional limitations of antitrust courts in two critical aspects, which are 'identification' and 'remedy' (Schoen, 2005: p. 1637).

When margin squeeze claims arise, identification of either regulatory concerns or anti-competitive problems might be evaluated by priority due to substantial differences between two rules. Margin squeeze through competition law prohibits only downstream gross profit margins which are so low as to be exclusionary (Geradin and O'Donoghue, 2005: p. 361). First and foremost, SSR through NRAs arranges to impose some price-related measures on operators to foster competition, whereas competition law provides no mechanism to impose any obligations on operators. In a regulated market, the NRAs are in charge of price control towards SMP. This price control mainly focuses on monitoring price and restricting price-related practices arising from dominant operators. The regulated market price might set up based on the cost orientation systems or price methodology. Some factors including administrative consideration through NRAs might be concerned with setting a level of price control on a relevant market. For example, previous NRAs' decisions, such as *Deutsche Telekom* and *Telefónica*, are characterized by politically dependent NRAs which should be reconsidered whether NRAs can be trusted to act in the interest of sector-specific segments (Monti, 2008: p. 11).

High fixed costs create more room for a squeeze in which the independent firm can cover its variable costs but not its fixed cost (Hovenkamp and Hovenkamp, 2009: p. 276). Controlling price discrimination in regulated markets subject to high fixed costs is highly complex regulatory tasks (Hovenkamp and Hovenkamp, 2009: p. 276). In Linkline[6] the Supreme Court in the United States held that if a monopolist has no duty to deal with a rival in the wholesale or upstream market, its margin squeeze would not be unlawful unless price in the retail or downstream market were predatory under Brooke Group standards (Hovenkamp and Hovenkamp, 2009: p. 278-279). In Brook Group, the Supreme Court of United States required that in an orthodox predatory pricing case which involved selling a single product below cost in order to destroy or discipline a rival, the plaintiff must show that the defendant's prices were below a relevant measure of cost (typically marginal cost or average variable cost) and that the predator had a reasonable prospect of recouping its predatory investment during a subsequent period of monopoly pricing.[7] The Supreme Court in *Linkline* confirmed that a useful test for an unlawful margin squeeze must be 'cost-based' (Hovenkamp and Hovenkamp, 2009: p. 283). This regulatory problem of margin squeeze may allow competition law to find little room, in terms of ex post intervention, because when a wholesale market price made actually higher than retail price despite either price on both markets is lawful would be no basis for imposing competition law (Hovenkamp and Hovenkamp, 2009: p. 282).

According to *Deutsche Telekom*, the regulatory context was that at the whole level, charges had to be cost-oriented and were subject to authorization by the NRAs, whereas at the retail level, a price cap was applied to baskets of similar services except retail ADSL, which was not regulated (Gohari, 2012: p. 213). The General Court and ECJ agreed with the decision of Commission that Deutsche Telekom would have had sufficient scope to adjust its retail prices to avoid a margin squeeze and considered it irrelevant that prices had been authorized and the existence of a margin squeeze denied by the NRAs (Gohari, 2012: p. 213).

Telefónica[8] is another case related to margin squeeze. Telefónica was a dominant corporation both at the wholesale level and at the retail level in Spain, which owned a nation-wide fixed network and had sufficient discretion to make pricing decision in wholesale markets. Using this dominant position, Telefónica had squeezed its competitors' margins in both the national and regional markets.[9] As regards 'likelihood of entry

6) Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc. 9th Cir. 2007.

7) Brooke Group Ltd v. Brown & Williamson Tobacco Corp. 1993 (Hovenkamp and Hovenkamp, 2009: p. 290).

8) Case T-336/07 Telefónica v. Commission 2012.

9) Id. Paras. 397-542.

barrier' and 'likelihood of driving out competitors', the ECJ states that 'a pricing practice […] constitutes an abuse within the meaning of Article 102 TFEU if it (1) has an exclusionary effect on competitors who are at least as efficient as the dominant undertaking itself by squeezing their margins and (2) is capable of making market entry more difficult or impossible for those competitors, (3) and thus of strengthening its dominant position on that market (4) to the detriment of consumers' interests.'

3. Conflict and interplay between SSR and competition law

3.1 Institutional distinction and limitation on implementation

The implementations of competition law and SSR tell three limitations. Firstly, the identification of access or price-related issues between two rules might be over-deterrence in effect, sometimes likely raise false positive errors of regulation in telecommunications markets. Secondly, competition law and SSR can fill regulatory gaps with restrictive practices between SMP operators and non-SMP operators, or between non-public and public operators in access markets. However, in respect of margin squeeze, ex ante interventions through NRAs have different approaches to evaluate price controls in comparison with exclusionary abuse of dominant positions through competition law. Lastly, SSR might lack a coherent vision about the economic specificity in telecommunications sectors, and about the responsibility of the Member States for telecommunications regulation in order to promote the establishment of internal market (Larouche, 2002a: p. 142).

The primary problem regarding vertical integration by opening a downstream market to the competition is the created incentive for incumbents. Because it is created to discriminate against downstream competitors, SSR can be used to prevent problems of margin squeeze through this incentive (Geradin and O'Donoghue, 2005: p. 369). However, the NRAs have much used their energy and resources to define interconnection problems and price control related to LLU. The NRAs seek to balance competing interests and stimulating entry of new entrants, which may finally give rise to little interest in margin squeeze, leaving room to be addressed the NCAs or the Commission, in accordance with jurisdiction to apply competition law (Geradin and O'Donoghue, 2005: p. 370).

When the NRAs take appropriate measures in respect of local loop unbundling ("LLU"), they may consider the application of competition law at the same time on the same issue. At the selecting stage, there is the need for authorities to select the application of whether competition law or SSR of relevant substantive contents. In parallel with the procedural aspect of the market definition (Larouche, 2002a: p. 134), two market reasonings are essential. One is lack of access to the incumbent's local loop might restrict the competition in the national telecommunications markets for termination and origination call markets, in an attempt to capture of nation-wide customer base. Another reason is the notion of access market might be concerned with operators owning access-related property that would hold a dominant position and then, would lead to the conclusion of the dominant position on the basis of subscribing forms its market (Larouche, 2002a: pp. 138-139).

Excessive pricing abuse through competition law should be supposed to differ from margin squeeze through SSR. Excessive pricing abuse is linked with calculating a fair price and a cost comparison whereas margin squeeze is more related to price and profit margin in a downstream market. Through competition law, a calculation is based on relevant costs of supplying a single product, in contrast margin squeeze is more related to price and profit margin in a downstream market in calculating the excess of price relative to prices in another connected market (Geradin and O'Donoghue, 2005: pp. 365-366).

In result, it is clear that each legal basis and normative content is different under competition law and SSR. And identifying price reasoning and methodology are also a different basis. Finally, the upstream market prices

without reaching excessive prices through competition law could result in margin squeeze, and excessive upstream prices could result in margin squeeze as well (Geradin and O'Donoghue, 2005: p. 366).

3.1.1 Regulatory methodology

When it comes to the price and access control, NRAs are mainly willing to achieve effective competition about the wholesale provision of specific access product markets (Art 13a of Access Directive). If it may happen to persist competition problem and/or market failures, the Commission shall take a decision authorizing or preventing the NRAs from taking such measure, as exceptional circumstances (Art 8 of Access Directive).

In order to efficiently detect cost-related information of incumbents, and appropriately intervene with vertically integrated operators, NRAs are willing to impose obligations on incumbents concerning accounting separation. The obligation would be imposed in situations where a market analysis indicates a lack of effective competition under Article 13 of Access Directive and functional separation, in situation where important and persisting competition problems are detected in the wholesale access markets, under Article 13 a of Access Directive.

In terms of accounting separation, Article 13(1) in Access Directive states that "NRAs may impose obligations for cost orientation of prices and obligations concerning cost accounting systems, for provisions of specific types of interconnection and access, in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level, or may apply a price squeeze, to the determent of end-users".[10)]

Although LLU does not promote entrants' investments in the local loop since they can rely on the incumbent's assets, the accounting separation can be the use of detecting potentially anti-competitive behaviours of the incumbent (Valletti, 1999: p. 9). As far as the vertically integrated market is considered, NRAs are likely to take appropriate decisions based on the functional separation, under the cooperation of the Commission.

Besides, the accounting separation could be the use of detecting instrument of potential behaviours against desirable competition results. In addition to that, the Commission also should monitor and publish information on charges which contribute to determining the price to end-users (Recital 23 of Access Directive).

Obligations imposed concerning accounting separation are less intrusive forms of obligations, due to gathering cost-oriented information on the basis of transparent cost accounting systems of operators. In contrast, obligations concerning functional separation can be more intrusive forms of measures imposed by NRAs. The article of 13a in Access Directive is related to functional separation. NRAs' usage of the functional separation is proposed by the Commission because that the functional separation in the market ensures effective competition between vertically integrated operator's wholesale division and its wholesale competitors, by significantly reducing the incentive for discrimination, and by making it easier for compliance with non-discrimination obligations to be verified and enforced (Braun and Capito, 2002: p. 52).

Functional separation and methodology of calculating cost on the basis of the principle of competition law

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10) Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)
Article 13: 1. A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations relating to cost recovery and price controls, including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of interconnection and/or access, in situations where a market analysis indicates that a lack of effective competition means that the operator concerned might sustain prices at an excessively high level, or apply a price squeeze, to the detriment of end-users. National regulatory authorities shall take into account the investment made by the operator and allow him a reasonable rate of return on adequate capital employed, taking into account the risks involved.

are likely to play a complementary role when NRAs are regulating access and price mainly on wholesale market. Nonetheless, the technological complexity and intricate interests between parties in a network industry are not likely to be simple to settle on the basis of the competition law principle, which may give rise to the necessity of ex ante interventions.

In parallel with competition law, conducting an analysis by designation of SMP and setting a price of termination market (Art 16 Framework Directive) are likely to cause some issues arising from asymmetric information between regulators and operators, although obligations concerning accounting separation and functional separation refer to potentially minimising the asymmetric information problems (Nihoul and Rodford, 2011: pp. 60-64). In addition to the asymmetric information in the process of market assessment, there are substantial distinctions between SSR and competition law. When NRAs implement measures, such as functional separation, on SMP operators in telecommunication markets, the targeted segments might be distinguished from a regulated segment to an unregulated one according to SSR. If the wholesale market represents a regulated market by NRAs, an incumbent may be assigned to follow a level of price imposed by NRAs. If the retail market represents an unregulated market, there co-exists competition law that unregulated market operator has no duty to follow a certain price-related obligation from NRAs. Further, the cost-based evaluations might result in some gaps which are 'fair prices' between regulated markets through SSR and unregulated markets through competition law. Consequently, it may confuse appropriate prices from cost recovery mechanism and price methodology to cost and price determined by a market force.

Recital 13 of Access Directive states that the review should be carried out using an economic market analysis based on competition law methodology. Originally, the objective of SSR is to reduce ex ante regulation progressively as competition in the market develops. However, the competition develops at different speeds in different market segments and in the different member States. The NRAs should be able to relax ex ante obligations in a market where competition allows it to regulate by itself. In some situations, ex ante regulation is still required to impose obligations in the case of the possibility of new bottlenecks arising from technological development. It also clearly refers that although the NRAs can set price control as ex ante obligations, the method of calculating costs should be appropriate to the circumstances taking account of the need to promote efficiency and sustainable competition and maximize consumer benefits (Recital 20 of Access Directive).

Besides, ex ante intervention has great impacts on how to measure 'market power' and 'entry barriers'. The market power is likely to be measured by a dominant share of a relevant market or as the ability to control prices (Hovenkamp, 1999: p. 708). The NRAs control prices, fix entry tariffs and regulate anti-competitive practices, in parallel with competition law. Thus, adopted measures should be subject to the close scrutiny of the NRAs, and conducting their implementations is also monitored by the Commission (Hovenkamp, 1999: p. 699). In an ideal ex ante regulatory regime, NRAs would determine all relevant social and economic implications concerning market behaviours, including the impact on competition in highly regulated markets (Hovenkamp, 1999: p. 703). This determination exists in theory rather than reality. In addition to the question of efficiency aforementioned, NRAs do not pass on every relevant issue. It would result in another problem that they may not collect all relevant information and consider all relevant factors, especially competition law–related issues (Hovenkamp, 1999: p. 703).

3.1.2 Market definition

Following the principle of competition law which is similar to Recommendation and the Guidelines of the Commission (Article 15 of Framework Directive), NRAs define relevant markets appropriate to national circumstances. NRAs are willing to control price if market analysis reveals inefficient competition in a market.

In particular, 'the regulatory intervention may be relatively light or much heavier such as an obligation that prices are cost-oriented to provide full justification for those prices where competition is not sufficiently strong to prevent excessive pricing' (Recital 20 of Access Directive).[11)]

The Article 8(2) of Framework Directive states that NRAs ensure the users to maximize their benefit of choice, price and quality by promoting competition, and refrain from any distortion or restriction of competition in the telecommunications markets. In order to encourage market competition, NRAs may designate dominant operators to have significant market power on the second market when they have significant market power on the first market.[12)]

Due to the market failure in publicly access-related segments, the government intervention would be required to achieve economic goal. Besides, the mechanism of Framework Directive provides more detail procedural aspect for NRAs to follow similar line to opinions of the Commission and BEREC when defining the market and assessing market analysis.[13)]

When imposing price control, ex ante regime needs to calculate price control based on sufficient information about the actual cost. For example, in order to calculate pricing of interconnection and pricing of LLU, ex ante regime uses information directly to calculate prices or possibly rely on different accounting methods than those used by regulated operators (de Streel, 2003: p. 507). On the contrary, when it needs to impose appropriate regulation on dominant operators, it will be more efficient to impose obligation on a market where the source of competition problem lies, instead of controlling competition problem in the leveraged market (de Streel, 2003: p. 503). Nonetheless, it would be complicated and too late to correct market competition problems after detecting some anti-competitive practice in the leveraged market without having any power of an initial investigation of the complaint.

Competition law results from only anti-competitive behaviours of the undertakings (cartel, abuse of dominant position and merger control) that must be anti-competitive practices. The burden of proof for NRAs is relatively high so that NRAs might be more cautious in intervening than NCAs under competition law (de Streel, 2003: p. 511). When certain types of anti-competitive behaviours fall within specific forms, the definition of competitive harm may determine.

However, since it was pointed out the weakness of a form-based approach, the effect-based approach has analyzed the actual and potential effects of dominant firms' behaviours to review how market function goes properly (Gohari, 2012: pp. 207-208). The need of effect-based approach may result from two landmark cases, Deutsche Telekom and Telefónica, which are required to proceed with significantly sophisticated cost tests (Gohari, 2012: p. 217).

3.1.3 Stage of remedies

While competition law would be able to rely on remedies after the market's negative impact, the use of ex ante regulation would allow more frequent and timely intervention when the market is required for monitoring of costs, terms and conditions (de Streel, 2003: p. 496). Pursuant to the Article 8 of Framework Directive, NRAs take all reasonable measures to achieve the objectives of developing competition, internal market and interests of the EU citizens.

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11) Directive 2002/19/EC of the European Parliament and of the Councilof 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)

12) Article 14(3) of Framework Directive

13) Article 15 and 16 of Framework Directive

In terms of Article 8(3) NRAs are required to remove remaining obstacles and encourage the establishment and development of the EU-wide networks in parallel with the interoperability and end-to-end connectivity, in accordance with the Commission and BEREC (Body of European Regulators for Electronic Communications) in order to provide consistent regulatory application and practice in the telecommunication markets. The European telecommunications market is only successfully organised efficiently on the basis of coherent coordination at European level. The institutional mechanism has been established to create more consistency at European level (BEREC). BEREC was set up to assist the Commission and NRAs in various procedures or decisions (Nihoul and Rodford, 2011: p. 66).

In order to establish and develop of internal market, Framework Directive provides consultation mechanism to build the consistent application and practice of NRAs and the Commission. In the procedural aspect, the Article 7 of Framework Directive is noticeable because it is surveillance provision related to the NRAs' power of designation of SMP. If NRAs' adopted obligations of SMP may create a barrier to internal market or serious doubt concerning its compatibility with Community law, the Commission can make a decision that the adopted measures of NRAs should not be implemented. (Article 7(4), 7(5) and 7(6) of Framework Directive).

Mostly, ex ante regulation is designed to impose obligations of SMP, which is used to call the concept of 'asymmetric regulation'. The obligation imposed on dominant firms to refrain from adopting behaviours which may further alter already reduced degree of existing competition in the market dominated by them (Nihoul and Rodford, 2011: p. 61). That would be mainly oversight of Commission that roughly corresponds to the adopted measure related to the designation of SMP.

The Article 8(4) also shows that NRAs are enabled to protect consumers, the integrity and security of public networks which would in turn contribute to the interests of the EU citizens by promoting clear information of tariffs and conditions for using publicly available services and the ability of end-users to access the information before their choice. Main tasks of NRAs stipulated in Framework Directive are to set the appropriate prices by balancing between raising the benefit of consumers and by preventing from any distortion of market competition. This adopted price has to be applicable on the relevant markets consistently by cooperation of the Commission. NRAs are obliged to protect the consumers by showing the clear information of tariffs to the public that is decided by NRAs.

The Supreme Court in *Trinko* stressed the institutional limitation of antitrust in terms of implementation of the appropriate remedies. Further, the Court shows its perspective towards jurisdiction of SSR in framed jurisdiction of competition law. Besides, the Court states that the application of competition law must be narrowly tailored to SSR because duty of affirmative assistance should be distinguished from 'negative intervention' concerning competition law. More importantly, this case is likely to give rise to affirmative remedial measure of FCC intervening in anti-competitive practice in telecommunications market, as opposed to the Deutsche Telekom and Telefónica cases (Ahn, 2007).

3.2 Regulatory responsibility and autonomy on remedies

The scope of responsibilities based on SSR through NRAs can be defined as selecting new operators; granting licenses; regulating tariffs; administering the interconnection regime; monitoring the activities of the operators to ensure that they comply with their obligations including accounting separation, price and quality requirements; and imposing sanctions upon operators when it is necessary. On the other hand, the scope of responsibilities based on competition law through NCAs can be in line with more general competition process, including initiating investigation of potentially anti-competitive behaviours; prosecuting such behaviours; and in some cases, passing judgment and imposing sanction upon parties convicted of having committed

anti-competitive actions (Kerf and Geradin, 2014: pp. 8-9).

When they are able to enjoy some degree of autonomy from political interventions, in order to protect their own decision-making, both the NRAs and the NCAs may be often granted some degree of protection from the regulated firms and the political institutional entities (Kerf and Geradin, 2014: pp. 8-9).

Regulatory approaches such as ex ante interventions are often directly linked with the profitability of the regulated operators. Regulations of tariffs or quality standards are therefore likely to have substantial impacts on the profitability of telecommunications operators and those operators are likely to give undue pressure on the NRAs (Kerf and Geradin, 2014: p. 10).

NRAs are likely to benefit from strong legal protection against arbitrary removal and it is concerned with its link to the regulated firms rather than simply refrain from intervening when the conflict of interests occurs (Kerf and Geradin, 2014: pp. 9-10). Unlike NCAs, NRAs focus on developing the expertise required to tackle some difficult telecommunications issues, in parallel with promoting investment in infrastructure-based access markets because the degree of openness and liberalization of the telecommunications segments may determine the scope of the application of SSR in general competitive activities on the relevant markets (Kerf and Geradin, 2014: pp. 9-10). If this outcome is successfully willing to be delivered, there is a need for NRAs to strike the right balance between flexibility and legal certainty at the institutional level (Kerf and Geradin, 2014: pp. 11-12).

NRAs intervene with public access operators that can likely to cause political intervention. Deployment of infrastructure in telecommunications markets is costly, because it is difficult to replicate and only a small number of firms own this property. It is required high sunk costs that increase some incentives for national governments to intervene with fixing tariffs or other aspects of services (Kerf and Geradin, 2014: p. 10). On the other hand, NCAs intervene in broad areas related to general economic sectors. They need to regulate a large number of firms irrespective of industries competition in the required markets.NCAs tend to apply on a case-by-case basis whenever they are needed, rather than to closely regulate the firms on a permanent basis (Kerf and Geradin, 2014: p. 8). NCAs are also likely to be granted some degree of autonomy from political interventions in their process by setting up the laws as autonomous or independent entities; appointing the process designed to prevent partisan nominations; adopting measures to prevent arbitrary removals; and adopting to ensure a close scrutiny from firms (Kerf and Geradin, 2014: p. 9).

4. Regulatory costs on regulatory measures

Balancing the duplicative regulatory costs both NRAs and NCAs can be perceived before the stage of remedies or enforcements. Determining the amount of regulatory or competition enforcements would affect the cost-benefit calculus of regulated firms when they consider whether the legality of their probably efficient but risky practices is uncertain and which competitors could be injured concerning their attempts (Hovenkamp, 1999: p. 641). If enforcements of NCAs by means of damages actions were costless, if courts never made an error in identifying a certain activity as anti-competitive actions, and if all identified violations from competition provisions were inefficient, without compensating efficiencies, then the Commission or courts could be made for high penalties in excess of the expected profitability of any illegal act (Hovenkamp, 1999: p. 642). Such high deterrence is costless and never deters efficient practices, then, ultimately, over deterrence can be substantial social concerns (Hovenkamp, 1999: p. 642).

Institutional regulations are likely to be concerned with increasing costs associated with collecting and transferring information, detection, negotiation, consensus seeking, and enforcement (Saurwein, 2011: p. 339).

As Gary Becker once noted, the costs of harmful conduct and the system of preventing it are of three kinds: the costs imposed by the conduct itself; the costs of detecting, apprehending and determining the guilt of alleged violators; and the costs of imposing sanctions on condemned violators (Becker, 1968; Schwartz, 1980).

In the case of highly regulated market, firms may generally have little power to make pricing, entry or expansion decision on their own, and everything is subject to close scrutiny by NRAs. In principle, the less a regulatory regime interferes with the relevant market, the more there would be a room for competition law through NCAs (Hovenkamp, 1999: p. 699). Intervention under competition law is generally appropriate to the market decision actually or potentially anti-competitive and where the discretion of private firms without effective regulated supervision is involved (Hovenkamp, 1999: p. 699).

Regardless of this general principle, competition law and SSR co-exist by applying two different legal perspectives to the same issue, such as a margin squeeze. When competition law and SSR apply at the same time to the same issue, it may result in the increases of false positive errors and duplicative errors that would increase the total costs of regulation and social concerns.

False positive errors are likely to be significantly more costly than false negative errors because that market forces offer at least a partial corrective than false negative errors (Manne and Wright, 2011). The costs of operating system itself are also included in analysing whether optimal results occur (First and Waller, 2012: p. 2570). Combined accuracy benefits are obtained when the parties act correctly are weighed against the combined error costs, and system costs to evaluate the value of the rule or decision in question (First and Waller, 2012: p. 2570). The ultimate question remains what set of rules, procedures, and institutions minimize the total costs of under-deterrence or maximize the benefits of over-deterrence because the total of error costs may take into account the accuracy benefits of any given rule, procedure and enforcement actions (First and Waller, 2012: pp. 2570-2571).

Telecommunication markets generally consist of vertical integration among two tiers markets. The jurisdictional conflict may result from vertical and horizontal overlaps of regulatory intervention in the EU-wide markets. When it comes to calculating error costs, there is a need for enforcement institutions and courts to consider the probability of imperfect information. The error of delivering imperfect information will inevitably harm the regulated operators and final consumers in some degree and their consequences should be taken into account when engaging in their business actions, which would finally result in a decrease of consumer welfare (Wright, 2013).

When the important role of SSR though NRAs is concerned with fostering competition in tele-communications markets then promoting a wide range of development of access infrastructure in the EU markets, long delay for NCAs while waiting for final judgement, after passing their market decisions on courts, is likely to be faced with a chill market growth. In addition, false positive errors would occur in the case of finding dominant operators who cannot exercise their market power.

Although both false positive errors and false negative errors may have a certain impact on relevant market, regulatory incentives and expected market outcomes resulting in relevant markets are likely to distinguish error costs of NRAs from error costs of NCAs. A high probability of false positive errors may retain competition law, and it might include high social costs (Bork and Sidak, 2013: p. 525). Ex ante intervention may impose implementation costs on NRAs and compliance costs on the regulated operators as well as other costs, including collecting the relevant information, developing a pricing methodology, consulting with stakeholders, and ensuring compliance with their chose policy (Geradin and O'Donoghue, 2005: p. 413). The price control from NRAs may involve costs for the regulated operators, since they may not only provide periodic information, but also reduce flexibility in their pricing decisions (Geradin and O'Donoghue, 2005: p. 413).

To state the overall argument, existing duplicative procedural and enforcement aspects of so-called ex ante

regulation and so-called ex post regulation may increase the probability of false positive errors. Nevertheless, the impact on general economic markets and telecommunications markets may cause the different market results. High error costs based on competition law may result in deterring not only entry of actual or potential competitors on the relevant market but also pro-competitive practices and investment to economic growth. On the contrary, high error costs based on SSR may result in significant declines of innovation and access of infrastructure in the telecommunications markets. If the concurrent application of competition law and SSR causes a certain conflict of procedure and jurisdiction, the negative impact on telecommunication markets may significantly increase.

5. Conclusion

The argument of duplicative regulations between ex ante intervention through NRA and ex post intervention through NCAs has started since Deutsche Telekom and Telefónica cases containing the concept of margin squeeze, which the courts have overturned the decisions made before NRAs.

It may result in declines of not only legal certainty of NRA's decisions but also regulatory efficiency. The access and price controls of NRAs aim at achieving promotion of competition, and establishment of internal market, and ultimately maximizing the benefit of consumers.

NRAs can thoroughly examine the vertically integrated telecommunications market by using legal instruments of accounting separation and functional separation. The procedural provision of Article 7 of Framework Directive enables NRAs to constitute consistent market control and policy in accordance with the approval or so-called veto power to adopted measures through NRAs by the Commission. Although a well-established legal mechanism among regulatory institutions, it may give rise to some issues with respect to procedural aspects between NRAs and NCAs.

NRA's access and price controls mainly focus on the wholesale market. It seems that it is likely to be appropriate to control on the wholesale market when the problem occurs in the first place. When it comes to the great distinction between ex ante through NRAs and ex post through NCAs, while NRAs impose obligations on the targeted operators as they have dominant position on relevant markets, the NCAs are unable to impose any obligation on the dominant operators without the abuse of their dominant positions. However, in the whole process of imposed obligations through NRAs, the regulatory authorities may collect relevant information, and assess price control based on the information and research. It should be no surprise that some national political intervention or considerations in favor of their administrative convenience may occur when they make decision.

Further, all relevant information in relation to market assessment and price methodology may not flow easily from one regulatory institution to another. When the existing dualist regulatory systems may enlarge the scope of a regulated market between competition law and SSR, the increase of procedural costs in association with diminishing efficiency and legal certainty may increase the total of social costs, including error costs.

When false positive errors increase the total error costs, telecommunication markets may result in deterring investment and chilling innovation. To decrease a high probability of error costs come from dual procedure by ex ante intervention and ex post intervention, from SSR to competition law, the distinction between ex ante intervention and ex post intervention would lead to blurring lines before the stage of enforcement between the NRAs and the NCAs.

When it comes to the stage of enforcement and procedural aspects provided by the Framework Directive, the Commission may control the NRAs' adopted measures whether they are appropriate, rather than review the impact on markets, after adopting their measures monitored by the NRAs. Although the NRAs work out detailed

market assessment and implement the remedies, the NCAs and the Commission have an investigation powers to collect market data and conduct substantive assessment (Larouche, 2002b: p. 18).

The most efficient divisions between authorities, NRAs and NCAs have their own stages to analysis of the market definition, designation of dominant positions, and market assessment between in sector-specific markets and in general markets. The divided stages among three market sections might assign to appropriate authorities, in accordance with their resources, strength and weakness of legal or specialized perspectives. For example, in the case of leaving decision-making in individual cases to the NRAs and national courts, the Commission would play a more policy-making role through the intervention to decide the most important cases (Larouche, 2002a: p. 147). On the other hand, in the case of dividing into clear works between institutions, the NCAs focus on dealing with the most important tasks related to the stage of market definition and market assessment, and the NRAs are rather in charge of remedies (Larouche, 2002b: p. 19).

In addition, it may leave a more room for the courts to review the decisions of NRAs. Although this is a matter of national law, national courts are required to interpret national law, in accordance with the text and objectives of the Directives (Ottow, 2003: p. 21). It can be expected that the national courts will more and more take into account the decisions of NRAs in other member States, and case law in those countries (Ottow, 2003: p. 21).

Judicial recognition of margin squeeze claims is likely to result from distinctions among regulatory objectives, regulatory approaches, retained expertise and information, and interdependence between competitors and between authorities aiming at achievement on relevant markets.

United States Supreme Court in *Trinko* held that the objectives of SSR impose obligations on incumbents to foster competition, whereas objectives of competition law foster competition by restricting unlawful conducts in the markets. Besides, the application of SSR is likely to be interpreted into 'implied immunity' of antitrust liability, which the court could not apply *Trinko*, given the text of the Telecommunications Act 1996 which explicitly kept competition law applicable (Larouche, 2006).

In contrast, the competition law applied instead of national regulatory rules in DT and Telefónica cases. European competition law is placed in the Treaty, and thus part of primary law. SSR, such as the EU electronic communications regulation, is secondary law (Larouche, 2006). It is adopted on the basis of many EU Treaty provisions, the legal bases concerning internal market or harmonization of national legislations, cannot be primary law (Larouche, 2006). However, in the United States, the Sherman Act has attained quasi-constitutional status, and now it is a federal statute. It can be affected by other federal statutes (Larouche, 2006).

The rest of two factors are more relevant to diverging enforcements between NRAs and NCAs, which the courts might have a difficulty to find a fair price in order to determine margin squeeze claims (Hovenkamp and Hovenkamp, 2009: p. 281). When a court hear such claims, the court must predict what the correct price would be, and in doing so, the court would in the position of a public utility regulator, which can be related with administrative process and expertise. In addition to the hierarchy between SSR and competition law, if NCAs claim margin squeeze problems by alleging predatory-pricing claims under competition law, the courts might find the correct price between two alleged prices from NCAs and NRAs. Such recognition of claims might result in remedy problems in both the EU and the US. Although horizontal and vertical coordination of European and member State regulatory activities in a such issue would be required in the EU-wide market (Hovenkamp and Hovenkamp, 2009: p. 297), detecting the correct price, and delivering this price-related information from NRAs to the Commission, such as a part of institutional concerns, are likely to be false positive errors between the courts and the Commission and error costs of society may increase at the same time.

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