Body of European Regulators for Electronic Communications

BEREC

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Draft review of the BEREC Common Position on geographical aspects of market analysis (definition and remedies)

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Contents

Executive summary

(1) In October 2008, the European Regulators Group (ERG) adopted a Common Position on geographical aspects of market analysis. The 2008 Common Position explored under which circumstances a geographically differentiated approach to market analysis (definition and remedies) could be deemed appropriate and how such an approach could be implemented.

(2) In general, the main ideas expressed in the 2008 Common Position maintain their relevance and adequacy in relation to copper-driven competition. However, since 2008 there have been several developments that have led BEREC to analyse whether or not specific points related to these developments mean that an update of the 2008 Common Position is necessary regarding some specific points. In this regard, the present review provides further insight into some of the issues that geographical segmentation raises. The final result of this BEREC project will be an updated Common Position, integrating the 2008 Common Position as well as the new issues that need to be considered in the light of new market developments.

1. ***Main cases since the approval of the 2008 Common Position related to geographical analysis***

(3) This document first considers Article 7 Phase II cases launched by the European Commission since 2008 which have concerned geographical aspects of market analysis, and also briefly refers to other experiences of national regulatory authorities (NRAs) with this issue in the context of the markets review process.

2. ***Relevant indicators to assess the necessity of undertaking a geographical analysis***

(4) In this section, reference is made to the market developments that have occurred since 2008. The major development relates to the increasing coverage of networks and operations of alternative providers, which is a result of (i) increased unbundling of the copper access networks of the incumbents, (ii) the increased importance of technologies other than xDSL (cable, Wi-Fi, mobile broadband, etc.) and (iii) the development of high-speed fibre networks (next-generation access – NGA – roll-out).

(5) Taking into account the fact that geographical market analysis is a burdensome process, for both the NRA and operators, reference is made to a number of indicators which may be relevant when assessing the need to engage in a detailed geographical analysis that involves setting the boundaries of local markets. In particular, factors such as the number of operators offering retail services in a particular area, their coverage and the price conditions available may assist NRAs in deciding on the need to define subnational markets.

3. ***Markets most likely to be affected by a geographical segmentation***

(6) This Common Position is relevant to all electronic communications markets contemplated by the ex-ante review process, but for reasons highlighted below the focus remains on broadband services, in particular the provision of wholesale broadband access (included in Market 5 of the 2007 Commission Recommendation on Relevant

Product and Service Markets[1]) and the provision of wholesale (physical) network infrastructure access at a fixed location (Market 4 of the 2007 Recommendation).

(7) Market 5 has generally been considered the market most likely to be susceptible to geographical segmentation, as the competitive pressure that local loop unbundling (LLU) may exert in this market (in addition to the indirect constraints that other technologies may exert at the wholesale level) often varies across a country. In Market 4, the development of own infrastructure (in particular, in the context of fibre roll-out) may lead to more than one network being rolled out in certain regions, but not necessarily throughout the whole country. As a result of this roll-out of alternative infrastructures, the competitive conditions might vary significantly not only in Market 5 but also in Market 4.

4. Proposed analysis to assess geographical differences in the competitive situation

(8) As the main purpose of imposing ex-ante obligations is to ensure the development of an effectively competitive market to the benefit of consumers, the starting point of the geographical analysis will normally be the competitive conditions prevailing at the retail level in the absence of regulation in the market being considered. This means that, although wholesale access products offered to third parties are relevant to fulfilling this objective, infrastructure competition, under certain circumstances, could be sufficient.

(9) Two main types of competitive situations are foreseen: (i) Member States where wholesale remedies, in particular LLU, represent an important source of competition, possibly strengthened with the presence of alternative infrastructures, and (ii) Member States where LLU is not so extensive, but where an important source of competition is derived from the presence of alternative platforms (inter-platform competition).

(10) It is recommended that, in both instances, NRAs examine the relevant variables for performing a geographical analysis, in particular choosing the appropriate geographical unit and proceeding with the aggregation of geographical areas in order to be able to ensure the homogeneity of the conditions prevailing in areas that are deemed equivalent. The greater the importance of LLU in the market, the greater the role of the local exchange/main distribution frame (MDF) of the operator with significant market power (SMP) for the purposes of geographical segmentation.

5. Implications of the upgrade of current networks on geographic analysis – next-generation access (NGA) networks

(11) BEREC notes an increased deployment of NGA networks since 2008. Fibre roll-out by dominant and alternative operators may have a significant impact on the competitive dynamics of the broadband markets, including its effects on the potential definition of subnational geographical markets and on the obligations that may have been imposed with regard to the SMP operator’s copper-legacy network.

(12) The scenarios contemplated in the European Commission Recommendation on Regulated Access to NGA Networks when dealing with the issue of geographical segmentation are also considered. These scenarios are based on the number of NGA networks that are available in a given geographical area: several networks or one network which is jointly deployed through co-investment. The effects of both scenarios on geographical segmentation, including the conditions that may need to be fulfilled before proceeding with the geographical differentiation of markets/remedies, are discussed in detail. The necessity of revising a geographical market analysis or

[1] Commission Recommendation of 17 December 2007 on Relevant Product and Service Markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2007/879/EC).

geographical remedies in circumstances where segmentation of Market 5 relies on access products in Market 4 that may have become redundant is also considered.

6. SMP analysis and remedies differentiation

(13) Finally, reference is made to the two possible ways of dealing with geographical differences in competitive conditions across a national territory: (i) market differentiation and (ii) differentiation of remedies. The benefits and risks that may be associated with a geographical analysis are also discussed. In this sense, NRAs aim to prevent two types of errors: type 1 errors, in which there is deregulation (or lighter regulation) where in fact regulation (or stronger regulation) would be justified; and type 2 errors, in which there is regulation (or stronger regulation) where no (or lighter) regulation would be justified.

I. Introduction

(1) In October 2008, the ERG published its Common Position on geographic aspects of market analysis (definition and remedies)[2]. The 2008 Common Position covered a number of technical aspects of geographical market definition, and was intended to reach a common understanding of the main elements for this process by providing guidance to those NRAs opting, according to their national circumstances, for a geographical segmentation in their market analyses.

(2) Given the resource-intensive nature of geographical analysis, the 2008 Common Position established a set of easily obtainable indicators that could signal the existence of differences in the competitive conditions across the national territory. If these indicators suggest that the competitive conditions are not sufficiently homogeneous, a detailed geographical analysis will usually be deemed appropriate.

(3) The 2008 Common Position also analysed some of the main elements that need to be taken into account when undertaking a geographical analysis. In relation to the choice of the appropriate geographical unit, two main options were considered. The first option is to define the geographical unit based on political or administrative boundaries. The second option is to choose a network approach, based on the topology of the network of the incumbent operator and taking into account the coverage of any alternative networks.

(4) Regardless of the approach taken, the 2008 Common Position also noted that a geographical unit should satisfy four conditions: (i) units should be mutually exclusive, (ii) the services sold by all operators should be mapped onto the geographical units, (iii) the units should have clear and stable boundaries and (iv) units should be small enough to ensure that competitive conditions are unlikely to vary significantly within each of them and large enough to prevent a disproportionate burden on operators and NRAs.

(5) Once the criteria for selecting the relevant geographical unit were established, the 2008 Common Position went on to analyse the elements that are necessary to assess the homogeneity of competitive conditions in a given geographical area. The 2008 Common Position emphasised that, in order to conclude that competitive conditions were not sufficiently homogeneous, NRAs should refer in their analyses to (i) the differences in the barriers to entry and in the number of suppliers, (ii) the homogeneity of the market shares of these suppliers and (iii) the potential differences in prices or services (e.g. differences in the prices of the incumbent in different areas or, even if the incumbent has a uniform price, differences between its prices and the offers of the alternative operators). The 2008 Common Position also noted that NRAs should aggregate those areas where the underlying competitive conditions, according to the above-mentioned criteria, were similar.

(6) Finally, the 2008 Common Position discussed the possibility of dealing with the heterogeneity of competitive conditions either by defining subnational relevant markets or by differentiating remedies. The second option was deemed to be appropriate when areas were not sufficiently stable or competitive conditions were not sustainable enough to justify the definition of subnational markets.

(7) The 2008 Common Position mainly addressed a situation where competition is driven by a combination of LLU and the presence of alternative infrastructures in certain areas.

[2] ERG (08) 20 final, October 2008.

However, the evolution of the market since the adoption of the Common Position in 2008 has led to new challenges. Some NRAs have had to deal with a different market situation, where infrastructure-based competition on its own is deemed to be sufficient to ensure effective competition on the retail level in some areas. Some of these cases have resulted in Phase II investigations by the European Commission, also providing BEREC with the opportunity to give further insight on this matter. In addition, it appears that the roll-out of NGA networks could impact the degree of infrastructure competition in some areas, a factor that has been acknowledged by the European Commission when dealing with the issue in its Recommendation of 20 September 2010 on Regulated Access to Next Generation Access Networks (NGA)[3].

(8) Taking these developments into account, the aim of this review is to provide further guidance to NRAs on the issue of geographical segmentation. The final output of this BEREC project will be an updated Common Position on geographical aspects of market definition that takes the new guidance into account.

II. Basic principles

(9) A central message of this report is that the assessment of geographical differences in competition is, in principle, a task for the individual NRAs to carry out, as clearly stated by the Framework Directive. The Framework Directive states that the European Commission shall adopt a Recommendation on Relevant Product and Service Markets which '*shall identify those product and service markets within the electronic communications sector the characteristics of which may be such as to justify the imposition of regulatory obligations set out in the Specific Directives […]*'[4]. The recommendation thus focuses on the identification of the relevant product and service markets that may be susceptible to ex-ante regulation. Regarding the geographical dimension of the markets, the Framework Directive states that '*National regulatory authorities shall, taking the utmost account of the recommendation and the guidelines, define relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory, in accordance with the principles of competition law*'[5], thus making it clear that defining the geographical dimension of markets is a task which, in principle, is assigned to each NRA, which has the experience at national level to determine the national boundaries within its territory.

(10) National NRAs have, through the years, built up the necessary experience to deal with the complexity of the assessment of the geographical dimension of markets, while taking utmost account of the guidance provided by the European Commission concerning the definition of geographical markets both in the SMP Guidelines[6] and in the Explanatory Note to the 2007 Recommendation on Relevant Markets[7]. The relevance of the geographical dimension of markets has also been recently highlighted in the 'Report on

[3] (2010/572/EU) OJEU L251/35 of 25 September 2010.
[4] Framework Directive, Art. 15 (1).
[5] Framework Directive, Art. 15 (3).
[6] Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03), OJ C 165/6, 11.07.2002.
[7] Explanatory Note. Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (second edition) (C(2007)5406).

future electronic communication markets subject to ex-ante regulation'[8], which will serve as an input for the revision of the Recommendation on Relevant Markets by the European Commission.

(11) The SMP Guidelines state that for a proper assessment of the conditions of effective competition the geographical dimension of a product or service market has to be taken into account. The relevant market comprises an area where the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. The definition of the geographical market does not require the conditions of competition to be perfectly homogeneous. It is sufficient that they be similar or sufficiently homogeneous, and accordingly, only those areas in which the conditions of competition are 'heterogeneous' may not be considered to constitute a uniform market[9].

(12) For defining geographical markets, the SMP Guidelines lay down the same methods as for defining product markets, i.e. the assessment of the demand and supply-side substitution in response to a relative price increase[10].

(13) Further guidance is given in the Explanatory Note: '*Investment in alternative infrastructure is often uneven across the territory of a Member State, and in many countries there are now competing infrastructures in parts of the country, typically in urban areas. Where this is the case, an NRA could in principle find sub-national geographic markets. […] The fact that competitors have a supply area which is not national does not suffice to conclude that there are distinct markets. Further evidence relating to demand-side and supply-side substitutability on the relevant market will have to be considered. Regional competitors can indeed exercise a competitive pressure reaching beyond the area in which they are present when the potential SMP operator applies uniform tariffs and the regional competitor is too large to ignore. Moreover, there should be evidence that the pressure for regional price differences comes from customers and competitors and is not merely reflecting variations in the underlying costs.*'[11]

(14) The Explanatory Note also allows for the possibility of differentiating remedies if no subnational markets can be defined.[12]

(15) According to the SMP Guidelines, the starting point for the definition of the relevant geographical market is the hypothetical monopolist test. This might result in a large number of very narrow markets that are not conclusive for the purpose of market analysis (and imposition of remedies). For example, a price increase of 5–10 % for broadband access services very probably will not make a customer move home to a different part of the country or induce an operator to roll out its own infrastructure in a new area.

(16) To come to conclusive results, it might, therefore, be helpful to aggregate geographical areas into several geographical markets, with each market comprising all areas that have sufficiently homogeneous competition conditions, differing from those areas of the neighbouring market(s).

[8] Available at https://ec.europa.eu/digital-agenda/en/news/future-electronic-communications-markets-subject-ex-ante-regulation
[9] SMP Guidelines, paras 55–56.
[10] SMP Guidelines, para. 57.
[11] Explanatory Note, page 12.
[12] Explanatory Note, page 13.

III. Main cases since the approval of the 2008 Common Position

(17) Since the adoption of the Common Position in 2008, there have been several cases of market analyses related to geographical aspects[13]. Based on the delineation of the relevant product markets, NRAs found structural and behavioural evidence that in some areas, mainly major cities, the competitive conditions allowed for the definition of subnational markets.

(18) The cases associated with geographical market segmentation have been considered in the context of the Article 7 procedure[14], resulting in either Phase I comments letters or Phase II serious doubts from the European Commission. The Phase II cases are of particular interest, as they include not only the comments and/or serious doubts by the European Commission but also the opinion of BEREC. The four Phase II cases that have arisen since the end of 2008 are briefly introduced in this overview along with the comments and conclusions of the different parties involved.

(19) In case ES/2008/0805, the European Commission opened a Phase II case on the proposed geographical market definition by the Spanish NRA, CMT, for the wholesale broadband access (WBA) market. CMT proposed a geographical segmentation of remedies defining two areas: a more competitive and a less competitive area. The more competitive area included those local exchanges where either (i) the coverage of the cable operator was at least 60 % and two of the three main national LLU operators were present or (ii) the three main national LLU operators were present and the market share of the SMP operator was below 50 %. In this more competitive area, the proposed remedies were lighter than in the less competitive area, basically through the withdrawal of the cost orientation obligation.

(20) According to the comments letter of the European Commission, CMT failed to provide sufficient evidence of the heterogeneity of competitive conditions across the national territory, which would have justified a geographical differentiation of remedies. In particular, the European Commission considered that differentiated market conditions justifying a geographical market/remedies segmentation should be characterised by factors such as (i) different commercial strategies in the different areas, (ii) indications of lower average retail prices in the more competitive areas, (iii) differences in the functionalities or types of services offered in both areas, (iv) decline of the incumbent's market share both at retail and wholesale levels, (v) stability of the boundaries between areas, including the question of whether or not NGA deployment would be likely to modify the competitive conditions and affect such boundaries, and (vi) evidence of an overall trend towards effective competition in the more competitive areas. According to the European Commission, CMT had failed to meet those requirements.

(21) By contrast, the opinion of the Independent Regulators Group (IRG, a predecessor of BEREC)[15] mainly supported CMT's segmentation of remedies within the market, based

[13] Some significant cases had already been discussed in the 2008 Common Position, including, for instance, cases UK/2007/0733 and AT/2007/0757 on wholesale broadband access (WBA). As in the case PT/2008/0851 on WBA, the relevant geographical unit was based on the local exchange/MDF. Other cases related to terminating segments of leased lines with comments from the European Commission were, for example, cases UK/2003/0035-0039 and AT/2006/0508.

[14] According to Articles 7 and 7a of the Framework Directive, the findings of market definition and of SMP assessment as well as – if applicable – the proposed remedies have to be notified to the European Commission and other NRAs. The aim of this EU notification, called the Article 7 procedure, is to contribute to the development of a single market in electronic communications by ensuring cooperation among NRAs, and between NRAs and the European Commission.

[15] IRG (09) 01 Phase II case Spain 090116.

on the evidence available. According to the IRG, either the unstable character of the borders, or the fact that retail price differences by alternative operators reflected the use of different wholesale products (and not necessarily different market pressure), or the existence of a national pricing policy by the SMP operator, justified the definition of a national market, as proposed by CMT. The IRG additionally agreed with CMT that the evidence appeared to justify geographical differentiation of remedies within the national market, in order to take account of the observed geographical variations in competitive conditions at the retail level. In the end, however, CMT modified its draft measure and defined the market (and the remedies) along national lines.

(22) Concerning case CZ/2012/1322 on WBA in the Czech Republic, the Czech NRA, CTU, decided to divide the geographical market into two different areas based on observed differences in the competitive conditions. The criteria employed related to barriers to entry, number of suppliers, distribution of market shares, pricing and price differences.

(23) The European Commission commented on the lack of evidence supporting the division into two geographical markets, mainly based on the indirect constraints exercised by retail offers of cable and Wi-Fi operators on the WBA market. The Commission questioned, in particular, whether the arguments concerning the retail market would be sufficient to identify two separate wholesale geographical markets. BEREC's opinion[16], however, concluded that CTU did provide sufficient evidence showing that significant differences in competitive conditions existed in the WBA market. BEREC, in any case, emphasised that its conclusions regarding Wi-Fi were the result of the specific position of this technology within the Czech Republic. BEREC noted that CTU had proposed a classification according to which communities where at least three technologies were available and where the market share of the incumbent operator did not exceed 40 % belonged to the competitive segment of the market. In addition, the criteria and analysis largely followed the 2008 Common Position. Notwithstanding BEREC's favourable opinion, the European Commission, nevertheless, vetoed the Czech draft decision (also taking other concerns into account).

(24) For the WBA market in Poland, in case PL/2012/1394, the Polish NRA, UKE concluded that the competitive conditions were significantly different in several communes, based on the assessment of the competitive situation at the retail level as documented by structural and behavioural criteria. The European Commission raised serious doubts, stating that UKE had used historical data to define the relevant market, in contradiction to a more recent market analysis and a lack of sufficient evidence of regional market differentiation. In the more recent market review (rejected by the European Commission for reasons independent of market definition), UKE had found that the market was national in scope, with SMP at national level, and had proposed geographically differentiated remedies.

(25) In BEREC's opinion[17], the serious doubts of the European Commission were justified, in particular based on the insufficient assessment of the demand-side for WBA and arguments concerning the impact of potential competition. BEREC was concerned about two datasets producing rather different results, being apparently outdated, inaccurate and not reflecting adequately the real state of the market. In the end, the European Commission vetoed the Polish draft decision.

(26) The most recent market analysis in which segmentation of subnational geographical markets was an issue is case AT/2013/1442-1443 for leased lines in Austria, reporting a revision from heterogeneous products and areas towards a single wholesale market. The Austrian NRA, RTR, defined one single product market for low and high capacities offered in a national geographical market under similar competitive conditions. In the

[16] BEREC, 10 July 2012, BoR (12) 69.
[17] BEREC, 14 January 2013, BoR (13) 01.

previous corresponding market analysis of 2008 (case AT/2008/0836), RTR had, however, determined a differentiated product market for low- and high-speed leased lines and concluded that there was geographical segmentation excluding ex-ante regulation in 12 cities.

(27) Regarding the latest analysis, the European Commission raised serious doubts based on the absence of a sound substitutability analysis founded on more detailed data for the market definition, suggesting that competitive conditions identified in 2008 for the 12 cities remained unchanged for high-speed leased lines. Particularly in those areas, based on market shares for this part of the market, the duplication of infrastructure might, according to the Commission, be economically feasible.

(28) BEREC's opinion[18] concluded that RTR did not provide enough support, based on the proposed chain of substitution of low- and high-speed products, for a homogeneous product and geographical market definition. BEREC suggested providing more evidence about market delineation in terms of product substitutability in different geographical areas. In the end, the European Commission vetoed the Austrian draft decision.

(29) With regard to the position of other NRAs on the issue of geographical segmentation, as detailed in the European Commission's Phase I comments letters as well as in the contributions by NRAs for the preparation of this report, Finland, Ireland and France have had relevant experiences in the broadband markets, while the issue of geographical segmentation has been addressed for leased lines in Belgium and the United Kingdom[19].

(30) In its latest market analysis of Market 5[20], the Finnish NRA, FICORA, defined 111 separate area markets on the basis of municipality-level market data (one area market included part of a municipality, one municipality or a group of municipalities). This is because in Finland there are several area (incumbent) operators, with no fixed network operator owning a nationwide network. The pricing and the number of players varied greatly between the areas, which according to FICORA would show that the relevant geographical markets were not national and there was a need to define subnational markets.

(31) In France[21], Market 5 is defined as national. Until 2011, price regulation also had a national scope, where tariffs had to be cost oriented, unless it would result in a tariff squeeze for efficient new entrants. In 2011, it was concluded that no price regulation should be required in those instances in which an alternative bitstream offer is available (cost orientation applying elsewhere). In particular, the obligation to set wholesale prices above the costs of an efficient alternative operator has been removed from the scope of the obligations that are applicable to the SMP operator in areas where the said alternative wholesale offers are available.

(32) In Ireland, ComReg has also effectively differentiated its price control remedies on a geographical basis, under its recent decisions on 'Next Generation Access remedies for markets 4 and 5' and 'Price regulation of bundled offers' (amending remedies in Markets 1 and 4)[22]. The decisions effectively allow for more flexibility in the wholesale and retail pricing of the incumbent's line rental and broadband bundles within a specific geographical area identified by ComReg as the LEAs (Large Exchange Areas). ComReg differentiated its approach to such remedies in the LEAs on the basis that increased

[18] BEREC, 3 June 2013, BoR (13) 73.
[19] Cases relating to trunk segments of leased lines will not be discussed, as in those instances the geographical nature of the market is usually implicit in the fact that investment decisions are normally taken not by area but by destinations, making it more appropriate to consider connections between geographical points (routes) as appropriate units.
[20] Notified to the EC under cases FI/2012/1328–1329.
[21] Cases FR/2011/1213–1214.
[22] Notified to the EC under cases IE/2012/1404 and IE/2012/1381–1382, respectively.

infrastructure-based competition continues to emerge in such areas, but remains at a sensitive stage of development. The amended price control remedy within the LEA was coupled with comprehensive transparency and non-discrimination remedies, which ensure the appropriate application of the net revenue test and margin squeeze remedy.

(33) In its most recent review of the terminating leased lines markets[23], Ofcom defined an additional geographical market in the Western, Eastern and Central London Area (WECLA)[24], expanding on its earlier findings in which it had concluded that there were differing competitive conditions in the Central and Eastern London Area (CELA). Ofcom defined a separate WECLA geographical market for the following products:

- medium-bandwidth traditional interface symmetric broadband origination (TISBO) (from 8 Mbit/s up to and including 45 Mbit/s);
- high-bandwidth TISBO (from 45 Mbit/s up to and including 155 Mbit/s);
- alternative interface symmetric broadband origination (AISBO) (up to and including 1 Gbit/s);
- multiple interface symmetric broadband origination (MISBO) (over 1 Gbit/s).

(34) The reason for defining a separate WECLA market was the presence of a rival infrastructure in the area and the lower level of BT's market share relative to the rest of the UK. Ofcom defined a national market in the rest of the UK (excluding Hull) for low bandwidth TISBO (up to 8 Mbit/s) and very high-bandwidth TISBO (622 Mbit/s).

(35) Regarding retail leased lines[25], the Belgian regulator, BIPT, has proposed that the margin squeeze test would not apply to retail leased lines in areas where at least two optical fibre lines are deployed by operators other than the SMP operator, to allow the SMP operator to compete on prices in those well-defined areas.

IV. Necessity of undertaking a geographical analysis

(36) The first question that needs to be addressed in an assessment of the geographical boundaries of relevant markets is whether or not and under what circumstances there might be a need to adopt a geographically differentiated approach. This question may raise particularly complex issues in Member States characterised by the development and entry of alternative network operators.

(37) Historically, geographical market definitions mainly followed the area(s) covered by the network(s) of the incumbent telecommunications network operator(s). As regards fixed network markets, in most cases there is only one incumbent operator, which operates on a national scale and, therefore, most market definitions have tended to be national in scope[26]. However, in some countries there are several incumbent operators of fixed networks with less than national coverage, each of which operates in a different area. In these countries, markets have usually been defined according to the area covered by each of these operators. Examples are Finland, Hungary and the Hull area in the UK. This approach of using the network coverage of the incumbent(s) as a determining criterion for geographical market definition has been used in several market reviews and has remained undisputed by the European Commission and national courts.

[23] Case UK/2013/1428.
[24] In addition to the separate market existing in the Hull area, where a separate SMP operator operates.
[25] Notified to the EC under case BE/2013/1474.
[26] For mobile markets, where usually most or all network operators have national coverage, geographical market definition of the kind discussed here may not be as relevant.

(38) The importance of geographical aspects of market analysis has arguably increased over the past few years because alternative networks or operators have increased their coverage and market share. In some cases, competitive conditions may differ to such an extent that the definition of a national market cannot be justified and it is, therefore, necessary to define the geographical scope of the relevant markets as subnational, be it regional or local. Alternatively, it may also be possible to justify the definition of a national market but to differentiate regulatory remedies within that national market.

(39) In these cases, a geographical analysis requires a significant amount of detailed information that can be costly and time-consuming to gather and, under certain circumstances, could be considered to represent a disproportionate burden. The aim of this section is to provide guidance to NRAs on the indicators that could, if met, justify such a detailed analysis. For this purpose, we refer to (a) the main competitive developments that highlight the growing importance of the geographical analysis dimension and (b) the indicators that should be considered before carrying out the analysis of homogeneity of the competition conditions.

a) Main competitive developments that affect the geographical analysis dimension

(40) Since 2008 (date of the approval of the 2008 Common Position), a further increase in the coverage of networks and operations of alternative providers has taken place. The recent Digital Agenda Scoreboard[27], issued by the European Commission, illustrates the evolution of further network penetration across countries in the last couple of years as presented by the indicators of broadband supply and uptake.

(41) The increasing coverage by multiple infrastructures and the presence of alternative operators across the territory in Member States can be linked to three discernible developments:

- Existence of alternative providers using LLU: alternative operators making use of regulated access to the incumbent's copper network have expanded operations by covering an increasing percentage of MDF locations or started to move along the ladder of investment by using physical access to the incumbent's network instead of only procuring bitstream WBA.
- Availability of other technologies (cable, Wi-Fi, mobile broadband): incumbent operators are faced with stronger competition at the retail level by operators that are making use of alternative technologies[28]. In some Member States, cable companies have a strong position at the local, regional or even national level and these companies have – across the board – invested considerably in upgrading their networks to offer bundled services of voice telephony, broadband internet access and television. In various Member States, different types of operators have started to roll out a network of Wi-Fi hotspots mostly in densely populated areas, allowing customers to access the internet in an increasing number of areas in the country. Finally, the demand for and use of mobile broadband has taken off significantly in the last 2 years and the auction and the corresponding allocation of frequency spectrum allows operators to build long-term evolution (LTE) networks. Operators will offer (in some cases, are already offering), possibly across a large part of the territory of the Member States, a service of high-speed broadband access allowing consumers a possible alternative to fixed-line services in the coming years.

[27] The scoreboard is accessible at http://ec.europa.eu/digital-agenda/en/scoreboard.
[28] Whether or not such technologies are likely to fall within the same product market will have to be assessed by NRAs, as appropriate.

- NGA roll-out: last but not least, the development of high-speed fibre networks – either on the basis of public or private intervention, or even via public–private partnerships – is starting to increase its pace, a feature which may fundamentally change the landscape of fixed infrastructures. At the local or regional level, through a process of demand aggregation or active targeting of residential and business segments, alternative operators that have invested in the roll-out of fibre-based networks may exert a constraint on the incumbent operator, when the latter is not the most important investor in fibre itself. In addition, the upgrade of the copper access network (to fibre) may diminish the competitive pressure exerted by LLU operators in Market 5.

  On the other hand, in the rural or less commercially attractive areas, it is worth noting that there may be publicly funded networks, which are usually based on NGA. Those networks are present in different geographical areas of a given country, a factor which may affect the market analysis and SMP assessment, taking into account that, according to the state aid framework, access to these networks should in theory be neutral and open to third parties, ensuring certain competition at the wholesale level.

(42) The investments in the roll-out of other than copper-based infrastructures and the start or further development of operations at the local or regional level might lead to a patchwork of areas that differ in terms of the number of available infrastructures, number of active operators and competitive conditions.

(43) In any case, BEREC considers that the impact of the above-mentioned developments depends on the product market definition. In particular, in order to be able to take those technologies and developments into account, the NRA will have to effectively demonstrate that the services provided over such infrastructures are suitable product substitutes. This analysis is, however, outside the scope of this report and will, accordingly, not be discussed further.

b) Indicators of the need to undertake a geographical analysis

(44) As noted, the relevance of the geographical analysis has grown over the years.

(45) This process can be very costly and time-consuming, both for the NRA and also for the operators, which have to provide a significant amount of detailed information. For this reason, guidance is provided below on a set of relevant indicators, which require gathering less information, and which NRAs could consider before undertaking a full geographical analysis. BEREC considers that, to determine whether the evidence points to the existence of local geographical markets or a national market, NRAs should employ, analyse and check the criteria for the analysis of homogeneity of competitive conditions.

(46) In particular, the coverage of alternative regional/local infrastructures and the competitive constraints posed at the retail level by active operators based on these infrastructures is a natural starting point for the analysis. A clear overview regarding the different networks, active operators and product characteristics in a given geographical area, as well as regarding the commercial offers and – importantly – if they are differentiated from offers in neighbouring areas (for example, if there are differentiations in terms of availability of certain services, bundles, etc.) are all parameters which could be taken into consideration.

(47) Additionally, the number of operators offering their retail services in a particular geographical area and the (relative) size of these operators, preferably complemented by the local (development of the) retail market share of the operators, may provide factual information about the position of operators in separate geographical areas.

(48) Pricing and price differences are relevant criteria for performing a geographical analysis, but should be assessed and interpreted carefully. In particular, the analysis of prices

must take place within the relevant context of the specific market analysed. If prices of the incumbent and alternative operators are geographically uniform, that is, do not differ between geographical areas, this may be an indication of insufficient geographical variations in competitive conditions to justify the definition of subnational geographical markets.

(49) This is, however, not always the case. An NRA should always check underlying facts possibly indicating the opposite. If the prices of the incumbent are geographically uniform but the prices of the alternative operators with national coverage differ between geographical areas, particularly between competitive and less competitive areas, the indications for a national market are less clear. In this situation, the common pricing constraints may not be a good argument for a national market despite the existence of a national uniform price of the incumbent operator. An important factor then will be the size of the more competitive and the less competitive geographical areas, as well as the balance between the benefits and costs for the incumbent operator of deviating from a geographically uniform price. Alternatively, if the incumbent operator does not set a uniform retail price, this could indicate differences in competitive conditions, but could also be merely the result of differences in underlying costs. This discussion (which is not new) shows that a careful analysis of available information is required from NRAs.

(50) A more detailed discussion of the issues pertaining to pricing considerations is provided in the sections below (see in particular Section 5.5).

V. Product markets affected by a geographical segmentation of markets/remedies

(51) The definition of the relevant geographical markets has always been part of the market analyses that could affect all relevant markets within the electronic communications sector. Indeed, the Framework Directive has assigned this task primarily to NRAs. The European Commission has also acknowledged the possible existence of subnational markets in the Explanatory Note accompanying the Relevant Markets Recommendation of 2007[29]. BEREC has also recognised the importance of this aspect within the market analysis procedure.

(52) In the following sections, the markets potentially affected by geographical aspects of market definition are described.

a) Broadband services

(53) Although this Common Position addresses all relevant electronic communications markets contemplated by the ex-ante review process, it focuses primarily on broadband services and, in particular, on the provision of WBA (included in Market 5[30]).

(54) The increase in broadband penetration has, in many countries, led to a rise in the number of unbundled local loops, as well as a rise in the number of alternative network operators offering end-user products not only on the basis of the LLU but also on the basis of wholesale products, in particular WBA. These operators often had subnational

[29] Commission's Explanatory Note. Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (second edition) (C(2007) 5406).

[30] In this regard, and as a factor that was taken into account when deciding to focus on broadband markets, it is worth noting that when drafting the 2008 Common Position, the United Kingdom had just notified Market 5 with subnational markets, while Austria had just notified geographically differentiated remedies on a national Market 5.

networks only, either because they were regional carriers and thus concentrated in one or a few regions, or because the number of MDFs that could have been unbundled in an economically viable way was limited. This potentially resulted in market conditions varying significantly inside one country.

(55) Therefore, Market 5 has generally been considered to be the market most likely to be susceptible to an analysis of whether a national market definition/national remedies still reflected reality or a subnational geographical market definition/geographically differentiated remedies would be more appropriate.

(56) However, other wholesale markets, linked to the provision of broadband services, but also to other retail services, such as leased lines or fixed telephony, could be affected by the developments observed in the electronic communications sector. As mentioned above, technological changes and progressive investments of alternative operators have allowed these operators to climb the ladder of investment and, more importantly, the roll-out of new networks in parts of Member States' territory.

(57) BEREC considers that these developments principally affect broadband-related wholesale markets, thus confirming that Market 5 is still one of the contexts in which geographical segmentation is most likely to be justified.

(58) Likewise, the situation described above might lead to more than one infrastructure existing in certain regions, but not necessarily throughout the whole country or not in one step: the coverage of alternative operators (including cable TV operators) is often regionally limited, and large-scale investments for the roll-out of NGA networks will be implemented over a longer time frame. As a result of the roll-out of alternative infrastructures, the competitive conditions might vary significantly not only in Market 5 but also in Market 4, as recognised in more recent documents, most notably in the NGA Recommendation and in BEREC's 'Report on co-investment and SMP in NGA networks'[31]. In particular, the focus of BEREC's report lies on co-investment projects that offer wholesale access on layer 1 and should, therefore, be considered within the scope of Market 4[32].

(59) In conclusion, the focus is on Markets 4 and 5, also including the interdependencies between these markets.

b) Other electronic communications services

(60) In addition to the above-mentioned markets, other electronic communications services have marked geographical aspects too, although these aspects also depend on the precise product market definition and national circumstances.

(61) In the case of Market 6, the market definition itself (wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity) already holds an element of geographical delineation. However, the delineation of the terminating segment depends to a high degree on the network topology. As these vary significantly from country to country, drawing general conclusions seems to be more difficult.

(62) Regarding fixed telephony, a major recent development is the increasing importance of bundled products. Typical bundles include access to the public telephone network, a flat rate for calls and internet access. Bundles can also include additional components, such as TV and mobile services. This trend could lead to the assimilation, for a group of customers, of the competitive situations of broadband and fixed telephony services as regards the geographical aspects pointed out in the previous section.

[31] BoR (12) 41. With regard to this report, see the section below on the implications of the geographical analysis of the upgrade of current networks.

[32] If co-investment projects offer third-party access on layer 2 or 3 in the form of a bitstream access product, they are typically players in Market 5. However, this type of access is not the focus of the Report on Co-investment.

(63)In this regard, in the retail/wholesale markets for access to the public telephone network at a fixed location, some differences in the competitive situation can be observed across the national territory. Thanks to better economies of scale, densely populated areas often feature more than one infrastructure. In parallel to the classic copper networks, incumbents and competitors are already expanding TV cable networks, fibre networks and mobile communications networks. If the retail/wholesale markets for access to the public telephone network are not yet fully competitive, it might be appropriate to have geographically differentiated remedies.

(64)On the other hand, the fact that voice-only customers may not be served by alternative operators, because of, for example, lower profitability, could reduce differences in the competitive conditions observed in this market. However, this will depend very much on the national circumstances, the penetration of bundled offers, etc. In conclusion, the roll-out of alternative infrastructures increases the relevance of the geographical scope of the relevant markets.

(65)For these reasons, **the focus is mainly on Markets 4 and 5**, although BEREC considers that geographical differences in competitive conditions may also be observed in other product markets, such as leased lines or fixed telephony markets.

VI. Proposed analysis to assess differences in the competitive situation

(66) Once the NRA has decided that, according to a preliminary analysis (as described in Section III.b above), a detailed geographical analysis is required, some important factors arise. In this section, BEREC deals with (i) the implications of geographical analysis on retail markets, (ii) the impact of retail competitive pressures in Markets 4 and 5, (iii) the standard market structures to be tackled by NRAs, (iv) the choice of the geographical unit, (v) the assessment of homogeneity on competitive conditions, (vi) the thresholds to aggregate geographical areas and (vii) the impact of NGA roll-out in the current observed competitive conditions.

6.1. Importance of retail conditions

(67)The main goal of ex-ante regulation is to remove or minimise any harm caused to consumers, especially when caused by a lack of effective competition[33].

(68)According to the methodology explained in the European Commission's Recommendation on Relevant Markets[34], the definition and identification of relevant wholesale markets should begin with a delineation of the relevant product markets at the retail level over a period of time, an appraisal of the size of the geographical market and an assessment of the competitive pressures to which they are subject on the demand and supply sides.

[33] See Framework Directive.

[34] Commission Recommendation of 17 December 2007 (2007/879/EC).

(69) Markets 4 and 5 are clear input markets to the retail broadband market, and the European Commission recommends[35] that the analyses of these markets be performed together.

(70) The harm felt at the retail level is caused, in general, by problems where there is insufficient infrastructure competition and/or a lack of effective wholesale access. Since these markets belonging to the same value chain are interdependent, existing or potential competition problems at the retail level should first be dealt with at the highest level of the value chain and not at the retail level or in intermediate wholesale markets. Only if the intervention in these upstream markets, such as forcing the SMP operator to give access to its infrastructure in an efficient manner, does not resolve the existing or potential competition problems at the retail level should NRAs consider intervening in downstream markets (and ultimately in the retail market).

(71) The 'modified greenfield approach' to be adopted in the analysis of wholesale markets is consistent with this view: those wholesale markets positioned higher in the vertical value chain should be analysed first, and only once the regulation (if any) imposed (or to be imposed) on these markets has been taken into account should the SMP analysis be performed in markets lower down the value chain[36]. If an intervention in one wholesale market is sufficient to solve the existing downstream wholesale or retail issues, there is no need to intervene in other intermediate markets (e.g. if intervening in Market 4 is sufficient to solve any possible problems in the retail broadband market, there is no need to intervene in the intermediate market, Market 5).

(72) Following this logic, it can also be concluded that if, in the absence of regulation, there are no problems identified at the retail level, there is, in principle, no need to intervene in the related wholesale market(s) (assuming that it has been concluded, on the basis of the modified greenfield approach, that efficient retail conditions are not reliant on the subsistence of wholesale regulation)[37].

(73) BEREC has extensively analysed the relationship between retail and wholesale markets and the way the competitive pressure exerted in downstream markets should be reflected in the assessment of upstream markets[38]. As stated in BEREC's 'Report on self-supply', '*the competitive pressure exerted by alternative infrastructures such as cable, fibre, mobile connections or other technologies will normally have been addressed by the NRA in the context of a retail market assessment, and will thus be determinative of the products that need to be considered when dealing with indirect constraints*'.[39] In particular, BEREC has consistently noted that self-supplied services can be included in the wholesale market definition or in the wholesale market analysis stage of the review process if the strength of indirect constraints is, without regulation, sufficiently effective to have a material impact on upstream conditions[40]. In addition, the existence of a competitive wholesale market may be a factor of the competitiveness of the downstream/retail market. However, even in the presence of a notional wholesale market (not merchant), NRAs may find sufficient evidence to conclude that the related

[35] Section 4.2.2, 'Access to data and related services at fixed locations', of the European Commission's Explanatory Note.
[36] It is possible to review two markets together (rather than sequentially), as long as the outcome of the analysis of the higher market is then factored into the market operating downstream.
[37] One exception may result, however, from the existence of problems in the wholesale markets that may spill over into the related downstream/retail markets.
[38] See, for example, BEREC report on case ES/2008/0805 or CZ/2012/1322 as well as BEREC report on self-supply (BoR (10) 09, March 2010).
[39] BoR (10) 09, March 2010, p. 12.
[40] For instance, the conclusion by an NRA that cable does have sufficient competitive weight at the retail level will lead to a consideration of the pressure exerted by cable operators in the context of market definition or SMP analysis via indirect constraints at wholesale level.

downstream/retail market is competitive, especially if the market exhibits strong and sustainable inter-platform competition.

(74) Overall, BEREC considers that retail markets should be examined in detail, having regard to the necessity of regulating the corresponding wholesale markets and to the estimation of the importance and scope of self-supply for these markets. This is consistent with BEREC's view that an appropriate analysis of the retail level should normally be the first step in the relevant wholesale market analysis. The competitive analysis, as well as the strength of indirect constraints and the decision to incorporate self-supplied services, is a complex analysis that should be considered on a case-by-case basis. For this aim, BEREC has provided extensive guidance in its 'Report on self-supply'[41].

6.2. Existence of different competitive conditions in the context of Markets 4 and 5

(75) As has been pointed out, the markets specifically addressed in this document are Markets 4 and 5. To date, so far as these two wholesale broadband markets are concerned, NRAs have in general defined differentiated geographical markets and/or remedies in Market 5. NRAs have in most cases maintained a national geographical market definition for Market 4 regardless of any differences in retail competitive conditions[42]. This is generally because, in the context of Market 5, the competitive pressure exerted in certain areas by LLU-based competitors (which in itself cannot be considered within the Market 4 analysis) can be decisive when deciding about the degree of effective competition in Market 5. Additionally, it has to be acknowledged that indirect constraints have less importance when the market analysed is located in a higher level of the value chain: the indirect constraints caused by the deployment of an alternative network that is competing only at the retail level are higher in Market 5 than in Market 4.

(76) LLU ensures a certain level of intra-platform competition even in the presence of alternative platforms at the retail level. BEREC thus considers that the criteria set out above are relevant for assessing competitive conditions in both Markets 4 and 5. However, some aspects could be different. Barriers to entry in Market 5 could be reduced when LLU is available. Furthermore, the number of operators present in Market 5 would normally be greater, as account will be taken of operators entering the market based on upstream (Market 4) regulated offers.

(77) However, different competitive conditions cannot be excluded in Market 4 if inter-platform competition is strong enough to ensure effective competition on the retail market. In this case, an NRA may decide, on the basis of its market analysis, to proceed to geographical differentiation and thus to the deregulation of parts of Market 4. However, owing to the deregulation of LLU, intra-platform competition will not be present (at least not on a regulated basis). This might lead to a lower number of operators, increasing the importance of every remaining operator for competition at the retail level.

[41] BoR (10) 09, March 2010.

[42] The exception is Finland, where FICORA referred to different sub-markets in both Market 4 and Market 5 (concluding that 111 separate geographical areas exist for both product markets).

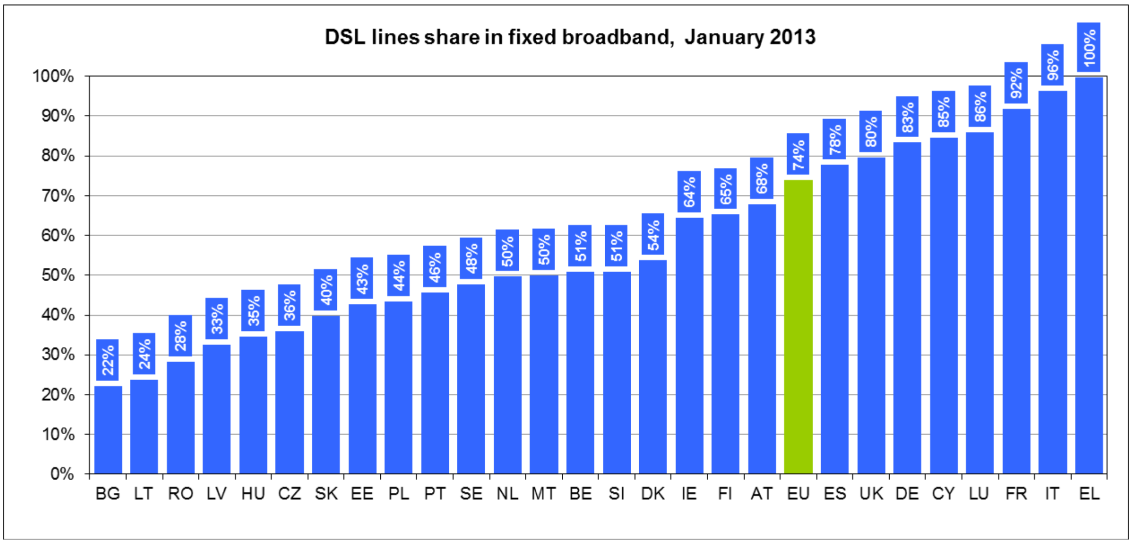
6.3. Typical situations to take into account in the geographical analysis

(78) In BEREC's opinion, the starting point of the market analysis, and, therefore, the starting point of the geographical analysis, should be the competitive conditions at the retail level, given that they inform the subsequent analysis at the wholesale level. In particular, according to the modified greenfield approach, the competitive conditions in the retail market should also be considered in the absence of regulation in the underlying wholesale market(s). The main purpose of imposing ex-ante obligations is ultimately to ensure the development of effectively competitive retail markets to the benefit of consumers. In this regard, although wholesale markets are relevant to fulfilling this objective, it is worth noting that infrastructure-based competition, under certain circumstances, may also be sufficient on its own to lead to competition on the retail market.

(79) The main aspects of the geographical analysis are the definition of the relevant geographical unit for the analysis and the assessment of the homogeneity of competitive conditions.

(80) These technical aspects will normally be considered by NRAs, in two main types of competitive situations. On the one hand, there are some Member States where wholesale remedies, particularly LLU, represent an important source of competition that, in some cases, is complemented by the presence, in certain areas, of an alternative network, normally cable. On the other hand, in other Member States, LLU is not so extensive, but there is an important source of competition derived from the presence of alternative infrastructures.

(81) The market situations described embrace the diversity of different competitive conditions in the Member States. As shown in the graph below (from the European Commission Scoreboard), the share of digital subscriber line (DSL) subscription in broadband services differs greatly among the different Member States, from 100 % in Greece or more than 90 % in France and Italy to less than 30 % in Romania, Lithuania and Bulgaria. In the latter group of countries, LLU cannot play the same role in the market as the role observed in the countries of the first group.



(82) Decisions of NRAs in both market situations (markets where competition based on LLU is intense versus other market situations) have led, as pointed out in section 2, to comments from the European Commission and even Phase II cases. Given the market shares of LLU-based operators and the importance of inter-platform competition with the

presence of cable operators, Austrian (AT/2007/0757), British (UK/2007/0733) and Portuguese (PT/2008/0850) notifications would be included in the first group of cases. In the second group, we identify the cases of certain countries that have joined the European Union more recently, where competitive conditions are slightly different, driven more by inter-platform competition and, to a lesser extent, by LLU. The Czech (CZ/2012/1322) and Polish cases (PL/2012/1394) discuss these divergences in the underlying competition conditions.

(83) BEREC considers, thus, that the analysis of the relevant variables of a geographical analysis – definition of the relevant unit and assessment of the homogeneity of competitive conditions – have to be considered, taking into account the following situations:

a. **Situation 1: retail competition mainly driven by wholesale access to copper network and alternative infrastructures.** This situation covers those Member States where competition in the retail market results simultaneously from the use of LLU, WBA, resale (or other wholesale services until now usually related to copper networks) and the deployment of alternative networks (e.g. cable, FTTx) by (alternative) operators.

b. **Situation 2: retail conditions mainly driven by inter-platform competition.** This situation covers the dynamics of some Member States, where inter-platform competition is the main driver of retail competition. This is normally the case when the penetration of alternative infrastructures is high. These infrastructures will be based on technologies such as cable, mobile, fibre to the *x* (FTTx) or WI-FI, according to the precedents in Article 7 procedures. In this context, NRAs should effectively demonstrate that these technologies are capable of delivering the same features as copper-based services. This analysis will be part of the product market definition and is, therefore, outside the scope of this document.

(84) Both of these situations pose some challenges regarding the choice of the geographical unit and the criteria used to aggregate the relevant areas, as detailed below. Normally, in both cases, the SMP operator is the only one providing a reliable wholesale offer across the national territory on a regulated basis. However, this fact should not preclude, per se, the existence of different competitive conditions in different geographical areas, even at the wholesale level.

(85) Finally, the upgrading of traditional copper-based networks (e.g. vectoring and very-high-bit-rate digital subscriber line 2 – VDSL2 – subloop) also poses a challenge in relation to the sustainability of the competition levels observed when LLU is the main competitive pressure at the retail level, because the possible closing of local exchanges may significantly decrease the possibility of LLU use. In a forward-looking approach, this fact should also be taken into account when performing the geographical analysis.

6.4. Choice of the relevant geographical unit in subnational markets

(86) Generally, the choice of distinct geographical units should satisfy the following criteria:

a. They are mutually exclusive and less than national.

b. The network structure of all relevant operators and the services sold on the market can be mapped onto the geographical units.

c. They have clear and stable boundaries.

d. They are small enough for competitive conditions to be unlikely to vary significantly within the unit but at the same time large enough that the burden on operators and NRAs with regard to data delivery and analysis is reasonable[43].

(87) Condition b would be less relevant if competition resulted mainly from alternative operators using LLU, as these operators would have had to rely on the incumbent's network. However, as more alternative infrastructures are rolled out, the more difficult it becomes to map the network structure of all relevant operators onto one geographical unit on the basis of network structure parameters (e.g. MDF region). TV cable operators have their own – also historically grown – infrastructure that is typically different from that of the incumbent, especially in the access part of the network. The same can be said for operators rolling out alternative infrastructures such as fibre, based on plans for optimising their networks.

(88) In some countries, other criteria for the choice of distinct geographical units may be considered. For example, FICORA considers administrative units a good criterion for the geographical definition of markets[44]. Meanwhile, in other countries, networks are not likely to follow political or organisational units, such as municipality borders or postcodes, but are generally built according to technical rules optimising their network structure. Even if the alternative infrastructures can be mapped onto one administrative unit, the infrastructures might cover only part(s) of a municipality or a postcode, thus leading to different competition conditions inside this unit and, therefore, making it unsuitable for the purpose of the geographical segmentation of markets (i.e. a smaller unit has to be found).

(89) Condition c means that the geographical boundaries have to be easily understood by all market parties. This will usually be the case for political units[45]. The network structure of the incumbent operator, on the other hand, might not be available to all market parties and might also change in the course of time. Therefore, when using the network structure of the incumbent operator as a geographical unit, NRAs should make sure that sufficient information is available to all market parties and should consider the likelihood of future changes in the network structure and their possible impact on the geographical analysis. With the transition to NGA, for example, a phasing out of MDFs may become likely. This needs to be taken into account when the appropriate geographical unit is determined[46].

(90) Condition d reflects a pragmatic constraint: if they are too small, they are not suitable for the purpose of market definition; if they are too large, the competition conditions will probably vary within the unit. However, markets should also be large enough that the burden on operators (with regard to data delivery) and the NRA (with regard to the analysis) is not unduly heavy. In some cases, it might be useful to start with a unit which is large enough to be subject to an investment decision by an operator. Such an area can be quite small, e.g. as large as a small village in the case of fixed networks[47], but is unlikely to be as small as a single premises[48].

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[43] As noted below, the choice of a geographical unit that is too small may lead to a very significant number of units (even in the thousands). Although the aggregation of geographical areas may reduce the administrative burden derived from this, it is, nevertheless, a factor that may have to be weighed carefully by the NRA before it decides on the appropriate geographical unit.

[44] In Finland, networks match political or organisational units quite well, as historically the operating areas of each incumbent operator were divided by political units. This makes the municipality or postcode area a particularly apt criterion for undertaking a geographical analysis.

[45] Note, however, that postcodes and political districts may also change over time.

[46] ERG (08) 20 final, p. 11.

[47] Cable network operators, for example, sometimes have very small areas of coverage.

[48] However, this may be the case where investments are incremental to current network build, e.g. for termination segments of leased lines.

(91) The number of geographical units will depend on the circumstances of the case; however, as experience shows, the number will usually be significant and may even go up to several thousands[49]. Although it would theoretically be possible to make a separate SMP analysis for each of these units, it is likely to be more appropriate and more practical to aggregate units according to the homogeneity of competitive conditions, consistent with the SMP Guidelines.

(92) BEREC notes that, in choosing the most appropriate geographical unit, the NRAs should assess how the different options for the geographical unit being considered answer the challenges posed by the four conditions listed above. The advantages and disadvantages of each possible choice should be analysed by the NRA, and the geographical unit that best fulfils these characteristics should be the one chosen.

6.4.1. Situation 1: retail competition mainly driven by wholesale access to the copper network and alternative infrastructures

(93) The market situation consisting of a mix of operators using wholesale offers and operators with alternative networks leads to questions regarding the choice of the most appropriate geographical unit in a geographical segmentation situation. From the outset, it has to be said that the precedents analysed in 2008 continue to be the main experiences in this field to date, so the conclusions that were reached then are still applicable in the current situation.

(94) The bigger the difference between the topology of the incumbent operator's network and the topology of the alternative networks, the greater the complexity of the geographical segmentation analysis will be for NRAs.

(95) Consequently, in a market situation where there is only LLU on the copper network and there are no alternative networks, the area covered by the local exchange/MDF is expected to be the most appropriate geographical unit in case of geographical segmentation. In this case, the differences between geographical areas at the retail level will depend on the degree of competition introduced by LLU operators, and the LLU coverage achieved by these operators will ultimately depend on the footprint of the incumbent operator's local exchanges/MDFs .

(96) In contrast, if an alternative network is being deployed and its coverage gains relevance, the choice of the most appropriate geographical unit will be more complex, because the link between the competitive conditions and the location of the local exchange/MDF may significantly decrease.

(97) Depending on the specific situation, it can, therefore, be more appropriate to use as the geographical unit in the geographical segmentation (i) the incumbent operator's exchange area, (ii) the alternative network's topology[50] or (iii) an administrative geographical area, or others. The choice of the most appropriate geographical unit will depend on very specific details related to the characteristics of the networks and the markets.

(98) The relevant geographical unit should also be consistent with the product market definition, in particular regarding differences in the provision of electronic communications services related to certain customer segments. Thus, the homogeneity of competitive conditions within each relevant geographical unit should apply to all identifiable customer groups. Therefore, the NRA may have to take into account the characteristics of certain customers for whom any competing alternative infrastructure

[49] It is also worth noting that the choice of a sensible geographical unit may differ between markets.

[50] The choice of the alternative network's topology as the relevant geographical unit may present more problems the more alternative networks are present.

may not be suitable. In particular, high-end customers may have requirements, as noted by BEREC[51], that preclude the replacement of xDSL or fibre-based services by other technologies. Including all customer segments in the same geographical unit may not reflect the real competitive constraints faced by the incumbent operator.

(99) Finally, the complexity of the data required and the administrative burden of gathering it should also be taken into account. This factor has been put forward in certain cases to justify the definition of wider geographical relevant units. Although acknowledging this fact, BEREC considers that the decision to undertake an in-depth geographical analysis is in the hands of the NRA. Once there is evidence that such analysis is appropriate, and thus it is concluded that an in-depth review of the issues pertaining to geographical segmentation is necessary, the proportionality analysis should, however, not be determined by the costs of gathering the relevant data.

6.4.2. Situation 2: retail conditions mainly driven by inter-platform competition

(100) As stated above, the first step in the geographical analysis is establishing the geographical unit of reference. When the main source of competition is inter-platform competition, the incumbent's network topology is less relevant than in the previous situation. Alternative infrastructures are, in this case, deployed according to criteria which are completely different from those taken into consideration by wholesale access seekers who are dependent on the network of the incumbent operator.

(101) The indications contained in the approach set out in the European Commission's 'Guidelines on market analysis and the assessment of significant market power'[52] for defining geographical markets, based on the area covered by the network or the scope of application of legal and other regulatory instruments, may not be sufficient to identify all relevant differences in competitive conditions in electronic communications markets, defining geographical units which are too wide. For this reason, considering administrative criteria could be more appropriate whenever the NRA is able to prove that the competitive conditions are sufficiently homogeneous within the area included and sufficiently different from neighbouring areas.

(102) Indeed, Article 7 cases in this field show this evolution, defining the geographical markets on the basis of communes (PL/2011/1184, PL/2012/1394) or municipalities (draft notification CZ/2012/1322). Other NRAs have looked at other criteria, such as postcodes, although in the end disregarding them in Markets 4 and 5.

(103) In its opinion on the Phase II investigation opened by the European Commission on the basis of the Czech case mentioned above, BEREC agreed with the position of the Czech NRA (CTU) that geographical markets defined according to administrative areas/municipalities were justified[53]. This view was based on the observation that the differences in competitive conditions seemed to be mainly caused by the presence of alternative networks and not principally by LLU. Administrative criteria show, however, as do network topology criteria, some drawbacks linked to their heterogeneity. As in the case of local exchanges, the size of some administrative units could differ to a great extent. Without additional conditions, the uniformity of competitive conditions in bigger municipalities might not be ensured, since alternative operators may not have access to the full coverage of the geographical unit (as opposed to topology-based units such as local exchanges).

[51] BEREC 'Report on relevant market definition for business services', BoR (10) 46Rev 1, February 2011.

[52] Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03).

[53] See also FICORA's position regarding Markets 4 and 5, which have also been defined on the basis of administrative areas (municipalities). In that case, the European Commission raised no comments on this issue.

Given this risk, NRAs should ascertain that the criteria set above are fulfilled in all the units defined, because, if this is not the case, significant parts of the units may not be covered by some of the infrastructure considered.

6.5. Criteria for assessing the homogeneity of competitive conditions

(104) Once the most appropriate geographical unit has been identified, NRAs should assess whether or not the conditions of competition differ sufficiently from those prevailing in neighbouring areas. By definition, the competitive conditions within each geographical unit should be sufficiently homogeneous.

(105) BEREC considers that, when deciding on the homogeneity of competitive conditions, NRAs may verify and analyse the geographical differences in the market(s) under analysis at the retail level and at the level of the corresponding (wholesale) market regarding:

a. the barriers to entry into the market;

b. the number of operators that exert a relevant competitive constraint on the SMP operator;

c. the market shares of the SMP operator and the alternative operators;

d. price differences;

e. other aspects that may derive from relevant competitive differences between the geographical areas (e.g. marketing strategies, commercial offers and functionalities of the offers, nature of demand, etc.).

(106) BEREC is of the opinion that the discussion of the 2008 Common Position on these topics is still valid and covers all aspects contemplated in both Situations 1 and 2. Therefore, the discussion contained in the 2008 Common Position on these issues is introduced below[54].

(107) For the purpose of market definition, constraints by actual competitors are the most relevant to assess. Accordingly, market definition should be based on the actual conditions of competition, reflected by the behaviour of the market players (e.g. pricing) and the effect of their behaviour on market structure (e.g. market shares). As is generally the case in ex-ante regulation, the analysis of the criteria should also be forward looking and should – as far as possible – take into account developments until the next review. Where forward-looking evidence is used to inform market definitions, the evidence relating to future market developments should be as objective as possible based on past developments and a careful assessment of additional information, e.g. from questionnaires sent to undertakings on their business and roll-out plans.

Barriers to entry

(108) Generally, the differences in competition intensity are mainly a consequence of differences in barriers to entry, with new entrants going first in the areas with the lowest barriers. In communications markets, barriers to entry are usually related to economies of scale and sunk costs[55]. Therefore, one could attempt to analyse the degree of economies of scale and sunk costs in different geographical areas in order to draw conclusions about differences in competitive conditions. Economies of scale can be

[54] ERG (08) 20 final, pp. 13–16.
[55] Legal barriers to entry such as licensing areas might also be relevant in some circumstances.

more easily realised if there is more demand. Factors related to demand are, for example (and depending on the market considered), total income, household density, business site density and mobile phone base station density (representing demand for leased lines of mobile network operators). Although informative, none of these measures is likely to completely explain the extent of barriers to entry which may be caused by a number of (often unobserved) factors; neither are several of them taken together.

Number of suppliers

(109) A more direct measure, which also reflects barriers to entry, is the number of operators offering their services (or able to offer services) in a particular geographical area. This criterion has the advantage that it can usually be easily observed. In addition, it is not based on an 'abstract' analysis but shows how entry barriers are actually perceived by operators.

(110) The analysis required to identify the number of operators offering or able to offer services within an area may differ depending on the product market being considered. For example, in WBA where preliminary analysis has identified that any geographical variations in competitive conditions are being driven by investments by LLU operators, it may be appropriate to assess the number of operators able to provide services from each MDF[56]. In the case of other product markets, such as terminating segments of leased lines, where network investments tend to be incremental, some form of network reach analysis which requires assumptions to be made about build-or-buy decisions may be more appropriate to identify the number of operators.

(111) It is also important for NRAs to bear in mind that competitive conditions may not only differ with the number of operators but may also be related to their size. One way to account for this could be to look only at operators which have a certain market share or coverage on the national market. This criterion will be easy to apply and will also exclude operators which may exert only a limited competitive constraint on other operators.

Distribution of market shares

(112) One way to account more explicitly for the relative size of operators would be to look at the variation in local 'market' shares[57] across different geographical areas. Ideally this should include not only market shares at a particular point in time but also the development of market shares, particularly where the competitive conditions in the market are going through a period of change. Since the collection of the necessary data is associated with a high administrative burden for operators as well as NRAs, it will usually suffice to consider two points in time to draw inferences about trends in market shares. To the extent that there is evidence of variation in market shares, this could be indicative of geographical variations in competitive conditions.

(113) As the market definition exercise is required to be forward looking, it is important for NRAs to try to gauge how market shares might be expected to change over the period of the market review and whether any observed variations in current or historic market shares are likely to increase, decrease or remain relatively stable. In this regard, it can be useful for NRAs to classify areas according to the level and the trend of the market share of the incumbent operator (e.g. high and stable or declining slowly, high and declining rapidly, low and stable or declining).

Pricing and price differences

[56] If the geographical variations in competitive conditions are mainly driven by alternative infrastructures, the number of operators shall comprise both LLU operators and alternative infrastructure operators that offer or could offer WBA.

[57] Note that these are not market shares in the true sense, as the precise scope of the market has not yet been defined.

(114) A further important criterion is geographical differences in prices. If prices (of the incumbent and alternative operators) are geographically uniform, i.e. do not differ by geographical areas, this may be indicative of there being insufficient geographical variations in competitive conditions to justify the definition of local geographical markets. However, this is not necessarily the case. In particular, it has sometimes been argued that a national uniform price of the incumbent operator would imply a national market. Although this might be correct in some cases, there may be cases where, from a consumer perspective, significant differences exist between 'competitive' and 'non-competitive' areas despite a national uniform price of the incumbent operator.

(115) The reason for this can be as follows: when setting a national uniform price, a profit-maximising incumbent operator faces a trade-off between setting the monopoly price in areas where it is the only operator and setting a lower (competitive) price in areas where it is competing with other operators. The result is likely to be a compromise between these two prices, where the price is lower the larger the competitive area is (if the competitive area is larger, it has more 'weight' in the decision making of the incumbent operator)[58]. If the competitive area is sufficiently large, the price of the incumbent operator as well as the differences in prices between the incumbent operator and the competitors will be low (close to the competitive level). Under such circumstances, the definition of a national market based on a common pricing constraint can be justified. However, in cases where the competitive area is smaller, the monopoly price has more weight in the incumbent operator's price-setting decision and there may be significant differences between the price of the incumbent and the price of alternative operators. This will probably lead to a situation in which the incumbent operator has a low market share in the competitive area. Therefore, there may be significant differences in prices from a consumer perspective (in the non-competitive area, they can buy only from the 'expensive' incumbent, whereas a large share will buy from cheaper alternative operators in the competitive area). In such cases, the common pricing constraint may not be a good argument for a national market despite the existence of a national uniform price of the incumbent operator[59].

(116) A further point for NRAs to bear in mind when assessing pricing to inform market definition is that the national uniform price is (*caeteris paribus*) not a useful indicator for a national market if it is imposed as the result of an SMP finding. The reasoning above, however, applies to situations where the incumbent operator is voluntarily setting a national uniform price as well as for situations where it is obliged to do so by a non-SMP regulation. If the national uniform price was the result of an SMP regulation on the market which is being investigated, then the modified greenfield approach would require an analysis of the situation without this obligation.

(117) If the incumbent operator does not set a uniform price, on the other hand, this could be a strong indicator for differences in competitive conditions. It may suggest that, in those geographical areas where prices are lower, competitive constraints are stronger than in those areas where prices are higher. Additionally, differences in prices could also reflect differences in underlying costs. Therefore, where geographical differences in

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[58] For a formal analysis see Valletti, T., Hoernig, S., Barros, P.P., 'Universal service and entry: the role of uniform pricing and coverage constraints', Journal of Regulatory Economics, Vol. 21, No 2, 2002, pp. 169–190.

[59] See also Cave, M., Stumpf, U., Valletti, T., 'A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to ex ante Regulation', 2006, http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/studies_ext_consult/review_experts/review_regulation.pdf, p. 29: '[…] absent SMP regulation, a firm with market power subject to a uniform pricing constraint chooses a profit-maximizing price based on its demand curve in the universal service area as a whole rather than the distinct demand curves where it faces different levels of competition. As a result, constraints on its behavior in competitive areas are not extended to less competitive ones, but constraints across all areas are averaged or pooled. If the resulting price contains excess profits, because of a large weight of non-competitive customers, rivals in competitive areas will either force possibly localized price cuts by the incumbent – if they are allowed – or will enjoy considerable competitive advantage. In either case conditions of competition will differ.'

prices are observed, NRAs should investigate whether they reflect only differences in costs or (also) differences in competitive conditions[60].

(118) If prices vary by geographical location, this does not necessarily mean that the definition of the precise geographical market boundary should automatically follow the price differentiation of the incumbent. The drawbacks of such an approach would be that the incumbent operator could deliberately influence the precise definition of the geographical market boundary and/or the price differentiation might change over time with the incumbent's policy. Therefore, it appears more appropriate to investigate the reasons for the price differentiation, which are likely to be found in the other criteria mentioned above (barriers to entry, number of operators, market shares), and apply those accordingly.

(119) The price analysis will usually be based on the prices on the market under consideration. Particularly in wholesale markets, however, prices might not always be observable or available. In such cases, it might be helpful to consider retail prices in the analysis. Where this is not appropriate, more weight should be given to other criteria. Nevertheless it might still be possible to analyse whether operators can or are likely to practise geographical price discrimination or if operators supplying only a particular area charge prices which are significantly different from those of the incumbent operator.

(120) If possible, the development of prices (or differences in prices) over a longer period should be analysed. In some markets, it may also be relevant to look at prices in conjunction with quality and product characteristics which may also vary geographically.

Other criteria

(121) Other criteria which might be looked at to inform an NRA of geographical differences in competitive conditions are:

- geographical differences in marketing/sales strategies;
- geographical differences in the characteristics (e.g. quality/functionality) of the service (which have to be considered in context with the price);
- the nature of demand, which might be local or might cover several locations at the same time.

(122) With regard to the relationship between the criteria, it can be expected that, the greater the geographical variation in competitive conditions, the greater will be the correlation between the geographical areas covered by each of these criteria. In other words, where there are strong variations in competitive conditions, this might be indicated by there being (i) many operators entering or potentially entering the market into certain geographical locations, (ii) lower local market shares of the incumbent operator and (iii) lower prices from the incumbent and/or the alternative operators compared with other areas.

Experience from Article 7 precedents

(123) According to Article 7 precedents, NRAs have considered the criteria discussed above (and already listed in the 2008 Common Position) in their analysis. In Situation 1, NRAs took into account either the number of LLU operators present in a local exchange or the coverage of alternative infrastructures in that area, or a combination of both. NRAs dealing with markets covered by Situation 2 have also considered this last criterion as well as other criteria (such as the number of providers or the SMP operator's market share in the geographical area), defining competitive markets (or competitive areas)

[60] This is also pointed out by the European Commission in the Explanatory Note to the Recommendation on Relevant Markets.

where the market share of the incumbent operator at the retail level was below a certain threshold (e.g. 40–50 %), and at least a certain number of competing infrastructures (generally more than two) existed. In addition, although in a more qualitative manner, considerations on barriers to entry, in terms of population density, and pricing strategies have also been addressed.

(124) This analysis should be performed taking into account the development of the parameters mentioned over time and on a forward-looking basis. In particular, in a forward-looking analysis, inter-platform competition may not be sufficient if there are not a sufficient number of operators providing the relevant services, especially if high entry barriers are detected. In this regard, incentives for collusion increase if the number of infrastructure-based operators is low. This fact could lead, in the absence of wholesale regulation, to a lack of effective competition in the retail market, harming end users.

(125) In this regard, BEREC maintains the opinion expressed in its response to the European Commission's questionnaire related to the revision of the Recommendation on Relevant Markets[61], where it stated that it is more difficult to achieve effective competition in markets where only two firms are present. Additionally and considering this, BEREC responded that *'the Recommendation on Relevant Markets and its Explanatory Memorandum should also recognise this fact and, consistently, provide elements to assess when, in such markets, a joint SMP position could be found, leaving it up to NRAs to decide, on the basis of its national circumstances, on the best means to address these situations'*.

(126) In addition, NRAs should also take into account the efficient investments that could be made during the regulatory period under analysis. Given the progressive roll-out of fixed networks, certain areas, although characterised by potentially high returns due to their socioeconomic features, may not be covered at the time the NRA undertakes the analysis. Despite this fact, the potential entry into these areas may need to be considered, as alternative networks could reach them in sufficient time to make it appropriate to consider entry in the analysis.

(127) This analysis is also relevant to establish the local exchanges where operators could potentially be co-located. In this regard, the size of the local exchange and the number of end users connected could provide relevant information on their potential for co-location.

(128) Finally, NRAs should also estimate the impact on the geographical analysis of the appearance of new technologies, such as enhanced mobile technologies, because, for example, LTE mobile networks could be deployed in a progressive manner within the national territory. If NRAs have found that these services are interchangeable with other services on the retail market, and if there are sufficiently strong indirect constrains to warrant inclusion in the relevant wholesale market, then they will also have to be considered in the geographical analysis for the relevant wholesale market.

6.6. Thresholds to aggregate geographical areas

(129) In order to group geographical units, there is no need for competitive conditions to be perfectly homogeneous across all geographical areas included within one market.

(130) Areas should be aggregated so that competitive conditions within a market are sufficiently homogeneous whereas competitive conditions differ between markets with potential effects on either the SMP finding or the identified competition problems. With a large number of small areas, however, there is likely to be a continuum of competitive conditions, so it will usually be difficult to draw a clear line between more and less

[61] BoR (13) 22, March 2013.

competitive areas. One approach would be to evaluate competitive conditions in each geographical unit on its own and classify the area accordingly. However, this would cause a huge workload for NRAs and is also likely to be arbitrary to some extent. A more practical and appropriate approach is to define clear and unambiguous criteria according to which the geographical units are grouped. In this regard, it is important for NRAs to bear in mind the purpose of market definition, which is not an end in itself but a means to undertaking an analysis of competitive conditions, for the purposes of determining whether ex-ante regulation is required or not[62].

(131) As mentioned above, in case of significant differences in competitive conditions, the criteria listed before are likely to be closely correlated. However, the correlation is unlikely to be perfect. It is, therefore, likely to be appropriate to base the segmentation on a combination of several of the criteria mentioned above. A segmentation based on a single criterion (e.g. the number of operators) will usually not be appropriate. Which criteria are the most relevant will – as in an SMP analysis – depend on the circumstances and has to be decided by the NRA. The relevant criteria should be applied cumulatively and in such a way that differences in competitive conditions between different markets are large while differences in competitive conditions within a market are small[63].

(132) For each of the criteria applied, the NRA will have to define some threshold according to which a particular area is classified.

(133) A related question is whether or not the identity of alternative operators should also play a role for aggregating areas. If, for example, an incumbent DSL operator competes with a cable operator in city A and with another cable operator in city B, should the two cities form a single geographical market or not? BEREC is of the opinion that the homogeneity of competitive conditions should be the decisive criterion and not the identity of the alternative operator. This means that, if the analysis of the criteria mentioned above indicates that competitive conditions are similar, cities A and B should form a single geographical market. If, however, one cable operator behaves differently from the other, this should become apparent in the course of the analysis and may lead to a situation where the two cities form different geographical markets (because competitive conditions are not sufficiently homogeneous)[64].

(134) The definition of geographical markets will depend on factors which vary over time, e.g. the number of operators in a particular area or measures of demand. Therefore, the conclusions with regard to the appropriate grouping of the geographical units may change if the analysis is performed at a later point in time. This is, in principle, not different from product market definitions, which may also change in the period from one market review to the next. The task of the NRA is to take into account foreseeable future developments at the time of market definition and make a forward-looking analysis. In the case of geographical market definition, this can mean that, for example, information about future roll-out plans of the incumbent operator and its main competitors has to be collected[65].

(135) Once the (forward-looking) geographical segmentation has been made, it makes sense, from the point of view of legal certainty and practicability, not to change it until the next review, even if future developments are somewhat different from those expected. If future developments are very different from those expected, a new analysis is likely to be needed anyway.

[62] ERG (08) 20 final, p. 16.
[63] ERG (08) 20 final, p. 16.
[64] ERG (08) 20 final, p. 17.
[65] ERG (08) 20 final, p. 17.

6.7. Implications on the geographical analysis of the upgrade of current networks – next-generation access (NGA) networks

(136) The dynamics of competition, and thus the need to proceed with the geographical segmentation of a market, may differ depending on whether the analysis is made taking into account existing copper-based (legacy) infrastructure or NGA infrastructure. Currently, NGA networks are at an early stage of deployment[66] and, in the best case, traditional broadband networks have been upgraded to a limited extent. However, it is foreseeable that the upgrade of current networks will continue in the coming years.

(137) Taking into account the fact that the dynamics of competition may vary in an NGA environment, a number of topics may be worth considering when dealing with the issue of geographical segmentation.

6.7.1. Impact of NGA upgrade on the competitive process

(138) As noted above, NGA deployments (either by the incumbent operator or by alternative operators) may significantly alter the competitive dynamics of broadband markets.

(139) In this regard, the NGA Recommendation notes that the deployment of NGA networks is likely to lead to important changes in the economics of broadband service provision and in the competitive situation. It goes on to recommend that NRAs carefully examine the evolution of competitive conditions resulting from the deployment of NGAs, including its effects on the potential definition of subnational geographical markets if substantially and objectively different conditions of competition which are stable over time are identified.

(140) The recommendation also indicates that NRAs may, as an alternative, consider imposing differentiated remedies and access products in situations where, despite the lack of substantial differences in the conditions of competition, it is still necessary to respond to diverging conditions between different areas within a geographically defined market.

(141) The relevance of the NGA upgrade in the competitive process was already noted by the European Commission in case *UK/2007/0733: Wholesale Broadband Access in the UK*[67], where reference was made to the impact that NGA investment may have on the sustainability of LLU investment. In particular, it was noted that the importance of unbundling may decrease in such a scenario, the development of the new networks possibly decreasing the attractiveness and feasibility of copper unbundling.

(142) In this regard, the roll-out of NGA networks by the incumbent may have a significant impact on the business model of alternative operators. For instance, the closing of local exchanges that are deemed redundant for the provision of NGA services may reduce the economic prospects of unbundling, in particular if unbundling at the level of the street cabinet is not economically attractive. This may, in turn, lead to alternative operators having to make use of other regulatory alternatives, such as bitstream.

(143) The NGA Recommendation also points out (see section 10) that, if the definition of subnational markets/differentiation of remedies in Market 5 depends on access products in Market 4 which may become redundant as a result of NGA deployment, then the

[66] It is worth noting that there are, however, already at this point important divergences in the speed of deployment between the different EU Member States.

[67] Comments letter of 14 February 2008.

market segmentation or remedies may need to be reviewed. This aspect should generally be taken into account on a forward-looking basis when analysing these markets. Developments here might be that LLU operators could refrain from unbundling, or deploy vectored VDSL services.

(144) In this scenario, the competitive pressure placed by unbundlers in an NGA environment will, to a great extent, also depend upon the existence of (virtual-like) unbundling alternatives which are made available on either a regulated or a commercial basis, a factor which may thus also have an impact on the decision to proceed with geographical market segmentation/geographically differentiated remedies.

(145) The availability of unbundling at the local exchange may also have an impact on the selection of the relevant unit for the purposes of geographical segmentation. In particular, in scenarios where unbundling is not available, the network structure of the incumbent operator (i.e. the availability of local exchanges) will generally become less relevant.

(146) The deployment of NGA networks, therefore, has the potential to alter the competitive conditions in Markets 4 and 5. For example, co-investment in NGA infrastructure could, under certain circumstances, change the nature of wholesale interactions in Markets 4 and 5. On the other hand, LLU copper-based competition may be reduced in areas where NGA infrastructure is deployed if alternative operators switch to active wholesale products instead of further investing in LLU. These factors, when combined, could impact on an NRA’s ability to distinguish between competitive conditions in different exchange areas.

6.7.2. Geographical segmentation according to the scenarios envisaged in the 2010 NGA Recommendation

(147) The 2010 NGA Recommendation sets out a number of scenarios when analysing the impact that NGA deployment may have on competitive conditions, depending on the number of NGA networks that are available in a given geographical area: several networks (section 22 of the recommendation) or one network which is jointly deployed by several economic agents (section 28)[68].

(148) The conditions set out below, as contained in the NGA Recommendation, have a direct impact on the geographical market analysis that NRAs must perform, as in both scenarios it is assumed that the deployment of several networks and/or co-investment strategies will be at a lower than national scale, because of the progressive roll-out of NGA networks.

(149) Those scenarios focus primarily on Market 4, which will thus be the main market covered by this section.

a) Deployment of several networks

(150) According to section 22 of the European Commission’s NGA Recommendation, *‘in accordance with the principles provided for in Directive 2002/19/EC, where the SMP operator deploys FTTH, NRAs should in principle mandate unbundled access to the fibre*

[68] The European Commission adopted on 11 September 2013 a Recommendation on Consistent Non-discrimination Obligations and Costing Methodologies, which also contains some reflections on the issue of geographical segmentation in the context of NGA deployment. Although an in-depth assessment of the recommendation is beyond the scope of this document, and so will not be covered here, some indications of the way geographical issues are addressed in said recommendation are provided below.

loop. Any exception could be justified only in geographic areas where the presence of several alternative infrastructures, such as FTTH networks and/or cable, in combination with competitive access offers is likely to result in effective competition on the downstream level.'[69]

(151) This scenario thus refers to a situation in which the existence of effective downstream competition, in particular due to the presence of several alternative infrastructures as well as the availability of non-regulated unbundled offers, could justify the non-imposition (or withdrawal) of regulated unbundled access to the fibre loop.

(152) Regarding the competitive pressure exerted by alternative infrastructures such as cable, it seems likely that the existence of retail offers based on the availability of upgraded cable networks would, in this scenario, be a relevant factor when seeking to conclude on whether or not fibre unbundling should be regulated. However, in its 'Report on co-investment and SMP in NGA networks'[70], BEREC notes that *'given that a market characterised by two operators implies automatically that one of the players disposes of a market share of 50% or more, it is to be expected that a market with high entry barriers with one or two operators in the market raises concerns about dominance and more generally the competitive situation of the market'*.

(153) A market characterised by only two players (the incumbent operator and a cable operator) may thus be deemed to be not sufficiently competitive to justify the withdrawal of obligations. As noted above, BEREC has already expressed its agreement with the economic theory on the risks of collusion derived from such market structure.

(154) Prospectively, NRAs may also look at other factors that may be relevant for the assessment of the competitive conditions downstream, such as the availability of a wholesale offer for access to the civil infrastructure[71] or the feasibility of access by operators to in-house wiring infrastructure.

(155) In some areas of the territory, infrastructure-based competition may be observed. In these cases, NRAs may be justified in defining subnational markets that are effectively competitive.

(156) As an additional parameter for assessing the extent of competition on the downstream level, section 22 of the NGA Recommendation refers to the necessary existence of a competitive access offer on the basis of fibre unbundling. Whereas the existence of a commercial wholesale offer could in fact provide an additional indication of the existence of effective competition, in BEREC's view the fact that operators are not providing a commercial wholesale offer should not of itself necessarily be deemed, per se, a signal of a non-competitive environment on the retail level.

(157) The availability of a sustainable commercial wholesale access offers developed in a greenfield situation (which may be provided not only at the local exchange level but also at other points of the network) is, in any event, a parameter that would have to be looked at by NRAs on a case-by-case basis, and which should be taken into consideration

[69] According to Recital 20 of the NGA Recommendation, *'where remedies imposed on Market 4 lead to effective competition in the corresponding downstream market, in the whole market or in certain geographic areas, other remedies could be withdrawn in the market or areas concerned. Such withdrawal would be indicated, for instance, if the successful imposition of physical access remedies were to render additional bitstream remedies redundant. Moreover, in exceptional circumstances, NRAs could refrain from imposing unbundled access to the fiber loop in geographic areas where the presence of several alternative infrastructures, such as FTTH networks and/or cable, in combination with competitive access offers on the basis of unbundling, is likely to result in effective competition on the downstream level.*'

[70] BoR (12) 41.

[71] As repeatedly noted by the European Commission and by NRAs, in certain Member States access to civil engineering assets constitutes a key regulatory condition to ensure the prospects of effective retail competition, because of its economic and technical importance for the purposes of NGA deployments. Effective access to the passive infrastructure may thus pave the way for the efficient entry of alternative operators that will compete head-to-head with the SMP operator in the new NGA scenario.

alongside other factors (in particular, the sufficiency of inter-platform competition in a given geographical area) when reaching a decision about the adequacy or inadequacy of wholesale regulation in a particular geographical area.

(158) In conclusion, BEREC notes that the considerations included in the previous sections to assess the competitive conditions apply to a scenario where traditional broadband networks are being upgraded. In particular, and although this is a feature that will have to be reviewed on a case-by-case basis depending on the national circumstances, inter-platform competition may in some instances be sufficient to justify a finding that the retail market is effectively competitive and, therefore, the non-imposition of ex-ante remedies on a geographical basis.

b) Co-investment scenario

(159) The NGA Recommendation identifies another scenario where effective competition can be found, which is similar to the situation described above but has some particularities. That situation is a co-investment scenario (section 28[72]), where a single FTTH network is jointly deployed by several economic agents. In this regard, and given the more limited prospects of competition because only one FTTH network exists, the emphasis is placed not only on the existence of competitive pressure exerted by alternative operators but also on the scrutiny of the operators that are involved in the co-investment as well as on the arrangements between them to ensure effective competition downstream.

(160) According to the NGA Recommendation, the conditions that must apply to justify a finding of lack of SMP on the basis of the co-investment agreement are, thus, stricter than in the case of section 22: (i) the joint deployment of FTTH networks must be based on multiple fibre lines by several co-investors, (ii) each co-investor must enjoy strictly equivalent and cost-oriented access to the joint infrastructure, (iii) co-investors must effectively compete downstream and (iv) co-investors must install sufficient duct capacity for third parties to use and grant cost-oriented access to such capacity.

(161) BEREC's 'Report on co-investment and SMP in NGA networks' deals thoroughly with the dynamics of competition in said scenario. In particular, according to the report, *'whether a market with more than two operators (e.g. three or four) may be compatible with competition depends however on numerous factors and in particular on the level of independence that these operators enjoy, especially within a co-investment agreement. While such a situation has to be assessed in detail in a market analysis or while national authorities may adapt more specific guidelines in this respect it may be said in general that if sufficient independence between the operators is ensured, a market with more than two, i.e. three or more, operators may under optimal circumstances raise low concerns about collusion and the competitive situation.'*

(162) The question of the number of operators that are necessary in a co-investment scenario to justify a non-finding of SMP will, therefore, depend to a great extent (as implicitly shown by the conditions referred to in the NGA Recommendation) on the degree of independence that the co-investors may have at the retail level.

[72] According to section 28 of the European Commission Recommendation, *'where the conditions of competition in the area covered by the joint deployment of FTTH networks based on multiple fibre lines by several co-investors are substantially different, i.e. such as to justify the definition of a separate geographic market, NRAs should examine, in the course of their market analysis, whether, in the light of the level of infrastructure competition resulting from the co- investment, a finding of SMP is warranted with regard to that market. In this context, NRAs should in particular examine whether each co-investor enjoys strictly equivalent and cost-oriented access to the joint infrastructure and whether the co-investors are effectively competing on the downstream market. They should also examine whether the co-investors install sufficient duct capacity for third parties to use and grant cost-oriented access to such capacity.'*

VII. SMP analysis and remedies differentiation

7.1. Geographical segmentation of markets versus geographical differentiation of remedies

(163) There are two possible ways of dealing with geographical differences in competitive conditions across a national territory. The first approach consists of differentiating geographical markets at the market definition stage. Those geographically differentiated markets are then analysed on their own and conclusions on market power are drawn for each of them. The second approach consists of defining one market, analysing it and then differentiating remedies to take into account geographical differences. The first approach is applied when an NRA believes that in some areas the market structure and the competition situation differ significantly from the parallel areas (e.g. areas are competitive enough to withdraw obligations, a measure which is inevitable if no SMP undertaking can be identified in those areas). Past experience has shown that it is difficult to reconsider deregulation once areas have been found to be effectively competitive[73].

(164) However, the geographical segmentation of markets and the geographical differentiation of remedies should not be viewed as two equally applicable options in the presence of uneven development of competition across the territory.

(165) Where the available evidence suggests that the scope of the relevant market is subnational and this is duly justified, then market power will have to be assessed in each of the separate markets and appropriate remedies will have to be imposed to address SMP for each of the given subnational areas previously identified.

(166) In contrast, where the available evidence suggests that the scope of the relevant market is national (any differences in the conditions of competition between geographical areas are not yet sufficiently stable or sustainable to justify the definition of regional or local markets), market power will have to be assessed within this national market. In case of geographical variations in competitive conditions within this national market, it may be appropriate to vary remedies within that national market, despite the fact that an operator is found to have SMP throughout the entire territory.

(167) The EC Recommendation on Consistent Non-discrimination Obligations and Costing Methodologies, adopted on 11 September 2013, provides some examples of the ways in which differences in geographical areas can be addressed at the remedies stage. In particular, the recommendation notes (section 50) that differences in the competition conditions between geographical areas may lead to a situation in which, for the non-competitive areas, some form of price control obligations needs to be imposed, whereas in other (more competitive) geographical areas no such price control measures are necessary, as long as adequate safeguards are in place[74].

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[73] This is illustrated by case AT/2013/1442 regarding the Austrian review of the wholesale market for terminating segments of leased lines. In 2008 (case AT/2008/0836), RTR had split the product market into three segments (low, high and very high bandwidth) and split the market for high-bandwidth leased lines into two geographical markets (12 municipalities and the rest of Austria). When RTR decided in 2013 to lift the distinction between those two types of geographical areas, it faced a veto decision triggered by, among other factors, the reintroduction of regulation in the areas concerned.

[74] In particular, equivalence of input (EoI), obligations relating to technical replicability when EoI is not fully implemented, obligations relating to economic replicability, and sufficient competition safeguards leading to a demonstrable retail price constraint being exerted on the SMP operator (see sections 48–49).

(168) Likewise, regarding the economic replicability test, the recommendation notes (in Annex II) that, when undertaking the analysis, NRAs may need to adapt the test according to the differences in the competition conditions detected at geographical level, e.g. to take into account the fact that what is deemed to be the most relevant NGA access input needed to perform the test may be different in rural and densely populated areas.

7.2. Risk and benefits from a geographical analysis

(169) The conclusion that a geographical analysis of a market is needed leads to the recognition that there may be different competitive conditions at a geographical level that might demand different regulatory approaches. It is important to bear in mind that ex-ante regulation should be imposed only where and when it is really needed. However, it is recognised that undertaking a geographical analysis of a market has some risks that have to be carefully assessed on a case-by-case basis.

(170) NRAs have to strike a balance between two types of errors: type 1 errors, in which there is deregulation (or lighter regulation) where in fact regulation (or stronger regulation) would still be justified; and type 2 errors, in which there is regulation (or stronger regulation) where no (or lighter) regulation would be justified.

(171) Type 1 errors imply the under-regulation of the relevant wholesale services, a conclusion that could stem from an inaccurate assessment of the market conditions needed to ensure effective competition. The effects of such situation would normally be a reduction in the competitive pressure faced by the SMP operator, resulting in an increase in prices and a reduction in quality and innovation to the detriment of consumers. In addition, in the absence of a regulated wholesale service, market entry might be rather difficult, which could lead to a reduction in effective competitive pressure at the retail level.

(172) In addition, in Market 5, this type 1 error could result from a misunderstanding of the end user's point of view. Consequently, operators that provide services to large business customers frequently have a national demand for wholesale products, as this reduces their transaction costs when addressing the demand of these customers to connect multiple sites. A lifting of bitstream obligations in non-regulated geographical areas might result in a lack of any offers from the SMP incumbent operator, obliging operators to rely on commercial offers of possibly multiple local providers. However, the fact that some suppliers of business services prefer a single national supplier does not, in itself, imply a national market. If, for example, there are a sufficient number of operators which have their own network in the deregulated area and can buy regulated products elsewhere, then large businesses may be well served. A case-by-case analysis will be required in order to assess the ability of alternative operators focused on high-end customers to purchase wholesale service from different providers given the increase in transaction and IT costs.

(173) On the other hand, type 2 errors would imply maintaining ex-ante regulation in areas where there is effective competition. The effects of this type of error could reduce the incentives of the SMP operator to provide innovative offers that could be of benefit to final consumers. For example, according to the information received from the questionnaire issued to NRAs for the preparation of this review, the commercial freedom granted to former SMP operators after the deregulation of Market 5 led in some instances to the commercial launch by the incumbent operator of innovative bundled offers, to an increase in the speed of the broadband offers available in the market and to price reductions of the retail broadband offers based on xDSL and cable.

(174) In addition to the type 1 and 2 errors described above, BEREC considers that the geographical analysis presents some important features that are also worth considering.

(175) First, if the geographical analysis takes the form of a geographical segmentation of markets, it may have an impact on the price structure of the regulated wholesale services. In fact, deregulation of some specific regions (areas with broadband service offers from several effectively competitive ISPs) might exclude regions with lower access costs (because of higher residential density in urban areas) from the calculation of average prices in the regulated area, thus increasing the regulated price. This may result in higher retail prices in the regulated regions or lower margins for the wholesale customers if the retail prices are uniform in the whole national territory, which may lead to less competition in the regulated areas. For these type of problems, NRAs have instruments at their disposal to prevent this situation[75], if they feel it is necessary to maintain similar levels of prices across the country; however, there could be additional negative impacts on other, related, markets, e.g. predatory pricing charged by the incumbent in deregulated areas, thanks to cross-subsidies from the regulated market.

(176) Second, the impact on end users should be considered if the geographical segmentation results in retail price differences between the different geographical areas or if it increases the prevailing retail price differences. Although this could be the result of more efficient price setting, better reflecting, among other factors, different underlying costs, it may be particularly difficult for the end user to understand local differences, with the attractive offers being provided only in some geographical areas. Attention should also be given to the level of transparency in the market, because it can be hard for end users to understand which offers are available in their area of residence.

(177) Last, both a geographical segmentation of markets and a differentiation of remedies may imply an increase in the regulatory burden, for the NRA on the one hand and for the market players on the other hand, by requiring the provision and processing of more detailed statistical data and by complicating regulation through multiple sets of rules and the definition of the geographical segments. Geographical segmentation may also have consequences for the consistency of regulatory obligations regarding access to the local exchange/MDF, for instance when the chosen geographical unit does not coincide with the network topology of the SMP operator.

VIII. Conclusions

(178) BEREC considers that the analysis undertaken in 2008 and reflected in the Common Position remains valid, although it has been complemented in this new Common Position to take new market developments into account.

(179) In particular, BEREC has referred to potential market structures where alternative infrastructures are competing with the infrastructure deployed by the incumbent operator. In these cases, choosing network topology-related geographical units might cause problems, as the roll-out of alternative operators may not perfectly match the incumbent's network. In any case, if an administrative approach is chosen, NRAs should ensure the homogeneity of competition conditions within the geographical unit.

(180) In the assessment of the homogeneity of competitive conditions, NRAs should consider differences in the barriers to entry, number of suppliers, market shares, commercial offers and price strategies of the operators. NRAs should apply a forward-

[75] As noted, the recently adopted EC Recommendation on Consistent Non-discrimination Obligations and Costing Methodologies also contains some indications of the way the differences in the competitive conditions prevailing in different geographical areas may affect the design of the wholesale remedies by the NRA.

looking approach (in accordance with the regulatory framework), thus, for example, taking into account the foreseeable footprint of LLU and alternative infrastructures within the relevant period of analysis. On the other hand, as noted by BEREC in its response to the European Commission's questionnaire for the public consultation on the revision of the Recommendation on Relevant Markets, the presence of a sufficient number of operators (at least more than two) in a given area is a key factor to ensure effective competition, thus preventing the emergence of non-competitive oligopolies.

(181) BEREC also notes that the competitive dynamics of the broadband markets may be affected by NGA roll-out, in particular when competition has, up to now, been driven by LLU operators having access to the legacy copper network. In this regard, fibre-based networks could reduce potential demand for LLU, thus reducing its economic viability. In this context, NRAs should carefully consider the sustainability of subnational markets that are dependent on LLU-based competition.

(182) NGA roll-out may also lead to increased inter-platform competition, as already evidenced in some Member States. The roll-out of NGA networks by alternative operators, or the signing of co-investment agreements, could in this regard lead to increased infrastructure competition in some areas and thus, ultimately, to effective competition on the retail markets. This factor may in turn significantly influence the choices made by NRAs when deciding on the geographical segmentation of the market/remedies.