ERG Common Position

on

Geographic Aspects of Market Analysis (definition and remedies)

October 2008

Contents

Executive Summary

The European Commission's SMP-Guidelines,[1] which provide guidance to national regulatory authorities (NRAs) conducting analysis under the 2002 regulatory framework, require NRAs to define the product as well as the geographic market. Historically, geographic market definitions mainly followed the area covered by the network(s) of the incumbent telecommunications network operator(s). The importance of geographical aspects of market analysis has arguably increased over the past few years due to an increase in coverage and market share of "alternative" networks or operators such as unbundling operators, cable network operators, operators using frequencies for WLL/WiMax or operators which deploy optical fibre in the local loop or further up in the network hierarchy. This may mean that there exist differences in competitive conditions between geographic areas, despite the fact that these different geographic areas are covered by the network of the incumbent operator.

This Common Position explores under which circumstances a geographically differentiated approach to market analysis (definition and remedies) is appropriate and how such an approach should look. Several steps have been identified which an NRA should go through (these steps and their relation to the entire market analysis process is represented in a flowchart in the Annex):

1. **Preliminary analysis**

Before going into the details of a geographic analysis, NRAs should look at a number of criteria which are easily accessible and indicate whether competitive conditions are such that a national approach to market definition, market analysis and the implications of remedies is justified. Indicators pointing in this direction are:

- The hypothetical monopolist test suggests that there is sufficient demand- and/or supply-side substitution between different areas.
- Competitive conditions are sufficiently homogenous:
    - Alternative networks either have small coverage and market shares or have (close to) national coverage with similar prices;
    - There is a uniform price of the incumbent operator and similar prices of alternative operators;
    - There are no significant geographic differences in product characteristics.

If the hypothetical monopolist test does not result in a national market and the indicators do not suggest that competitive conditions are sufficiently homogenous, a detailed geographic analysis will usually be appropriate.

2. **Choosing an appropriate geographic unit**

There are two main options to determine an appropriate geographic unit on which the analysis will be based:

- units based on political or administrative boundaries; and
- units based on the network structure of the incumbent operator (or possibly alternative operators with sufficient coverage).

[1] Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ C 165/6, 11.7.2002 ("SMP-Guidelines").

The geographic units should satisfy the following criteria:

- they are mutually exclusive and less than national;
- the network structure of all relevant operators and the services sold on the market can be mapped onto the geographic units;
- they should have clear and stable boundaries;
- they should be small enough that competitive conditions are 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.

3. Assessing the homogeneity of competitive conditions

To assess the homogeneity of competitive conditions across geographic units several criteria can be analysed. The analysis of the homogeneity of competitive conditions will already include some elements of the SMP analysis. However, for means of geographic market definition, the goal is not to investigate the market power of a particular operator (or particular operators), but to make an assessment of significant ***differences*** in competitive conditions across geographic areas. This should include an analysis of

- differences in barriers to entry: Where barriers to entry are likely to be correlated with economies of scale, for example, factors determining (potential) demand should be analysed;
- differences in the number of suppliers: It might be appropriate to focus on 'large' operators which exert a significant competitive constraint on the incumbent operator;
- differences in market shares;
- differences in prices: A geographically differentiated price of the incumbent operator can be an indicator for significant differences in competitive conditions. A nationally uniform price can be an indicator for a national market (if it is part of a business strategy and not induced by regulation) but still large price differences between the incumbent's national price and the price of other operators in the areas where they present may indicate differences in competitive conditions.

Other criteria which might be looked at are geographic differences in marketing/sales strategies, quality/functionality or the nature of demand.

In the spirit of ***ex ante*** regulation, the analysis has to be forward-looking. It will therefore be necessary to look at the development of the criteria over time.

4. Aggregate areas where competitive conditions are sufficiently homogenous

The criteria for the assessment of the homogeneity of competitive conditions will usually be correlated (e.g. low barriers to entry are likely to lead to a higher number of operators, a lower market share of the incumbent operator and lower prices). 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. The relevant criteria should be applied cumulatively and such that differences in competitive conditions between different markets are large while differences in competitive conditions within a market are small. The relevant thresholds for each of the criteria which determine the scope of the market have to be determined on a case-by-case basis based on the characteristics of each market.

5. Define geographic markets or differentiate remedies

The appropriate market definition will follow from the above analysis and can either be local or national. Where the available evidence suggests that the scope of the relevant market is local and this is justified on the basis of there being insufficient homogeneity of competitive conditions, then market power will be assessed in each of the separate markets and appropriate remedies imposed to address SMP where this is identified. Where the available evidence suggests that the scope of the relevant market is national, again market power will be assessed within this national market. However, within a national market it could be the case that there exist geographic variations in competitive conditions, but that any differences in the conditions of competition between geographic areas are not yet sufficiently stable or sustainable to justify the definition of regional or local markets. In such circumstances it may be appropriate to vary remedies within that national market where an operator is found to have SMP. It is nevertheless emphasised that the geographic segmentation of markets and the geographic differentiation of remedies should not be viewed as two alternative, equally applicable options in the presence of uneven developments of competition across the territory. Rather, the result of the market definition is determined by the evidence from the analysis.

Once the geographic segmentation (of markets or remedies) has been made based on a forward-looking analysis, it appears to be in the sense of legal certainty and practicability that it does not change until the next market review.

6. Consider possible implications

NRAs should be aware that a geographic analysis and the implementation of geographically differentiated remedies can significantly increase the burden on NRAs as well as on operators and might render regulation more complex. In this context, NRAs should in particular

- consider possible implications of deregulation in one geographic markets on other, adjacent geographic markets;
- ensure that the prices of different wholesale products remain consistent; and
- ensure that remedies can still be implemented effectively.

1 Introduction

The European Commission's SMP-Guidelines,[2] which provide guidance to national regulatory authorities (NRAs) conducting analysis under the 2002 regulatory framework, require NRAs to define the product as well as the geographic market. This guidance requires that this market definition is consistent with the principles of general competition law and in a forward-looking manner as appropriate in the context of ***ex ante*** regulation. As such, the definition of the geographic scope of communications markets has been an issue for NRA's since the 2002 regulatory framework was enacted. It should also be noted that market definition is not an end in itself, but a means to undertake an analysis of competitive conditions, for the purposes of determining whether ***ex ante*** regulation is required or not. In considering whether or which form of ***ex ante*** regulation is necessary, NRAs follow the objectives of Art. 8 of the Framework Directive (Directive 2002/21/EC), i.e., promote competition, contribute to the development of the internal market and promote the interests of EU citizens.

According to the SMP-Guidelines (paragraphs 55-60), geographic market definition is based on the principles of supply-side and demand-side substitution and serves to identify areas where the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. Two criteria are mentioned which have traditionally been used in the communications sector to determine the geographical scope of the relevant market:

(i) the area covered by a network, and
(ii) the existence of legal and other regulatory instruments.

Guidance on how to proceed in cases where geographical differences in competitive conditions exist within the area of a network is not provided, however.

Historically, geographic market definitions mainly followed the area covered by the network(s) of the incumbent telecommunications network operator(s).[3] 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.[4] However, in some countries there are several fixed network incumbent operators 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 incumbent(s') network coverage as a determining criterion for geographic market definition has been used by virtually all of the NRAs so far and remained undisputed by the European Commission and national courts.

The importance of geographical aspects of market analysis has arguably increased over the past few years due to an increase in coverage and market share of "alternative" networks or operators such as unbundling operators, cable network operators, operators using frequencies for WLL/WiMax or operators which deploy optical fibre in the local loop or further up in the network hierarchy. This may mean that there exist differences in competitive conditions between geographic areas, despite the fact that these different geographic areas are covered by the network of the incumbent operator.

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[2] Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ C 165/6, 11.7.2002 ("SMP-Guidelines").
[3] The term incumbent operator refers to the formerly state owned monopoly operator.
[4] For mobile markets, where usually most or all network operators have national coverage, geographic market definition of the kind discussed here does not appear to be relevant.

This may require NRAs to differentiate regulation geographically in order to better target ***ex ante*** regulation where it is actually needed and – in line with the principle of proportionality – either to differentiate obligations according to differences in competitive conditions in some areas or move towards the application of general competition law in areas where sector specific regulation is no longer required.

This may in particular be the case where the incumbent operator competes with one or several alternative networks like cable, fibre or wireless networks, or with alternative operators using the incumbent's wholesale products (e.g. local loop unbundling). The main example for such a case is the market for wholesale broadband access, where local cable, fibre or wireless networks exist in almost all Member States. Other examples where competitive conditions may vary according to geographical areas or destinations are the market for terminating segments of leased lines, the market for trunk segments of leased lines, the market for transit services in the fixed network, and the (retail) markets for access to the fixed telephone network for residential and non-residential customers. In some cases, competitive conditions may differ so much that the definition of a national market cannot be justified and it is therefore necessary to define the geographic scope of the relevant market as local. Alternatively, it may be possible to justify the definition of a national market, but it may nevertheless be appropriate to differentiate regulatory remedies within the national market.

The possibility for a geographic differentiation of remedies within a broader geographic market was first mentioned in the ERG "Remedies document":[5]

> "… variations [in remedies] may be appropriate within a market for various reasons including geographical variations and variations arising from differences in demand and supply factors. Such reasons do not imply that the market should be segmented by geography or demand or supply factor, because of the presence of a common pricing constraint or an atypically responsive supply function." (p. 115)

A similar statement can be found in the Explanatory Note to the new Recommendation on Relevant Markets:[6]

> "In the absence of sub-national markets, the existence of geographically differentiated constraints on a SMP operator who operates nationally, such as different levels of infrastructure competition in different parts of the territory, could be taken into account in the context of remedies." (p. 13)

Indeed, remedies within a market have been differentiated by products and/or geographically in the cases UK/2003/0035-0039 (terminating segments of leased lines), FR/2005/0223 (national fixed calls for residential customers), AT/2006/0508 (terminating segments of leased lines), and AT 2008/0757 (wholesale broadband access).

The Explanatory Note to the new Recommendation on Relevant Markets however also states that there might be a need for the definition of sub-national geographic markets:

> "[I]nvestment in alternative infrastructure is often uneven across the territory of a Member State, and in many countries there are now competing infrastructures in

[5] ERG (2006), Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework, ERG (06) 33, http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

[6] 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).

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." (p. 12)

The issue of geographic markets has also been raised in the ERG Opinion on Regulatory Principles of NGA:[7]

> "[…] the economics of NGA networks are likely to vary across different technologies and different geographies. Conditions are likely to differ greatly among Member States and within different regions of Member States and may lead to significantly different competitive conditions possibly justifying the definition of sub-national markets (unless there is e.g. a common price constraint) in certain cases. Where a national market is defined, regulators may think of differentiating remedies within the national market." (p. 15)

On November 15, 2007, the UK regulatory authority Ofcom notified the analysis of the wholesale broadband access market to the European Commission.[8] In this analysis, the wholesale broadband access market has been subdivided into four sub-national markets three of which were based on differences in competitive conditions within the coverage of BT's network.[9] On February 14, 2008, the European Commission published its "Comments" letter, accepting the approach suggested by Ofcom and setting out its views on geographic markets.[10] In particular it is stated that

> " […] a geographic delineation which is primarily based on the number of operators present in a local exchange is not by itself sufficiently detailed or robust to identify real differences in competitive conditions for the purpose of market definition. In assessing whether conditions of competition within a geographic area are similar of sufficiently homogenous, additional structural and behavioural evidence is necessary. Relevant evidence would include information on the distribution of market shares and the evolution of shares over time. In addition, evidence on differentiated retail or wholesale pricing which might apply could help indicate different regional or local competitive pressure. […] differences in the functionalities or types of products being offered by both the incumbent and alternative operators or in marketing strategies being pursued in different geographic areas may further reflect regional/local differences in demand and supply conditions." (p. 7/8)

Although this letter sets out the Commission's point of view in much more detail and gives stronger guidance with regard to the appropriate approach to geographic market definition than the other documents, ERG still is of the view that there is a need for more guidance on how to proceed in such cases. As the experience from Ofcom and other NRAs has shown, there are many possible approaches to this problem and many factors to consider. In order

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[7] ERG (2007), ERG Opinion on Regulatory Principles of NGA, ERG (07) 16rev2, http://www.erg.eu.int/doc/publications/erg07_16rev2_opinion_on_nga.pdf

[8] See Ofcom (2007): "Review of the wholesale broadband access markets 2006/07 Identification of relevant markets, assessment of market power and proposed remedies", http://www.ofcom.org.uk/consult/condocs/wbamr07/wbamr07.pdf.

[9] The fourth area is the Hull-area with the incumbent operator Kingston Communications.

[10] Letter SG-Greffe (2008) D/200640 from February 14 2008, case UK/2007/0733.

to promote harmonization among Member States and the creation of a single European electronic communications market, this Common Position attempts to provide detailed guidance for NRAs with regard to when a geographically differentiated approach to market analysis (market definition or remedies) is appropriate and how to proceed in such cases. It is based on the insights and guidance provided in the SMP-Guidelines, the Remedies document, the Explanatory Note to the new Recommendation on Relevant Markets and the Commission's Comments to Ofcom's wholesale broadband access market analysis as well as NRAs' experiences from other markets/cases.

The rest of the document is structured according to the steps an NRA should go through when taking a geographically differentiated approach to market analysis (this process and its relation to the entire market analysis process is represented in a flowchart in the Annex):

- (i) Investigating whether there might be a need for a disaggregate geographical approach (section 2);
- (ii) Choosing an appropriate geographic unit (section 3);
- (iii) Analysing the homogeneity of competitive conditions across geographic units and aggregating them accordingly (section 4);
- (iv) Analysing whether the differences in competitive conditions are strong enough so that the definition of separate geographic markets is justified or whether a national (or single) geographic market with differentiated remedies is more appropriate (section 5);

Section 6 deals with possible implications which may follow from a disaggregated geographical approach; Section 7 summarizes and concludes.

2 Is there a need for detailed geographic analysis?

The issue considered is, as stated in the introduction, whether the geographic area covered by the network of the incumbent operator (or one of the incumbent operators) should be defined to consist of a number of local geographic markets. The first question which arises in this context is, of course, for which product markets or under which circumstances an NRA should consider to make a detailed geographic analysis and when it can be reasonably assumed that a national[11] market is appropriate.

The starting point of the geographic market definition analysis is – in line with the SMP-Guidelines – the hypothetical monopolist test. In the context of geographic market definition, this test asks whether a sufficient amount of consumers would switch to another geographic area or operators from other areas would start to supply in response to a 5-10% price increase (from the competitive level) in order to make such a price increase unprofitable. In some markets the hypothetical monopolist test may already indicate that the scope of the market is national. In fixed network calls retail markets, for example, alternative operators can – due to wholesale regulation – buy inputs from the incumbent operator on a national scale (in most cases for national uniform prices and conditions) and therefore can be assumed to enter any geographic area quickly in response to a 5-10% price increase.

In other cases, however, the hypothetical monopolist test may result in very narrow markets. Considering broadband (retail) or fixed network access (retail) markets as an example, it is unlikely that a sufficient amount of consumers would move their homes to neighbouring areas in response to a 5-10% price increase. It is also unlikely that an operator from a neighbouring area (in the absence of an upstream remedy requiring the incumbent to provide access to its own network) would start to roll-out its own network (which involves large sunk

[11] The term "national market" will be used here to refer to a market of the size of the network of the incumbent operator. ERG is aware that in countries where several incumbent operators exist, a market covering the size of the network of one of these operators will be less than national.

costs) in response to a 5-10% price increase. Therefore, markets defined by means of the hypothetical monopolist test may be as narrow as the smallest area which may be provided by a single operator, e.g. a small village, a district or, in the case of local loop unbundling, the area connected to a particular MDF or street cabinet.[12] In most countries this would result in thousands or tens of thousands of markets.

Clearly, such an approach would not be practical or sensible in terms of conducting an analysis of market power and imposing remedies. Therefore, it is useful to seek to aggregate these areas – consistent with the SMP Guidelines – according to the "homogeneity of competitive conditions". If areas where conditions of competition are sufficiently homogenous are integrated into a single market, the result of the market analysis (and the imposition of remedies) is the same as if each area had been considered individually. The details of an analysis of the homogeneity of competitive conditions are discussed in section 4. However, in a first step NRAs will have to determine whether there exists evidence of local geographic markets or whether there is evidence which suggests a national market exists.

It may already with some preliminary, forward-looking analysis become obvious that the geographic scope of the relevant market is national. In mobile markets, for example, where most or all network operators have national coverage and price on a national basis, a detailed geographic analysis usually will not be necessary. Also in fixed network markets it might be the case that networks other than the one of the incumbent have insignificant coverage or small (even local) market share suggesting that the competitive conditions are relatively homogeneous. It is also possible that alternative operators such as cable network operators or unbundling operators have (close to) national coverage and prices are similar on a national level. A national uniform price of an operator with national coverage might also have the effect that competitive pressure in some areas will be felt on a national level with the result that there are no significant geographic differences in prices.[13] In these cases it can reasonably be assumed that a detailed geographic analysis would not lead to a different result than the analysis of a single national market and therefore no detailed geographic analysis (or data collection) is required.[14]

In other cases a preliminary, forward-looking analysis may indicate that a more detailed geographic analysis is appropriate. The most important indicators for such a need are the following:

- One or several alternative operators have significant but less than national coverage and exert a significant competitive constraint in the areas where they are present;
- The incumbent operator differentiates prices geographically ***or*** the incumbent operator is setting a national uniform price and there are significant price differences between the incumbent operator and alternative operators where the latter are present.
- There are significant geographic differences in product characteristics.

[12] With the transition to NGA networks unbundling at the MDF might not be possible any longer. In such cases the street cabinet might become the smallest area which can be addressed by an ULL operator.

[13] A national uniform price of the incumbent operator (sometimes also referred to as a "uniform pricing constraint") can be an indicator for, however, does not necessarily imply the existence of a single national market. It also has to be taken into account whether a national uniform price is due to a regulatory obligation imposed as an SMP remedy or part of a business strategy. These issues will be dealt with further in section 4.

[14] The Belgian NRA, BIPT, for example, recently found that the market for wholesale broadband access is national. In its "Comments" letter, the European Commission noted that although "the relevance of cable operators in the respective areas of coverage varies across the country […] market data at the moment do not point towards differentiated competitive conditions to an extent that would justify delineation of sub-national markets" (letter SG-Greffe (2008) D/200001 from Jan 03, 2008, case BE/2007/0736).

Also, as mentioned in the ERG opinion on Regulatory Principles of NGA (see reference in the introduction), the NGA network roll-out of the incumbent operator (and possibly alternative operators) may lead to geographic differences in competitive conditions within the area covered by the incumbent's network.

In such circumstances it normally cannot be concluded ***a priori*** that the geographic scope of the market is national. A geographic analysis will therefore likely be necessary.

A point which has been subject to discussion in the wholesale broadband access market was the (geographical) nature of demand: Demand might be local like demand of a single consumer for broadband internet access or might cover several locations at the same time like demand of multi-site businesses. ERG is of the opinion that if the available evidence suggests that demand (and possibly also derived demand at the wholesale level) of business users is different to the demand of residential users and there is no sufficient supply- or demand-side substitution between these services, the NRA should define a separate product market for business or high quality connections. Alternatively, if there is evidence of sufficient supply- or demand-side substitution between these services then the NRA should define a single product market including residential and business/high quality connections.[15] If a separate market for business or high quality services is defined, it may be the case that because of differences in demand patterns it be appropriate for the NRA to define the geographic scope of the business orientated market as geographically broader than the geographic scope of the residential orientated market. However, if retail demand of businesses is found to be national in nature, this does not automatically mean that also (derived) wholesale demand is national. The NRA will therefore have to carefully assess the nature of wholesale demand for each market separately.

The following sections 3 and 4 describe how a detailed geographical analysis may look. After choosing an appropriate geographic unit on which the analysis is based (section 3) NRAs will have to assess the homogeneity of competitive conditions across geographic units. The result of this exercise could either be the conclusion that (i) the available evidence suggests that a national market is defined or (ii) there is evidence that competitive conditions are sufficiently different so that two or more sub-national markets are defined. In case (i) (a national market is defined) an NRA may assess whether any differences in competitive conditions justify the implementation of geographically differentiated remedies (section 5).

3 Choosing an appropriate geographic unit

Once an NRA has decided that the available evidence from its preliminary analysis suggests that detailed geographic analysis is required, the NRA will have to decide on appropriate geographic units on which the analysis can be based. There are two main options to define geographic units:

(i) units based on political or administrative boundaries such as postcodes, political districts or communities; and
(ii) units based on the network structure of the incumbent operator (or possibly alternative operators with sufficient coverage) such as local exchange areas.

Further, there are some criteria which the choice of geographic unit should satisfy:

(i) the geographic units are mutually exclusive;
(ii) the geographic units are less than national; and

[15] See for example the notification of OPTA from Nov. 4, 2005 (Case NL/2005/0281) which identified separate product markets and the notification from Ofcom (see reference in footnote 8) which identified a single broad market.

(iii) the network structure of all relevant operators and the services sold on the market can be mapped onto the geographic units.

There are several considerations to be made when an NRA is deciding upon which unit to choose:

First, the unit should have clear and stable geographic boundaries which can easily be understood by all market parties. This will usually be the case for political units.[16] 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 geographic 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 geographic 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 geographic unit is determined.

Second, the unit should be small enough so that competitive conditions are unlikely to vary significantly within the unit. It should, however, also be large enough so that the burden on operators (with regard to data delivery) and the NRA (with regard to the analysis) is reasonable. In some cases, it might be useful to start with a unit which is large enough to be subject to an investment decision of an operator. Such an area can be quite small, e.g. as large as a small village in the case of fixed networks,[17] but is unlikely to be as small as single premises.[18]

The choice of a sensible geographic unit may differ between markets. For fixed network access or wholesale broadband access markets, for example, LLU operators, which often make their investment decisions MDF by MDF, may be the main drivers of competition. In this case, the area covered by an MDF is the smallest geographic unit subject to an investment decision. As noted above, with the transition to NGA networks (e.g. fibre to the street cabinet or fibre to the home) unbundling at the MDF might not be possible any longer. In case of fibre to the street cabinet, for example, the street cabinet might become the smallest area which can be addressed by an LLU operator and as such the relevant geographic unit. On the other hand, NRAs may observe that LLU operators unbundled a number of contiguous MDFs/street cabinets. In this case a group of MDFs/street cabinets may also be a relevant geographic unit.

In leased lines trunk segments markets, investment decisions are often not taken by area, but by destinations. In this case it is likely to be more appropriate to consider connections between geographic points (routes) as appropriate units. In leased lines termination segment markets, on the other hand, investment decisions are often incremental to current network build so it may be more appropriate to consider smaller geographic units which allow such investment decisions to be incorporated into the analysis.

The number of geographic 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. 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.

[16] Although noting that postcodes and political districts may also change through time.
[17] Cable network operators, for example, sometimes have such a small coverage.
[18] Although this may be the case where investment decisions are incremental to current network build e.g. for termination segments of leased lines.

4 Assessing the homogeneity of competitive conditions

As stated in § 56 of the SMP-Guidelines, geographic markets comprise areas in which

> "[…] 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 geographic market does not require the conditions of competition between traders or providers of services to be perfectly homogeneous. It is sufficient that they are 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." (footnotes omitted)

This guidance makes clear that in order to group geographic units into a single market, there is no need for competitive conditions to be perfectly homogenous across all geographic areas included within the market.[19] Put differently, in order to group geographic areas into separate local geographic markets, there must be sufficient or relevant differences in competitive conditions between the geographic areas included in each market and these areas must be identifiably different from neighbouring areas.

To the extent that there is evidence of clear differences in competitive conditions in different geographic areas then this would indicate that there exist local geographic markets and it would be appropriate to define the geographic market as such, rather than to define the market as being national in scope. However, in these circumstances, as it may not be clear where the precise geographic boundary of the markets lie, it can be useful to consider the following to inform the definition of the precise geographic boundary:

(i) where ***ex ante*** remedies are required and where they are not i.e. where there would be effective competition and where there would not; or

(ii) where there are differences in the identified competition problems which have an impact on the imposition of appropriate remedies.

This also means that the analysis of the homogeneity of competitive conditions will already include many elements of the SMP analysis. However, for means of geographic market definition, the goal is not to investigate the market power of a particular operator (or particular operators), but to make an assessment of significant ***differences*** in competitive conditions across geographic areas in the sense described in the previous paragraphs.[20] Nevertheless one should be aware that analysis of the homogeneity of competitive conditions will lead to some conflation between market definition and market analysis.

This also becomes apparent in the combination of criteria which should be looked at in course of the analysis.

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[19] This is consistent with when a national market is defined, where there will be some variation in competitive conditions throughout the national market (see for example the comments of the European Commission with regard to wholesale broadband access in Belgium quoted in footnote 14).

[20] A full SMP assessment would be carried out separately for each of the relevant economic markets identified in the market definition stage of the market analysis.

4.1 Criteria

The most important criteria for the analysis of the homogeneity of competitive conditions are those which are also of importance in an SMP analysis:[21]

- barriers to entry
- number of suppliers
- distribution of market shares
- pricing and price differences

These and further criteria will be discussed in turn. For the purpose of market definition, constraints by actual competitors are the most relevant to be assessed. 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 it 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

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.[22] Therefore, one could attempt to analyse the degree of economies of scale and sunk costs in different geographic areas in order to draw conclusions about differences in competitive conditions. Economies of scale can be 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 or mobile phone base station density (representing demand for leased lines of mobile network operators). Although informative, none of these measures (or several of them taken together) is likely to completely explain the extent of barriers to entry which may be caused by a number of (often unobserved) factors.

Number of suppliers

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 geographic 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.

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 wholesale broadband access where preliminary analysis has identified that any geographic variations in competitive conditions are being driven by investments by LLU operators, then it may be appropriate to assess the number of operators able to provide services from each MDF. In the case of other product markets, such as terminating segments of leased lines

[21] These criteria also appear in the Council Regulation 139/2004 on the control of concentrations (OJ, 2004, L24/1, p. 12) in the context of geographic market definition: "This assessment should take account in particular of the nature and characteristics of the products or services concerned, of the existence of entry barriers or of consumer preferences, of appreciable differences of the undertakings' market shares between the area concerned and neighbouring areas or of substantial price differences."

[22] Legal barriers to entry such as licensing areas might also be relevant in some circumstances.

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 for identifying the number of operators.

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 only exert a limited competitive constraint on other operators.

Distribution of market shares

One way to account more explicitly for the relative size of operators would be to look at the variation in local ‘market’ shares[23] across different geographic areas. Ideally this should not only include 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 that there is variation in market shares then this could be indicative of geographic variations in competitive conditions.

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

A further important criterion is geographic differences in prices. If prices (of the incumbent and alternative operators) are geographically uniform i.e. do not differ by geographic areas, then this may be indicative of there being insufficient geographic variations in competitive conditions to justify the definition of local geographic 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.

The reason for this can be as follows: When setting a national uniform price, a profit-maximizing 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).[24] 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

[23] Note that these are not market shares in the true sense as the precise scope of the market has not yet been defined.
[24] For a formal analysis see Valletti, T., Hoernig, S., Barros, P.P. (2002): Universal Service and Entry: The Role of Uniform Pricing and Coverage Constraints, Journal of Regulatory Economics, 21:2, 169-190.

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 likely lead to a situation where 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 only buy from the "expensive" incumbent while 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.[25]

A further point for NRAs to bear in mind when assessing pricing to inform market definition is that the national uniform price is (ceteris 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 due to 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.

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 competitive constraints are stronger in those geographic areas where prices are lower compared to the competitive constraints in those areas where prices are higher. Additionally, differences in prices could also reflect differences in underlying costs. Therefore, where geographic differences in prices are observed, NRAs should investigate whether they only reflect differences in costs or (also) differences in competitive conditions.[26]

If prices vary by geographic location, this does not necessarily mean that the definition of the precise geographic 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 geographic market boundary and/or the price differentiation might change over time with the incumbent's policy. It therefore 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.

The price analysis will usually be based on the prices on the market under consideration. In particular 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 placed on other criteria. Nevertheless it might still be possible to analyse whether operators can or are likely to practice geographic price

[25] See also Cave, M., Stumpf, U., Valletti, T (2006): A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to ***ex ante*** Regulation, 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-maximising 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 behaviour 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 localised price cuts by the incumbent – if they are allowed – or will enjoy considerable competitive advantage. In either case conditions of competition will differ."

[26] This is also pointed out by the European Commission in the explanatory note to the new recommendation on relevant markets (see reference in footnote 6, p. 13).

discrimination or if operators supplying only a particular area charge prices which are significantly different from those of the incumbent operator.

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

Other criteria which might be looked at to inform an NRA of geographic differences in competitive conditions are

- Geographic differences in marketing/sales strategies;
- Geographic 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: Demand might be local or might cover several locations at the same time.[27]

With regard to the relationship between the criteria, it can be expected that the greater the geographic variation in competitive conditions, the greater the correlation between the geographic areas covered by each of these criteria i.e. where there are strong variations in competitive conditions this might be indicated by there being i) lots of entry or scope for entry in certain geographic locations, ii) lower local market shares of the incumbent operator and iii) lower prices from the incumbent and/or the alternative operators compared to other areas.

Once an NRA has assessed competitive conditions across geographic units, the next step is to aggregate units in which competitive conditions are sufficiently homogenous so that they are part of the same market.

4.2 Which areas should be aggregated?

As stated in the beginning of this section, areas should be aggregated such that competitive conditions within a market are sufficiently homogenous while 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, as noted above there is likely to be a continuum of competitive conditions and therefore it will usually be difficult to draw a clear line between “more” and “less” competitive areas. One approach would be to evaluate competitive conditions in each geographic unit on its own and classify the area accordingly. However, this would cause a huge workload for NRAs and also is likely to be arbitrary to some extent. A more practical and appropriate approach is to define clear and unambiguous criteria according to which the geographic units are grouped. In this regard, it is important for NRAs to bear in mind the purpose of market definition which – as noted in the introduction – is not an end in itself but a means to undertake an analysis of competitive conditions, for the purposes of determining whether ***ex ante*** regulation is required or not.

As mentioned above, in case of significant differences in competitive conditions, criteria mentioned in the previous section 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 such that differences in competitive conditions between different markets are large while differences in competitive conditions within a market are small.

[27] See also the discussion in section 2.

For each of the criteria applied, the NRA will have to define some threshold according to which a particular area is classified. With regard to the number of operators, for example, this decision will depend, amongst others, on the form of competition or the degree of product differentiation. Insights from economic theory[28] suggest that in case of price competition with fairly homogenous products, already a small number of operators may be enough to bring the price close to the competitive level. If products are more differentiated or in case of capacity constraints a larger number of operators may be necessary. Many other factors can additionally be relevant in practice. The threshold in terms of the number of operators therefore has to be determined on a case-by-case basis based on the characteristics of each market. It might also be appropriate to focus only on particular operators which impose a material constraint, since only those operators will significantly influence competitive conditions. This will usually be operators which address the mass market and/or have already gained significant market shares.

A related question is whether the identity of alternative operators also should 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 geographic market or not? ERG is of the opinion, that the homogeneity of competitive conditions should be 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 geographic market. If, however, one cable operator behaves very 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 geographic markets (because competitive conditions are not sufficiently homogenous).

Even where already several operators are present, it may be uncertain how sustainable competition is in the long run. In particular if economies of scale are important and demand is (comparatively) low, operators which do not gain a significant market share may decide to exit a market.[29] Therefore, a measure of demand (e.g. number of households or business sites) might be used as an additional criterion to ensure that competition is sustainable. In this respect, a threshold is possibly related to the minimum demand which is necessary for alternative operators to reach a minimum efficient size to be able to compete. Again, the appropriate boundary will depend on the characteristics of the market (e.g. necessary investments, evolution of market shares and revenues) and has to be determined on a case-by-case basis.

The more correlated the criteria which are applied are, the clearer it should be to the NRA where the boundaries of the market are. If the criteria are not perfectly correlated (which will usually be the case), NRAs have to strike a balance between two “errors”: One is deregulation (or lighter regulation) in case that regulation (or stronger regulation) would still be justified, the other is regulation (or stronger regulation) in cases where no (or lighter) regulation would be justified. Given the large number of areas which frequently have to be considered, it is likely that one of these errors will occur for some geographic units. However, the alternative – a geographically uniform treatment – is likely to result in much larger errors (in the one or other direction) in cases where a geographical segmentation would be justified based on an analysis as outlined above.

[28] See for example Ivaldi, M., Jullien, B., Rey, P., Seabright, P., Tirole, J (2003): The Economics of Unilateral Effects, http://idei.fr/doc/wp/2003/economics_unilaterals.pdf, p. 16.

[29] This will also depend on the level of sunk costs. If the share of sunk costs is high, market exit is more unlikely.

4.3 Changes in geographic market boundaries over time

The definition of geographic markets will depend on factors which vary over time, like, 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 geographic 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 to the next market review. 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 geographic market definition this can mean that e.g. information about future roll-out plans of the incumbent operator and its main competitors have to be collected.

In light of recent developments in a number of Member States, particular attention has to be paid to the roll-out of NGN/NGA by the incumbent or alternative operators. Such a roll-out might significantly change the network structure and may also have an impact on business models of alternative operators. One effect could be that unbundling at the MDF is no longer possible and the street cabinet becomes the relevant geographic unit as concerns investment decisions by LLU operators. However, since demand in the area covered by a street cabinet is usually much lower than in the area covered by an MDF, business cases and competitive dynamics might change significantly. If the incumbent operator is phasing out its MDFs, for example, and unbundling of the street cabinet is not economically viable, the competitive constraint from LLU operators may disappear in many areas or these operators will have to make use of other wholesale products such as bitstreaming.[30] It is essential to take these developments into account in a forward-looking analysis.

Once the (forward-looking) geographic segmentation has been made, it appears to be in the sense of legal certainty and practicability that it does not change until the next review, even if future developments are somewhat different than expected. If future developments are very different to those expected, there is likely to be a necessity for a new analysis anyway.

5 Local geographic markets or differentiated remedies?

As mentioned in the introduction, the Remedies document notes that in principle there is the possibility of a geographic differentiation of remedies. The Explanatory Note to the new Recommendation on Relevant Markets mentions both, the possibility to geographically differentiate remedies and the possibility to define several geographic markets. This raises the question under which circumstances the one or the other will be appropriate.

As noted above, market definition is not an end in itself, but a means to undertake an analysis of competitive conditions for the purposes of determining whether ***ex ante*** regulation is required or not. Moreover, paragraph 56 of the Commission's guidelines on market analysis state that "the relevant geographic market comprises an area in which […] the conditions of competition are similar or sufficiently homogeneous." Therefore, the geographic scope of the market will be objectively justifiable by the available evidence of the particular case in hand. The analysis outlined in Section 4 above will inform the appropriate market boundary, be that national or local. The geographic segmentation of markets and the geographic differentiation of remedies should therefore not be viewed as two alternative, equally applicable options in the presence of uneven developments of competition across the territory. Rather, the result of the market definition is determined by the evidence from the analysis.

[30] See ERG (2007), ERG Opinion on Regulatory Principles of NGA, ERG (07) 16rev2, http://www.erg.eu.int/doc/publications/erg07_16rev2_opinion_on_nga.pdf, in particular section 4.3.2.3.

Where the available evidence suggests that the scope of the relevant market is local and this is justified on the basis of there being insufficient homogeneity of competitive conditions, then market power will be assessed in each of the separate markets and appropriate remedies imposed to address SMP where this is identified. A removal of all obligations in a certain area should be based on a finding of effective competition and should not be the result of a "differentiation" of remedies in a wider market.

Where the available evidence suggests that the scope of the relevant market is national, again market power will be assessed within this national market. If, for example the same operator was likely to have SMP in all areas if they were considered individually, competitive conditions may be considered sufficiently homogenous so that the areas can be grouped together into a national market.[31] However, within a national market it could still be the case that there exist geographic differences in competitive conditions which do not vary so much that it undermines the finding of a national market but which may lead to differences in identified competition problems and hence differences in appropriate remedies. In such cases any geographic differentiation of remedies needs to be based on a thorough analysis of the market power including potential competition.[32]

If the result of the analysis is such that it is appropriate either to define sub-national markets or to geographically differentiate remedies within a national market, an NRA should carefully analyse the possible effects on competition in the market(s) under consideration and should be aware of possible implications which are discussed in the following section.

6 Possible implications

The analysis outlined in the previous sections will inform an NRA whether markets are national or sub-national in scope or whether remedies should be differentiated within a national market. In case of sub-national markets or remedies, the NRA should be aware of possible implications which might have to be addressed accordingly.

NRAs should be aware that a geographic segmentation is likely to increase the complexity of regulation and the effort necessary to perform proper market analysis and to effectively implement appropriate remedies.

With regards to market definition and market analysis, a disaggregated approach significantly increases data requirements. In particular if small geographic units are chosen as a basis for the analysis, this will result in an additional burden for both operators and NRAs.

If an NRA concludes that there is SMP in a national market but it believes it appropriate to vary remedies by the withdrawal of specific regulations in one part of the market, it should thoroughly analyse the impacts of a withdrawal of these specific regulations on competition on the market under consideration.[33] In the context of wholesale broadband access markets,

[31] This is not necessarily the case, however. Ofcom, for example, defined three sub-national markets for wholesale broadband access (outside the Hull area) and found that BT has SMP in two of them (Ofcom, 2007, see reference in footnote 8). Still the competitive conditions were sufficiently different so that the two areas did not form a single market.

[32] In case AT/2008/0757 (Wholesale broadband access in Austria), the European Commission also pointed out that the geographic differentiation of remedies "[…] may be appropriate in those situations where, for example, the boundary between areas where there are different competitive pressures is variable and likely to change over time, or where significant differences in competitive conditions are observed but the evidence may not be such as to justify the definition of sub-national markets.", see Letter SG-Greffe (2008) D/201384 from March 26 2008.

[33] This is in principle not different from cases where regulation is withdrawn from a national market. Also in such cases NRAs will have to carefully consider possible effects on the market under

for example, NRAs may, amongst others, look at the effects of deregulation of some geographic areas on retail competition for business services, in particular in cases where such competition is driven by small operators for which unbundling or other alternatives might not always be viable. Where separate local geographic markets are defined possible impacts on geographic markets where SMP is found will have to be addressed appropriately for those markets if necessary. In particular, NRAs should ensure that a geographic differentiation does not lead to barriers to a further roll-out of infrastructure by alternative operators.

As noted in section 4, the boundary of local geographic markets or the geographic area where an NRA may wish to vary remedies might be closely aligned with the incumbent operator's geographic price differentiation, where present. Where prices in a value chain (either at the level of the market being reviewed or in an upstream or downstream market) are subject to regulation then a decision by an NRA to geographically vary price regulation within a national market may have impacts on other markets. In such circumstances it will likely be appropriate for the NRA to assess such potential impacts for example to ensure that the prices at different levels of the value chain are consistent. This may mean, depending on the particular circumstances of the case being considered, that it is appropriate for the NRA to consider geographically differentiating prices or alternatively to require the maintenance of national prices in these other markets. When differentiating a regulated price, NRAs should also be aware that the underlying costs may (or are even likely to) differ between geographic areas and that a cost oriented price for a particular geographic area may be different than an averaged cost oriented price for a national market. The consequences of such a differentiation on competition in the regulated area will have to be considered carefully and may require changes in the costing methodology, additional price squeeze tests and/or control of cross-subsidization between different geographic markets.

There are also issues related to the implementation of specific remedies. In case that accounting separation is imposed as a remedy, there may be an additional burden for the incumbent operator to provide certain data also on a disaggregate basis. Such a level of data provision may be necessary for NRAs in order to calculate cost oriented or retail-minus prices in a particular area or to perform a price-squeeze test. It might also be the case that some data (e.g. costing data) cannot be provided on a geographically disaggregated basis by the incumbent operator. This should be taken into account in the determination of appropriate remedies.

7 Conclusion

This common position explored under which circumstances a geographically differentiated approach to market analysis (definition and remedies) is appropriate and how such an approach should look. Several steps have been identified which an NRA should go through (these steps and their relation to the entire market analysis process is represented in a flowchart in the Annex):

1. Preliminary analysis

Before going into the details of a geographic analysis, NRAs should look at a number of criteria which are easily accessible and indicate whether competitive conditions are such that a national approach to market definition, market analysis and the implications of remedies is justified. Indicators pointing in this direction are:

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consideration as well as adjacent markets and will only be able to withdraw regulation if competition is indeed effective and sustainable.

- The hypothetical monopolist test suggests that there is sufficient demand- and/or supply-side substitution between different areas.
- Competitive conditions are sufficiently homogenous:
    - o Alternative networks either have small coverage and market shares or have (close to) national coverage with similar prices;
    - o There is a uniform price of the incumbent operator and similar prices of alternative operators;
    - o There are no significant geographic differences in product characteristics.

If the hypothetical monopolist test does not result in a national market and the indicators do not suggest that competitive conditions are sufficiently homogenous, a detailed geographic analysis will usually be appropriate.

2. Choosing an appropriate geographic unit

There are two main options to determine an appropriate geographic unit on which the analysis will be based:

- units based on political or administrative boundaries; and
- units based on the network structure of the incumbent operator (or possibly alternative operators with sufficient coverage).

The geographic units should satisfy the following criteria:

- they are mutually exclusive and less than national;
- the network structure of all relevant operators and the services sold on the market can be mapped onto the geographic units;
- they should have clear and stable boundaries;
- they should be small enough that competitive conditions are 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.

3. Assessing the homogeneity of competitive conditions

To assess the homogeneity of competitive conditions across geographic units several criteria can be analysed. The analysis of the homogeneity of competitive conditions will already include some elements of the SMP analysis. However, for means of geographic market definition, the goal is not to investigate the market power of a particular operator (or particular operators), but to make an assessment of significant ***differences*** in competitive conditions across geographic areas. This should include an analysis of

- differences in barriers to entry: Where barriers to entry are likely to be correlated with economies of scale, for example, factors determining (potential) demand should be analysed;
- differences in the number of suppliers: It might be appropriate to focus on ‘large’ operators which exert a significant competitive constraint on the incumbent operator;
- differences in market shares;
- differences in prices: A geographically differentiated price of the incumbent operator can be an indicator for significant differences in competitive conditions. A nationally uniform price can be an indicator for a national market (if it is part of a business strategy and not induced by regulation) but still large price differences between the incumbent’s national price and the price of other operators in the areas where they are present may indicate differences in competitive conditions.

Other criteria which might be looked at are geographic differences in marketing/sales strategies, quality/functionality or the nature of demand.

In the spirit of ***ex ante*** regulation, the analysis has to be forward-looking. It will therefore be necessary to look at the development of the criteria over time.

4. Aggregate areas where competitive conditions are sufficiently homogenous

The criteria for the assessment of the homogeneity of competitive conditions will usually be correlated (e.g. low barriers to entry are likely to lead to a higher number of operators, a lower market share of the incumbent operator and lower prices). 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. The relevant criteria should be applied cumulatively and such that differences in competitive conditions between different markets are large while differences in competitive conditions within a market are small. The relevant thresholds for each of the criteria which determine the scope of the market have to be determined on a case-by-case basis based on the characteristics of each market.

5. Define geographic markets or differentiate remedies

The appropriate market definition will follow from the above analysis and can either be local or national. Where the available evidence suggests that the scope of the relevant market is local and this is justified on the basis of there being insufficient homogeneity of competitive conditions, then market power will be assessed in each of the separate markets and appropriate remedies imposed to address SMP where this is identified. Where the available evidence suggests that the scope of the relevant market is national, again market power will be assessed within this national market. However, within a national market it could be the case that there exist geographic variations in competitive conditions, but that any differences in the conditions of competition between geographic areas are not yet sufficiently stable or sustainable to justify the definition of regional or local markets. In such circumstances it may be appropriate to vary remedies within that national market where an operator is found to have SMP. It is nevertheless emphasised that the geographic segmentation of markets and the geographic differentiation of remedies should not be viewed as two alternative, equally applicable options in the presence of uneven developments of competition across the territory. Rather, the result of the market definition is determined by the evidence from the analysis.

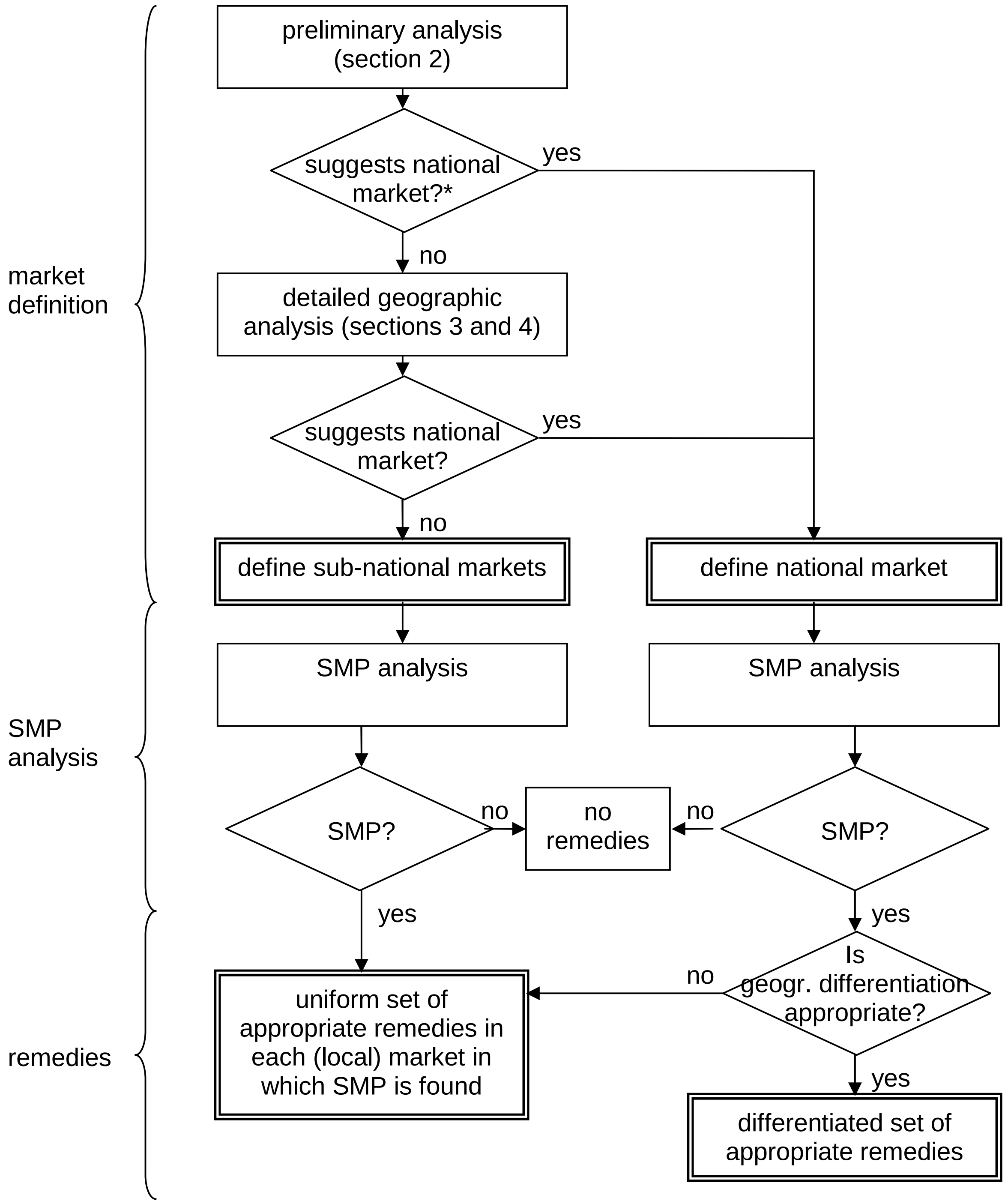
Once the geographic segmentation (of markets or remedies) has been made based on a forward-looking analysis, it appears to be in the sense of legal certainty and practicability that it does not change until the next market review.

6. Consider possible implications

NRAs should be aware that a geographic analysis and the implementation of geographically differentiated remedies can significantly increase the burden on NRAs as well as on operators and might render regulation more complex. In this context, NRAs should in particular

- consider possible implications of deregulation in one geographic markets on other, adjacent geographic markets;
- ensure that the prices of different wholesale products remain consistent; and
- ensure that remedies can still be implemented effectively.

Annex: Flowchart



* National market here refers to a market of the size of the network of the incumbent operator.