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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 28 June 2006
SEC(2006) 837

COMMISSION STAFF WORKING DOCUMENT

PUBLIC CONSULTATION

ON A

DRAFT 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 communication networks and services**

(Second edition)

TABLE OF CONTENTS

1.	Introduction.....	4
2.	Market definition, identifying markets and definition of other markets.....	6
2.1.	Methodologies used to define markets.....	6
2.2.	The basis for identifying markets that are susceptible to ex ante regulation in this Recommendation	7
2.3.	The definition by NRAs of other relevant markets.....	12
2.4.	The analysis of markets identified as susceptible to ex ante regulation	13
2.5.	Remedies	14
3.	General Issues	15
3.1.	Self Supply	15
3.2.	Bundling.....	16
3.3.	Next Generation Networks (NGNs).....	16
3.4.	Emerging Markets.....	17
4.	Examination of markets in order to identify relevant markets for the purposes of the recommendation.....	17
4.1.	Product and service markets in the electronic communications sector.....	18
4.2.	Services provided at fixed locations	19
4.2.1.	Public telephone services provided at fixed locations	19
4.2.2.	Access to data and related services at fixed locations.....	26
4.2.3.	Dedicated connections and capacity (leased lines)	33
4.3.	Services provided at non-fixed locations	35
4.4.	Markets related to Broadcasting Transmission.....	43
5.	Transition to the new Recommendation	46
6.	Publication of recommendation and subsequent Revision	47

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EXPLANATORY MEMORANDUM

1. INTRODUCTION

The Lisbon European Council of March 2000 highlighted the potential for growth, competitiveness and job creation of the shift to a digital, knowledge-based economy. In particular it emphasised the importance of access to inexpensive, world-class communications infrastructure and services. When the European Council revitalized the Lisbon strategy in March 2005, it re-emphasized the need to promote innovation and to spread the EU citizens' access to the information society. It called for better regulation and a reduced administrative burden for entrepreneurs and for a finalization of the internal market.

As part of the renewed Lisbon strategy for growth and jobs, the Commission proposed in June 2005 a new strategic framework, i2010 – European Information Society 2010, laying out broad policy orientations. The goal is to promote an open and competitive digital economy with an emphasis on ICT as a driver of inclusion and quality of life.

In tune with these goals, the legislative package for the electronic communications sector aims to establish a harmonised regulatory framework for networks and services across the EU and seeks to respond to convergence trends by covering all electronic communications networks and services within its scope. The EU legislative package had to be transposed into national law by 25th July 2003. Despite delays in several Member States, national implementation measures are now in place throughout the EU.

The regulatory framework for electronic communications networks and services comprises five Directives:

Directive of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services¹, hereinafter the Framework Directive

Directive of the European Parliament and of the Council on the authorisation of electronic communications networks and services², hereinafter the Authorisation Directive

Directive of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities³, hereinafter the Access Directive

Directive of the European Parliament and of the Council on universal service and users' rights relating to electronic communications networks and services⁴, hereinafter the Universal service Directive

¹ OJ L 108, 24.4.2002, p.33.

² OJ L 108, 24.4.2002, p.21.

³ OJ L 108, 24.4.2002, p.7.

⁴ OJ L 108, 24.4.2002, p.51.

Directive of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector⁵

Article 15(1) of the Framework Directive requires the adoption of a Recommendation on Relevant Product and Service Markets. The Commission adopted the first edition of this Recommendation on 11 February 2003. The Recommendation identified 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. The markets identified in the Recommendation were defined in accordance with the principles of competition law, without prejudice to markets that may be defined in specific cases under competition law.

Article 15(1) of the Framework Directive requires that the Commission regularly reviews the Recommendation. On 25 November 2005, the Commission started the review process by issuing a 'Call for Input', which indicated that the Commission would review the Recommendation during the course of 2006. The views gathered in the call for input have provided input to the draft of the revised version of the Recommendation. This Explanatory Memorandum outlines in greater detail the reasoning behind the proposed changes to the Recommendation.

The Recommendation should be considered in conjunction with the 'Guidelines for market analysis and the assessment of market power' referred to in Article 15(2) of the Directive⁶ (hereinafter, "the Guidelines"). National regulatory authorities ("NRAs") are required, taking utmost account of this Recommendation and the Guidelines, to define relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory, in accordance with the principles of competition law and to analyse those product and service markets, taking the utmost account of the Guidelines. On the basis of this market analysis, NRAs will determine whether these markets are effectively competitive or not and impose, amend, or withdraw regulatory obligations accordingly.

The regulatory framework aims at ensuring harmonisation across the single market and guaranteeing legal certainty. This Recommendation plays an important role in achieving both of these objectives, as it seeks to ensure that the same product and services markets will be subject to a market analysis in all Member States and that market players will be aware in advance of the markets to be analysed. It will only be possible for NRAs to regulate markets which differ from those identified in this Recommendation where this is justified by national circumstances and where the Commission does not raise any objections, in accordance with the procedures referred to in Articles 7(4) of the Framework Directive.

Competing network infrastructures are essential for achieving sustainable competition in networks and services in the long term. When there is effective competition, the framework requires ex-ante regulatory obligations to be lifted. Where competition is not yet effective granting others access to facilities in a way that levels the playing field but does not remove incentives for new infrastructure investment ensures that users enjoy choice and competition during the transition to a fully competitive market. Investment in new and competing infrastructure will bring forward the day when such transitional access obligations can be further relaxed.

⁵ OJ L 201, 31.7.2000, P.37.

⁶ OJ C 165;11.7.2002, p.6.

NRAs define relevant markets appropriate to national circumstances, taking utmost account of the product markets listed in the Recommendation, in particular relevant geographic markets within their territory. The definition of relevant markets can and does change over time as the characteristics of products and services evolve and the possibilities for demand and supply substitution change. This is particularly important where the characteristics of products and services are continually evolving, where new products and services appear and where the way in which such products and services are produced and delivered evolves as a result of technological evolution. The convergence phenomenon where similar services can be delivered over different types of network is one example. This means that it will be necessary to continue periodically re-examining the markets identified in this revised Recommendation. At the same time the underlying purpose of the regulatory framework (and its ex ante market analysis and possible regulation) is to deal with predictable problems of lack of effective competition that have their origin in structural factors in the industry. The fact that the framework deals with situations where any lack of effective competition is durable means that a degree of continuity (as opposed to frequent revisions of this Recommendation) is warranted. After having been in force for more than 3 years, the time is now ripe to revise the first edition of the Recommendation on the basis of market developments.

2. MARKET DEFINITION, IDENTIFYING MARKETS AND DEFINITION OF OTHER MARKETS

2.1. Methodologies used to define markets

In the regulatory framework, markets are defined in accordance with the principles of competition law, as explained in the Commission Notice on Market Definition⁷ and the Guidelines.

The main purpose of market definition is to identify in a systematic way the competitive constraints that the undertakings face. The objective is to identify those actual and potential competitors of the undertakings that are capable of constraining their behaviour and of preventing them from behaving independently of an effective competitive pressure. The market definition arrived at can depend on the relative weight given to demand-side and supply-side substitutability, and can also depend on the prospective time horizon considered. It is important to recall that market definition for the purposes of the Recommendation is not an end in itself but is a means to assessing effective competition for the purposes of ex ante regulation.

As stated in the Commission's Guidelines and Access Notice⁸, there are in the electronic communications sector at least two main types of relevant markets to consider, that of services or facilities provided to end users (retail markets) and that of access to facilities necessary to provide such services provided to operators (wholesale markets). Within these two types of markets, further market distinctions may be made depending on demand and supply side characteristics.

The starting point for the definition and identification of markets is a characterisation of retail markets over a given time horizon⁹, taking into account demand-side and supply-side

⁷ OJ C 372, 9.12.1997, p.5.

⁸ OJ C 265, 22.8.1998, p.2.

⁹ Ex ante regulation addresses lack of effective competition that is expected to persist over a given horizon. Therefore, the time horizon for market definition and identification for the purposes of this

substitutability¹⁰. Having characterised and defined retail markets which are markets involving the supply and demand of end users, it is then appropriate to identify relevant wholesale markets which are markets involving the demand and supply of products to a third party wishing to supply end users.

As the market analyses carried out by NRAs have to be forward-looking, markets are defined prospectively¹¹. Their definitions take account of expected or foreseeable technological or economic developments over a reasonable horizon linked to the timing of the next market review. Moreover, given the possibility to review a market at regular intervals, a NRA would be justified in taking into account past performance and existing market position as well as expectations concerning forthcoming developments.¹²

Markets defined in the Recommendation are without prejudice to the markets defined in specific cases under competition law. Markets identified in the Recommendation, while based on competition law methodologies, will not necessarily be identical to markets defined in individual competition law cases. As explained in paragraph 27 of the Guidelines, the starting point for carrying out a market analysis for the purpose of Article 15 of the Framework Directive is not the existence of an agreement or concerted practice within the scope of Article 81 EC Treaty, nor a concentration within the scope of the Merger Regulation, nor an alleged abuse of dominance within the scope of Article 82 EC Treaty, but is based on an overall forward-looking assessment of the structure and the functioning of the market under examination. NRAs and competition authorities, when examining the same issues in the same circumstances and with the same objectives, should in principle reach the same conclusions. However it cannot be excluded that given the differences outlined above markets defined for the purposes of competition law and markets defined for the purpose of sector-specific regulation may not always be identical.

2.2. The basis for identifying markets that are susceptible to ex ante regulation in this Recommendation

Article 15(1) of the Framework Directive requires that the Recommendation identifies 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.¹³ It is therefore appropriate first to consider the characteristics that may render a particular market susceptible to ex ante regulation.

In this context, it should be recalled that the Framework Directive is based on the premise that there is a need for ex ante obligations in certain circumstances in order to ensure the development of a competitive market (see e.g. recital 25).

So far the experience of liberalisation in the European Union has been that entry barriers often constitute a significant impediment to the development of competitive markets in the

Recommendation should be commensurate with the period during which possible ex ante regulatory remedies are likely to be imposed. The period may depend on whether an existing obligation is being maintained or reviewed, or a new obligation is being imposed.

¹⁰ See section 2 of the SMP Guidelines.

¹¹ Framework Directive recital 27.

¹² See paragraph 20 of the SMP Guidelines.

¹³ Whereas for the initial Recommendation Annex I to the Framework Directive listed a number of markets that were to be included, this is not anymore the case for the current second edition of the Recommendation.

electronic communications sector. These barriers to entry may be legal or regulatory barriers. There are also structural barriers to entry which may, for example, result from continuing control over legacy infrastructure that is impossible or difficult to duplicate, network externalities or economies of scale and scope. Where barriers to entry are high, even an undertaking that is more efficient than the incumbent is unlikely to be able to enter markets and create competition to the benefit of the consumer in the absence of regulatory intervention. The existence of high barriers to entry in a market is therefore considered a first indication that regulatory intervention may be required in order to ensure the development of a competitive market.

In view of the character of electronic communications markets, for regulatory intervention to be justified, market characteristics should not only be analysed in a *static* but also in a *dynamic* manner. Does the market, in the absence of regulation, tend towards effective competition? Market dynamics may make barriers to entry disappear over time, for example as a result of technological developments. Convergence of previously distinct markets may increase competition. Or simply, there may be sufficient players active in the market for effective competition to emerge behind the barriers to entry. Possibilities for the market to tend towards a competitive outcome, in spite of high barriers to entry, need also to be taken into consideration in analysing whether market characteristics may justify ex ante regulation.

Thirdly, Recital 27 of the Framework Directive indicates that, in addition, ex ante regulatory obligations (with respect to electronic communications networks and services) should only be imposed where Community competition law remedies are not sufficient to address the problem¹⁴. Ex ante regulation and competition law serve as complementary instruments in achieving their respective policy objectives¹⁵ in the electronic communications sector and in dealing with lack of effective competition. At the same time, a principle underlying the regulatory framework is that ex ante regulation should only be imposed where competition law remedies are insufficient and should be rolled back when it is no longer needed.

It is considered therefore that the criteria for identifying markets for the purposes of ex ante regulation should include an overall assessment of the effectiveness of competition law alone in addressing the market failures concerned. Such an assessment will draw on the experience gained from the application of competition law and the imposition of ex ante regulatory obligations in the electronic communications sector as a complementary instrument. Only markets where national and Community competition law is not considered sufficient by itself to redress market failures and to ensure effective and sustainable competition over a foreseeable time horizon should be identified for potential ex ante regulation.

For the aforementioned reasons, it is considered that the following specific cumulative criteria are appropriate to identify which electronic communications markets are susceptible to ex ante regulation.

¹⁴ Recital 27 also indicates that newly emerging markets, where de facto the market leader is likely to have a substantial market share, should not be subjected to inappropriate obligations. The Commission considers that 'emerging markets' are markets which are so new and volatile that it is not possible to determine whether or not the '3 criteria' test described below is met.

¹⁵ Article 8 of the Framework Directive requires NRAs to pursue a number of objectives including: ensuring users derive maximum benefits in terms of choice, price and quality; ensuring there is no distortion or restriction of competition; encouraging efficient investment in infrastructure and promoting innovation; encouraging efficient use of and effective management of radio frequencies and numbering resources.

The first criterion is that a market is subject to high and non-transitory entry barriers. The presence of high and non-transitory entry barriers, although a necessary condition, is not of itself a sufficient condition to warrant inclusion of a given defined market. Given the dynamic character of electronic communications markets, possibilities for the market to tend towards a competitive outcome, in spite of high and non-transitory barriers to entry, need also to be taken into consideration.

The second criterion, therefore, is that a market has characteristics such that it will not tend over time towards effective competition. This criterion is a dynamic one and takes into account a number of structural and behavioural aspects which on balance indicate whether or not, over the time period considered, the market has characteristics which may be such as to justify the imposition of regulatory obligations as set out in the specific directives of the new regulatory framework.

The third criterion considers the insufficiency of competition law by itself to deal with the market failure (absent ex ante regulation), taking account of the particular characteristics of the electronic communications sector.

(i). Barriers to entry and to the development of competition

With respect to the first criterion, two types of barriers to entry and to the development of competition in the electronic communications sector appear to be relevant: structural barriers and legal or regulatory barriers.

A structural barrier to entry exists when the state of the technology, and its associated cost structure, and/or the level of the demand, are such that they create asymmetric conditions between incumbents and new entrants impeding or preventing market entry of the latter. For instance, high structural barriers may be found to exist when the market is characterised by absolute cost advantages, substantial economies of scale and/or economies of scope, capacity constraints, and high sunk cost. Such barriers can still be identified with respect to the widespread deployment and/or provision of local access networks to fixed locations.

An important qualification of the first criterion is whether high entry barriers are likely to be non-transitory in the context of a modified Greenfield approach (i.e. in the absence of regulation in the market concerned under this regulatory framework but including regulation which exists outside this framework). In this respect it is not sufficient to examine whether entry has occurred or is likely to occur in the market at all. The NRA will therefore examine whether the industry has experienced entry and whether entry has been or is likely in the future to be sufficiently immediate and persistent to limit market power. Small scale entry (e.g. in a limited geographic area) may not be considered sufficient since it may be unlikely to exercise any constraint on the dominant undertaking(s). Barriers to entry will also depend on the minimum efficient scale of output, and the fraction of costs which are sunk.

A specific and different type of barrier to the development of effective competition can also occur in the electronic communications sector where interconnection is required to enable a calling party to make a call to a specific subscriber number. In cases where a charge is levied for terminating the call, (which is passed on as a retail charge to the calling party), the terminating network operator can affect competition adversely by raising a rival's costs or by passing on inefficiencies to competitors.

This barrier by itself need not lead to an absence of competition. For example, where the receiver rather than the calling party is responsible for paying any charge associated with incoming calls or traffic, the incentive to raise termination charges above costs is absent. Technological solutions might also provide a way round the technical barrier.

Legal or regulatory barriers are not based on economic conditions, but result from legislative, administrative or other state measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market.

One example is the case of a legal limit on the number of undertakings that have access to spectrum. Such a limitation is typically linked to a related technical or technological barrier, e.g., a constraint on the amount of spectrum that can be assigned and consequently a limit on the number of licences given to undertakings seeking to enter a market. Additional entry is blocked unless additional spectrum becomes available or secondary trading of spectrum is permitted.

A significant legal or regulatory barrier to entry may also exist when entry into a particular market is rendered non-viable as a result of regulatory requirements, and in addition this situation is expected to persist for a foreseeable period. Regulatory requirements may lead to some services being provided at below cost or at rates of return that deter entry. One example is the retail pricing of access to the public telephone network (and local calls) at a fixed location or address. In cases where services fail to cover their forward-looking incremental costs, entry into local access is deterred. Tariff re-balancing will address such a barrier. However, broader policy concerns and objectives may mean that the situation persists for a significant period. For legal or regulatory barriers to be considered valid for the purposes of this three criteria test, such barriers should be necessary to manage a legitimate public policy objective. In the event that legal or regulatory barriers cannot be removed without significant negative effects on such legitimate public policy considerations and within a reasonable timeframe can a non-transitory entry barrier be said to exist.

(ii). Dynamic aspects – no tendency to effective competition

The second criterion is that the market has characteristics such that it will not tend towards effective competition without ex ante regulatory intervention. The application of this criterion involves examining the state of competition behind the barrier to entry, taking account of the fact that even when a market is characterised by high barriers to entry, other structural factors or market characteristics and developments may mean that the market tends towards effective competition. This is for instance the case in markets with a limited, but sufficient, number of undertakings behind the entry barrier having diverging cost structures and facing price-elastic market demand. In such markets, market shares may change over time and/or falling prices may be observed.

There may also be excess capacity in a market that would allow rival firms to expand output very rapidly in response to any price increase, provided that there are no barriers to expansion behind the barriers to entry. Such barriers to expansion could exist, for example, if small scale entry does not allow firms to move from the fringe to the core of the market occupied by the established firm(s). Such barriers to

expansion will just as the barriers to entry depend on the minimum efficient scale of output and the fraction of costs which are sunk.

Market dynamics may also be caused by technological developments or by the convergence of products and markets. Innovation-driven markets characterised by ongoing technological progress may indeed tend towards effective competition. In such markets, competitive constraints often come from innovative threats from potential competitors that are not currently in the market. In such innovation-driven and/or converging markets, dynamic or longer term competition can take place among firms that are not necessarily competitors in an existing “static” market.

The tendency towards effective competition does not necessarily imply that the market will reach the status of effective competition within the period of review. It simply means that there is clear evidence of dynamics in the market within the period of the review which indicates that the market will reach the status of effective competition in the longer-run without ex ante regulation in the market concerned. Where market dynamics are changing rapidly care should be taken in choosing the period of review so as to reflect the pertinent market developments. Anticipated events must be expected within a meaningful timeframe and on the basis of concrete elements (e.g. business plans, investments made, new technologies being rolled out) rather than something which may be theoretically possible.

The simple fact that market shares have begun to decrease in recent years or uncertain technological future developments are in themselves insufficient to find that the market tends towards effective competition.

In general, the later effective competition is expected to materialise in the future, the more likely it is that the second criterion is fulfilled.

(iii). Relative efficiency of competition law and complementary ex ante regulation

The final decision to identify a market that fulfils the first two criteria (high and persistent entry barriers and absence of characteristics such that the market would tend towards effective competition) as justifying possible ex ante regulation, should depend on an assessment of the insufficiency of competition law by itself (absent ex ante regulation) to address the market failure.

Ex ante regulation would be considered to constitute an appropriate complement to competition law in circumstances where the application of competition law would not adequately address the market failures concerned. Such circumstances would for example include situations where the regulatory obligation necessary to remedy a market failure could not be imposed under competition law (e.g. access obligations under certain circumstances or specific cost accounting requirements), where the compliance requirements of an intervention to redress a market failure are extensive (e.g. the need for detailed accounting for regulatory purposes, assessment of costs, monitoring of terms and conditions including technical parameters etc) or where frequent and/or timely intervention is indispensable, or where creating legal certainty is of paramount concern (e.g. multi-period price control obligations). However, differences between the application of competition law and ex ante regulation in

terms of resources required to remedy a market failure should not in themselves be relevant.

In practical application NRAs should consult with their National Competition Authority (NCA) and take into account that body's opinion when deciding whether use of both complementary regulatory tools is appropriate to deal with a specific issue, or whether competition law instruments are sufficient.

In summary, whether an electronic communications market is susceptible to ex ante regulation would depend on the persistence of high entry barriers, on the lack of a tendency towards effective competition and on the insufficiency of competition law by itself (absent ex ante regulation) to address persistent market failures. For those markets listed, the Recommendation creates a presumption for the NRA that the three criteria are met and therefore NRAs do not need to reconsider the three criteria. However, it is open to a NRA to assess the three criteria and whether they are satisfied for their specific market if the NRA believes that this would be appropriate. The results of any such analysis should follow the normal market notification procedure.

The three criteria test focuses on market characteristics. It is intended to screen where persistent market failures, that ultimately cause consumer harm, are most likely to exist. As such the three criteria test is different from the SMP assessment. Whereas the three criteria test focuses on the general structure and characteristics of a market in order to identify those markets the characteristics of which are such that they need to be analysed in more detail on a national basis by NRAs, the SMP assessment focuses on the market power of a specific operator in a given market with a view to determining whether that operator should or should not be made subject to ex ante regulation in that particular market. Meeting the three criteria test does not automatically mean that regulation is always warranted. Regulation will only be warranted if on a market meeting the three criteria test one or more operators are found to have significant market power¹⁶. NRAs should follow the same basic criteria and principles when they identify markets other than those appearing in this Recommendation. The Commission will use these criteria when making future revisions to this Recommendation.

2.3. The definition by NRAs of other relevant markets

In this Recommendation, care has been taken to identify on an EU-wide basis markets whose characteristics may be such as to justify the imposition of regulatory obligations as set out in the specific directives. This list of relevant markets may not be exhaustive in the context of national circumstances, which may vary from Member State to Member State.

In the event that an NRA would identify an instance of consumer harm that cannot be addressed by imposing regulation on a market in the Recommendation they may consider defining a new market. NRAs should ensure that such a market (i) is defined on the basis of competition principles developed in the Commission Notice on the definition of relevant market for the purposes of Community competition law, (ii) is consistent with the Commission Guidelines on market analysis and the assessment of significant market power and (iii) satisfies the three criteria set out above. Since the imposition of *ex ante* regulation on a market would in most cases potentially affect trade between Member States as described in recital 38 of the Framework Directive, the Commission considers that the identification,

¹⁶ See section 4 below for a market-by-market overview.

analysis and regulation of a market that differs from those of the Recommendation is subject to the procedure foreseen in Article 7 of the Framework Directive.

There may moreover be a number of ways in which the borderlines of a specific product or service market may be drawn differently at a national level than set out in the Recommendation, for the purposes of market analysis. For example, in the first round of market analyses certain NRAs have, on the basis of specific national circumstances and consistent with competition law principles, segmented the wholesale terminating segments of leased lines into various product markets in function of the capacity of such leased lines. Likewise, so far all NRAs have in the first round of market analysis narrowed the definition of the wholesale market for broadcasting transmission services so as to identify a separate product market for transmission services over the predominant platform(s) in their country.

When NRAs consider redefining markets more narrowly or more broadly for reasons related to national market circumstances, such market definition must be consistent with competition law principles as set out in the guidelines. This also applies in relation to defining the geographic scope of a market. The Commission continues to see it in general as valid to define a market that spans the Member State, but it may be appropriate to differentiate the remedies imposed if the nature or degree of market failure differs within the national territory. However, NRAs will have to judge when it is more appropriate in their own national circumstances to define more limited geographic markets.

2.4. The analysis of markets identified as susceptible to ex ante regulation

Certain of the markets identified in the Recommendation are interrelated and for NRAs there is a logical sequence in analysing these markets.

In general, the market to be analysed first is that market which is most upstream in the vertical supply chain. Taking into account the ex ante regulation imposed on that market (if any), it should then be assessed whether there still is SMP on a forward-looking basis on the related downstream market(s). This methodology has become known as the “modified greenfield approach”. Thus the NRA should work its way further down the vertical supply chain until it reaches the stage of the retail market(s). A retail market should only be made subject to direct regulation if competition on that retail market still exhibits SMP in the presence of wholesale regulation in the related upstream market(s).

For example, with regard to wholesale broadband access, it is recommended that NRAs first analyse the market for local loop unbundling. Taking into account regulation imposed on that market, the market for wholesale broadband access should then be analysed. If that market continues to exhibit significant market power on a prospective basis despite the presence of LLU regulation (unless the NRA finds that the market no longer fulfils the three criteria test and excludes it from regulation on that basis), appropriate regulation on the wholesale broadband access market should be imposed.

Likewise, NRAs should take into account regulation imposed on the market for local loop unbundling when analysing the wholesale market for fixed origination. Remedies imposed on the markets for local loop unbundling should then be taken into account when assessing SMP on a forward looking basis on the retail fixed access market.

Given that the analysis of these markets must be conducted within the context of the entire value chain from the wholesale input market through to the final output market, it is imperative that, for NRAs to be in position to carry out their tasks, they should have access to

data at all levels in the value chain. This is particularly pertinent in relation to the retail level. As noted elsewhere by the Commission¹⁷ NRAs have all the necessary powers under the current framework to ensure that they are in a position to obtain such data. Such data requirements may be extensive given the extent of joint and common costs which may transcend both SMP and non-SMP markets and so accounting separation may cover markets where the operator does not have SMP to ensure the coherence of data etc. Therefore an accounting separation obligation may require the preparation and disclosure of information for markets where an operator does not have SMP

The interrelationship of markets should also be taken into account when determining and implementing remedies on the respective markets in order to ensure the effectiveness and consistency of the remedies imposed.

2.5. Remedies

Remedies are the final part of a process which starts with market definition and identification as a market susceptible to ex ante regulation, which is followed by market analysis and, in the event of an SMP designation, moves to corrective action. Markets susceptible to ex-ante regulation are selected on the basis of the criteria set out in section 2.2. The identification of a market for analysis does not of itself mean that that market requires regulatory intervention. It is only where NRAs find that there is the absence of effective competition on that market that they impose remedies. Even then there needs to be careful consideration of which remedy should be applied. The regulatory framework is very flexible. NRAs have a suite of regulatory tools at their disposal, as set out in Directive 2002/19/EC and Directive 2002/22/EC. When imposing a specific obligation on an undertaking with significant market power, the NRA will need to demonstrate the obligation in question is based on the nature of the problem identified, proportionate and justified in the light of the NRA's basic objectives as set out in Article 8 of the Framework Directive.

These basic objectives require NRAs to:

- promote competition in the provision of electronic communications networks, electronic communications services and associated facilities and services;
- contribute to the development of the internal market;
- promote the interests of the citizens of the European Union.

The Framework Directive also requires NRAs to seek to agree between themselves on the types of instruments and remedies best suited to address particular types of situations in the marketplace. In particular, as noted in the Guidelines on market analysis, in order to establish that a proposed remedy is compatible with the principle of proportionality, the action to be taken must pursue a legitimate aim and the means employed to achieve the aim must be both necessary and the least burdensome, i.e. it must be the minimum necessary to achieve the aim.

A number of considerations are set out in the Directives qualifying the use of specific remedies. In particular, before imposing the more onerous remedies, NRAs need to be mindful of the initial investment by the facility owner, bearing in mind the risks involved in

¹⁷ 2005/698/EC Commission Recommendation of 19 September 2005 on Accounting Separation and Cost Accounting Systems Under the Regulatory Framework for Electronic Communications.

making the investment. The NRAs have a duty to safeguard competition in the long term which will inter alia be a function of the need to assess the technical and economic viability of using or installing competing facilities and the effect of such an intervention on possible investment in such competing facilities. This is especially important where new technologies or networks are being deployed in unproven markets.

In principle, the proposed obligations should pertain to the relevant product market in which SMP has been found. However, in dealing with lack of effective competition arising from a position of SMP in an identified market, it may be necessary to impose several obligations to remedy the competition problem relating to services both inside and outside the market. In principle, an NRA may impose obligations in an area outside but closely related to the relevant market under review, provided such imposition constitutes

- (a) the most appropriate, proportionate and efficient means of remedying the lack of effective competition found on the relevant market; and
- (b) an essential element in support of obligation(s) imposed on the relevant SMP market without which those obligations would be ineffective.

For instance, an obligation of accounting separation may cover the disclosure of information related to non-SMP products, which are closely associated with SMP-products.

3. GENERAL ISSUES

In the course of the notification process and in the public call for input many of the following themes were dealt with. These include the issues of self-supply, bundling, next generation networks (NGNs) and emerging markets. How these general issues are treated in this draft Recommendation is outlined below.

3.1. Self Supply

The issue of how to take into account the self provision of wholesale inputs arises frequently in delineating markets. In some cases, what is under consideration is the self supply of the incumbent operators. In others, it is the self supply of alternative operators.

In many cases the incumbent is the only firm in a position to provide a potential wholesale service. It is likely that there will be no merchant market as this is not in the interest of the incumbent operator. Where there is no merchant market and where there is consumer harm, there is the need to construct a notional market when pent-up demand exists. Here the implicit self supply of this input by the incumbent to itself should be taken into account.

In other contexts there are alternative firms that also self supply the necessary inputs. In these cases, third party access seekers could potentially move their business to such alternative operators. However, this is normally limited by capacity constraints, the potential lack of ubiquity of these networks, and the likelihood of the alternative providers entering the merchant market quickly. In general self supply by alternative operators will only be considered where these constraints are not present, which is unlikely in practice.

3.2. Bundling

Communications companies provide a multitude of services to their customers, which are often sold as a bundle or a cluster. In most cases the individual services in a cluster are not good substitutes for each other yet can be considered to be part of the same relevant market. In the future converged offerings between mobile and fixed services may emerge but this is not expected to be a widespread phenomenon during the life of the revised Recommendation. Such clusters are often sold as such due to economies of scope in the supply function. Some of these economies of scope are related to the marketing and billing functions and are, as such, independent of the context. Others relate to the actual technology used where a given network can be configured to provide a large range of services.

On the demand side, consumers may have a preference for a bundle/cluster if there are significant transactional costs. In this case, consumer preferences may be such that the vast majority prefer to purchase the whole bundle from a single supplier and hence the bundle may become the relevant product market.

Whilst certain bundles are well established (voice and SMS on mobile), others are at a much earlier stage of development. In many circumstances such bundling is to the advantage of consumers without impacting negatively on competition.

As yet, there is little evidence to consider triple or quadruple plays as a bundle that should be analysed as a single market. An important part of this is that the consumer is able to “unpick” the bundle and obtain a particular service from another provider if they so desire. For the same reason, access and calls markets in the fixed arena would still be viewed as separate markets.

3.3. Next Generation Networks (NGNs)

Many firms are planning or in the process of updating the core of their networks to both provide new and innovative services and to provide existing services more efficiently. These plans are normally referred to as the next generation networks (NGNs). A smaller number of operators also plan to update parts of their local access network using fibre. These changes will continue over a much longer period than that covered by this draft Recommendation.

Incentives to upgrade the network can be attributed in part to the need for operators to make cost savings and in part to the need for them to be able to provide advanced services as voice revenues decline. The use of more efficient technology to provide existing regulated services does not alter the justification for that regulation; the move to NGNs does not provide an opportunity to roll back regulation on existing services if the competitive conditions have not changed.

It is recognised that some market definitions may change in the face of the new service offerings that NGNs could bring. The ‘all IP’ network could have a knock-on effect on business models; for example, the introduction of a ‘bill-and-keep’ model for interconnection of voice calls on IP networks would have a major impact on the market for call termination.

However, the final impact of these technological developments on defined markets is unclear at a European level and will be further assessed in subsequent editions of this Recommendation.

3.4. Emerging Markets

The framework states that emerging markets should not be subject to inappropriate regulation. The framework aims to take into account the risks inherent in making investments to create new and innovative services, whilst at the same time guarding against the re-emergence of monopolies. The Commission considers that ‘emerging markets’ are markets which are so new and volatile that it is not possible to determine whether or not the ‘3 criteria’ test is met. Only markets which satisfy the three criteria warrant consideration for ex-ante economic regulation, although consumer protection rules may nonetheless apply.

When the first products are introduced to the market, it is unclear whether the same service could be provided in some other manner. As a market matures however, there will be sufficient certainty to conclude on the nature of entry barriers and how long they are likely to persist. If there are no entry barriers and the service matures successfully and starts to become a mass market, entry should be expected under normal circumstances. Announcements that firms intend to enter independently would certainly point to the fact that entry barriers are not high. However, caution must be taken in relation to making the opposite conclusion as announcements may not be made in advance of market entry.

Even when entry barriers can be identified and their non-transitory nature confirmed, there is still the question of the dynamic behind the entry barrier. It may be that new services are associated with considerable expenditure both on networks, content and other services. This may lead to a firm realising that the only way to recoup this investment over a reasonable period of time is to allow third party access. Provided that it is offered in an open and pro-competitive way, such access could help to provide a level of service competition and move the market away from an outcome that causes considerable harm to consumers. Notwithstanding, the normal considerations relating to the second criterion also apply.

4. EXAMINATION OF MARKETS IN ORDER TO IDENTIFY RELEVANT MARKETS FOR THE PURPOSES OF THE RECOMMENDATION

This section examines the broad market areas within the electronic communications sector, analyses briefly the general market structure of the relevant retail and wholesale markets within those broad areas, and identifies the specific markets that are susceptible to ex ante regulation.

A key aim of the new regulatory framework is to enhance user and consumer benefits in terms of choice, price and quality by promoting and ensuring effective competition. It is only where consumer harm could be expected absent a regulatory intervention that a market should be susceptible to ex ante regulation. The starting point is therefore a characterisation of retail markets, followed by a description and definition of related wholesale markets.

NRAs have powers as a last resort and after due consideration to impose retail regulation on an undertaking with significant market power. However, regulatory controls on retail services should only be imposed where NRAs consider that relevant wholesale or related measures would fail to achieve the objective of ensuring effective competition.¹⁸ In principle, lack of effective competition may occur at the retail level or the wholesale level or both. That means that NRAs may need to examine the overall degree of market power of undertakings and the

¹⁸ Universal Service Directive recital 26.

impact on effective competition. The identification of a retail market (as part of the value chain) for the purposes of ex ante market analysis does not imply, where there is a finding of a lack of effective competition by a NRA, that regulatory remedies would be applied to a retail market. Regulatory controls on retail services can only be imposed where relevant wholesale measures would fail to achieve the objective of ensuring effective competition at retail level.

Markets should be examined in a way that is independent of the network or infrastructure being used to provide services, as well as in accordance with the principles of competition law. For the purposes of the second edition of the Recommendation, the starting point for market definition and identification is those markets that were identified in the initial Recommendation.

4.1. Product and service markets in the electronic communications sector

Electronic communications networks and services are defined in the Framework Directive. Electronic communications services include telecommunications services and transmission services in networks used for broadcasting, but exclude services providing or exercising editorial control over content transmitted using electronic communications networks and services. They do not include information society services, as defined in Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks¹⁹.

In the initial Recommendation, a general division was made between services provided at fixed locations and those provided to non-fixed locations. Overwhelmingly, despite some moves towards converged offerings, this distinction remains valid. A general distinction was also made between voice services and non-voice (data) services. These distinctions for the purposes of analysing markets do not imply an advance judgement that these services constitute separate markets. However, at the current time voice and data services are still considered overall to be sufficiently distinct in terms of demand substitution that they are analysed separately. At a wholesale level, this distinction between voice and non-voice services may be less easy. For example a transmission channel may carry (or be capable of carrying) both voice and non-voice services²⁰. These issues are dealt with in the relevant analysis sections.

Across the EU different Member States have communication network topologies which differ significantly from each other. Since the adoption of the initial Recommendation, diversity has even increased as a consequence of the accession of ten new Member States and different speeds of incumbents rolling out NGNs based on IP in network cores. Diverging national circumstances may lead NRAs to adopt a different market definition than foreseen in the Recommendation, subject to the conditions set out in section 2.3 above.

¹⁹ Framework directive Article 2.

²⁰ This raises the question of technical neutrality with respect to the treatment of services and the means by which they are delivered. As well as recognising that some services may constitute substitutes, irrespective of technical provision, it is also necessary to recognise that different services may be characterised by different technical requirements within a given network, for example in terms of delay (real-time or not) and bandwidth (and the level and variance of these technical requirements).

4.2. Services provided at fixed locations

4.2.1. Public telephone services provided at fixed locations

The aim of this section is to (i) describe and define relevant retail markets for voice services provided at fixed locations²¹, (ii) define the linked wholesale markets and (iii) identify those markets which warrant ex-ante regulation.

The initial Recommendation identified the following fixed telephony markets as susceptible to ex ante regulation:

- two retail markets for access to the public network at a fixed location, based on a distinction between residential and non-residential customers;
- two retail markets for local and/or national calls, based on a distinction between residential and non-residential customers;
- two retail markets for international calls, based on a distinction between residential and non-residential customers;
- a wholesale market for call origination at a fixed location;
- a wholesale market for call termination at a fixed location (single-network markets for call termination to end-users);
- a wholesale market for transit.

In addition, the initial Recommendation identified the wholesale market for unbundled access to metallic loops and sub-loops as a market susceptible to ex ante regulation. LLU allows alternative operators to provide retail access and voice services at a fixed location, as well as wholesale origination and termination services at a fixed location. Generally, however, alternative operators primarily invest in LLU to provide data services (mainly broadband Internet access), with voice services as a possible addition. Therefore, LLU was in the initial Recommendation and is also in this draft revised Recommendation primarily examined in the context of data services.

Retail Markets

The retail market at a general level can be described as the provision of a connection or access (at a fixed location or address) to the public telephone network for the purpose of making and/or receiving telephone calls and related services. Such access and services may be supplied by several possible means in respect of the undertaking providing the service and the technology that is used. The most common technology currently employed still is via traditional telephone networks using metallic twisted pairs. Alternatives include cable TV networks offering telephone service, mobile cellular networks that have been adapted to provide service to fixed locations or which are confined to a limited radius around a fixed location and other wireless based networks.

²¹ Dial-up Internet services are treated in section 4.2.2 on access to data and related services.

Broadband connections are also capable of facilitating delivery of narrowband services, though generally consumers will not upgrade to a broadband service solely for the purposes of accessing voice services. Consumers switch from narrowband to broadband connections primarily to get access to higher speed Internet services. Such migration appears to be independent of the price difference between both products; cross-price elasticity appears to be limited. So far most customers when switching to a broadband connection have kept their narrowband connection, indicating that both access products are used as complements rather than substitutes. There are various reasons for this, including the absence in some Member States of DSL-only connections (so-called “naked DSL”) and the pricing structure of naked DSL offers where such offers are available, numbering and emergency call regulation of VoIP. Also from the supply-side, substitution between fixed narrowband access and fixed broadband access is limited.

Households which choose fixed narrowband access either have no demand for Internet access or their demand for Internet access is such that they would not respond to a small non-transitory price increase by upgrading to broadband. While households with broadband connections may be prepared to switch off their narrowband connections, those who are not broadband customers are not likely to switch given the focus of their demand. Therefore from such a starting point, i.e. fixed narrowband access in order to avail of narrowband services, broadband access is clearly not a substitute. For the time being, therefore, it is considered that fixed broadband access is not in the same market as fixed narrowband access.

For locations where there is demand for a large number of user connections, some form of dedicated access, such as leased lines, may be used. In general, as with broadband access, leased lines are generally not substitutable with fixed narrowband access. The retail and wholesale leased lines markets will be analysed in section 4.2.3 below.

In the initial Recommendation, a distinction was made between residential and non-residential access. However, the experience so far of market analyses and notifications under the Framework Directive has shown that the contractual terms of access do not significantly and systematically differ between residential and non-residential access. Operators do not generally seek to classify different demand categories and do not normally register whether a particular access service is supplied to a residential or non-residential customer, so that collecting separate data for both groups of customers has in practice often appeared to be difficult. From a supply perspective, since similar products (in particular PSTN access lines) are often used by residential and non-residential users, suppliers to non-residential customers could generally divert their supplies to residential customers should prices to residential customers rise, and vice versa. On this basis, the Commission proposes in the draft revised Recommendation to define one single narrowband access market for residential and non-residential customers.

NRAs may, however, decide on the basis of national circumstances and in line with competition law principles to segment this market further where this would be appropriate (for example identifying distinct product markets for different types of access lines such as PSTN, ISDN2 and ISDN30 where it is found that no or very limited demand-side and supply-side substitution between such products exist).

Telephone services are usually supplied as overall packages of access and usage. Various options and packages may be available to end users depending on their typical usage or

calling patterns²². Although many end users appear to prefer to purchase both access and outgoing calls from the same undertaking, others choose alternative undertakings from the one providing access (and the receipt of calls) in order to make some or all of their outgoing calls. An undertaking that attempted to raise the price of outgoing calls above the competitive level would face the prospect of end users substituting alternative service providers. End users can relatively easily choose alternative undertakings by means of short access codes, (via contractual or pre-paid means) or by means of carrier pre-selection. Whilst undertakings that provide access compete on the market for outgoing calls, it does not appear to be the case that undertakings supplying outgoing calls via carrier selection or pre-selection would systematically enter the access market in response to a small but significant non-transitory increase in the price of access. Therefore, it is possible to identify separate retail markets for access and outgoing calls.

As regards outgoing calls, the initial Recommendation distinguished between local and national calls on the one hand and international calls on the other hand, essentially on the basis of supply-side substitution. Such distinction remains valid. Also on the basis of supply-substitution both markets include fixed-to-fixed as well as fixed-to-mobile calls.

The experience so far under the market review procedure indicates that voice over broadband (VoB) services has increasingly become available across the EU. Substitutability between VoB and narrowband telephony depends on a number of factors such as product characteristics, numbering, quality of service, prices, broadband penetration etc. In countries where broadband penetration is significant, VoB services may exercise a competitive constraint on narrowband telephony services, provided that it is not possible for the incumbent operator to price discriminate between consumers that only have a narrowband connection and consumers that also have a broadband connection. Where substitutability exists, VoB services should be treated as part of the retail calls markets. On the basis of quality differences and product characteristics (e.g. whether conventional handsets can be used and whether the computer must be switched on to receive calls) unmanaged VoB services appear for the time being to be less of a substitute for narrowband telephony than managed VoB, but that distinction may disappear over time as quality of unmanaged VoB services improves and technical features change.

In the absence of any regulation (at retail or wholesale level), the incumbent PSTN operator(s) would face little competitive constraint in terms of price or quality of services and customers would have little choice of supplier either in relation to access or calls (with the possible exception of large business users). In the following sections we highlight the wholesale inputs that should be identified so as to influence the competitive outcome at the retail level. Finally, we examine if wholesale regulation alone could render the retail markets effectively competitive and in so doing see if the retail markets continue to be susceptible to ex ante regulation.

Related Wholesale Markets

Wholesale call termination

Call termination is the least replicable element in the suite of inputs required to provide retail call services and is therefore analysed first. Wholesale call termination is required in order to

²² The question of whether metered and un-metered (flat-rate) access to Internet are in the same or separate markets is considered in section 4.2.2.

terminate calls to called locations or subscribers. Undertakings owning or operating networks to provide telephone services may interconnect at relatively high levels in the network, i.e. at a few interconnect points. Consequently call termination arrangements may in practice comprise call conveyance as well as local call termination. However, undertakings faced by a price increase in say national call termination could purchase local call termination separately from the call conveyance part. Therefore, it makes sense to focus on local call termination as the relevant call termination market.

In using demand and supply substitution possibilities to define a relevant market for competition analysis, it is normal to start with a narrow definition and expand it as appropriate. In this case, the starting point is call termination to a specified location, subscriber or number. However, it is difficult for an undertaking that supplies wholesale call termination to other undertakings wishing to terminate calls to price discriminate between termination charges to different subscribers or locations on its network. Therefore the relevant market is at least as wide as each network operator.

In considering whether a wider definition is appropriate, it is necessary to examine the possibilities for demand and supply substitution that might constrain the setting of termination charges on a given network²³. If all (or at least a substantial number of) fixed locations or subscribers in a given geographical area were connected by two or more networks, then alternative possibilities would exist for terminating calls to given locations. Another possible source of supply substitution would occur if it was possible technically for calls to a given location or end user to be terminated by an undertaking other than the one operating the network that serves the given location. Currently no such supply substitution is possible.

Call termination charges at a wholesale level on a given network might be constrained via demand substitution but there is currently no potential for demand substitution at the wholesale level. However, there are possibilities for demand substitution at the retail level. Examples could comprise any means of communication that constituted a reasonable alternative to making a call to the location or subscriber number concerned. Such alternatives might include terminating the call to the person concerned via a mobile network, a call using a call-back arrangement, a call that does not involve a specific call termination arrangement (e.g. where parties call via IP based links) or communication via messages of varying kinds (e.g. email, voicemail, paging). It is also necessary that the alternative possibility leads to an effective constraint on the setting of call termination charges by making it unprofitable for a network to raise call termination charges.

Such alternatives for demand or supply substitution do not appear currently to provide sufficient discipline on call termination at fixed locations or an argument in favour of a wider market definition, so that the relevant market appears to be call termination on individual networks with the consequent satisfaction of the first criterion (i.e. high and non-transitory barriers to entry). Each market for call termination on an individual fixed network is a monopolistic market with no tendency towards effective competition, hence satisfying the second criterion. Effective regulation of termination services moreover requires frequent intervention on a coordinated basis and a detailed cost assessment. Termination rates should also be regulated ex ante in order to provide legal certainty to other operators when setting

²³ It is also important to examine countervailing market power, in this case countervailing buyer power in negotiating call termination charges, but this is part of the effective competition analysis once the relevant market is defined.

their retail tariffs which are inter alia in function of the terminating cost. Competition law is therefore insufficient to address the market failure on this market.

However, such a market definition - call termination on individual networks - does not automatically mean that every network operator has significant market power; this depends on the degree of any countervailing buyer power²⁴ and other factors potentially limiting that market power. Small networks will normally face some degree of buyer power that will limit their associated market power. Absent any regulatory rules on interconnection, a small network may have very little market power relative to a larger one in respect of call termination. The existence of a regulatory requirement to negotiate interconnection in order to ensure end-to-end connectivity (as required by the regulatory framework) redresses this imbalance of market power. However, such a regulatory requirement would not endorse any attempt by a small network to set excessive termination charges. The existence of buyer power and the ability of small network operators to raise termination rates above the competitive level should be examined on a case-by-case basis in the context of the SMP assessment on this market. Thereby, one should not only examine the ability of smaller network operators to raise termination rates vis-à-vis the incumbent fixed network operator but also vis-à-vis other operators that may have less buying power.

Wholesale access and call origination

After termination, access and call origination are the next least replicable elements of the wholesale inputs required to provide retail call services. At the retail level, a distinction has been made between access and outgoing calls. An undertaking may make a decision to enter the combined market for access and calls or simply enter part or all of the calls market. In assessing the relevant linked wholesale markets, it is necessary, therefore, to bear in mind that there are a number of means of addressing the retail markets.

With respect to access, the main alternatives are between building (i.e. duplicating the existing local access network) or buying (i.e. using existing local access network) as indicated below. The latter option potentially includes any transmission path that is capable of supporting voice services, e.g. a leased circuit, an unbundled local loop or the wholesale provision of a digital subscriber line (DSL) or bit-stream services. Such alternatives are also capable of supporting the provision of data services or multiple voice channels and are considered in more detail below.

With respect to calls services, the main elements required to produce such services are call origination, call conveyance (including routing and switching) of varying kinds and call termination. Related elements include signalling and the ancillary services needed, for example, for billing purposes. An undertaking that supplies retail telephone service could purchase these inputs separately or together, or produce all of them by constructing an extensive network, or purchase some and produce others.

One direct alternative to the purchase of call origination is to establish an access network (cable, fibre to the home,...) to the end user location. Another alternative is to purchase or

²⁴ Considerations of relative market power are not limited to networks (of differing size or coverage) serving end users at a fixed location or address but also networks such as mobile cellular networks serving non fixed locations. In circumstances where a 'fixed' network with significant market power is subject to a regulatory remedy (beyond the basic one to negotiate interconnect) such as regulated prices for call termination, market power relative to mobile networks would be affected.

lease an established network connection to the end user location (for example through local loop unbundling). Both alternatives entail considerable time and investments, a large proportion of which are sunk. Incumbents continue to enjoy, as regards the local access network, absolute cost advantages due to economies of scale and density. The market for fixed call origination hence continues to expose high and non-transitory barriers to entry. Both the development of alternative access networks (cable, fibre to the home,...) and the degree of local loop unbundling remain, for the time being, limited on a European scale. Where market entry has occurred, it has often been limited to particular geographical areas or to particular customer groups. Market entrance has not occurred and is within the coming years not foreseen to occur on such a scale as to make this market tend towards effective competition. Finally, the remedies necessary to address the market failure (in particular access obligations) could not be imposed on the basis of competition law.

Wholesale call origination services (originating access or interconnection) can be provided in the form of minutes or in the form of capacity. It may also be supplied together with switching and/or call conveyance services (see below). The market identified for the purpose of this Recommendation is wholesale call origination services. The relevant market is considered to comprise call origination for telephone calls and for the purposes of accessing dial-up Internet service provision. Therefore the market is defined as call origination on the public telephone network provided at a fixed location.

Wholesale Transit Services

In addition to wholesale call origination and call termination, call conveyance or transit will be needed in order to complete a call. Call conveyance or transit interconnection involves transmission and/or switching or routing. For an undertaking providing services to a limited number of end users, an alternative to using wholesale call conveyance services could be to use interconnected leased lines or dedicated trunk capacity. Transit services refer to the (long distance) conveyance of switched calls on the public telephone network provided at a fixed location. This is a different product from say the provision of dedicated capacity of itself, even if some transit services are provided over leased circuits or links. The difference is that leased lines provide dedicated capacity between two fixed points whereas transit refers instead to switched calls on the public telephone network provided at a fixed location. Transit services therefore compromise both conveyance between tandem switches on a given network, between tandem switches on different networks and including pure conveyance across a third network. Some parts of this transit service market are likely to become more competitive more quickly than others, but there cannot be a presumption that some switched call conveyance (from an incumbent to an entrant's network) is automatically different from other switched call conveyance (between two entrants' networks).

The provision of transit interconnection can be bought either directly or the elements necessary for the provision of such services can be bought separately and the services can be self-provided. The range of operators providing services or indeed the necessary network elements (both self-supplied and to third parties) is almost entirely dependent on the traffic volumes on particular transit routes. While for certain busy routes self provision or even merchant offers by alternative operators are more likely, for other less busy or thinner routes this is not the case, meaning that the ability to provide geographically ubiquitous transit services still normally depend on incumbent provided transit services.

In a large number of Member States, new entrants are still dependent on the incumbent for the provision of transit services on many routes. Due to such scale advantages of incumbent

operators and large (sunk) investments, in particular as regards thin routes, there continue to be high and non-transitory barriers to entry on the transit market. Depending inter alia on the roll out of alternative infrastructure and the proportion between thin routes and thick routes in a given Member State, one may see a certain tendency towards effective competition behind the barriers to entry, in particular where alternative operators are providing transit services on the merchant market in competition with the incumbent. Where the presence of such alternative sources of supply constrains the incumbent's behaviour even as regards thinner routes, the transit market may on a case by case basis be found not to meet the second criterion and hence not to be susceptible to ex ante regulation in certain Member States. On a European scale such a tendency towards effective competition however does not yet exist and is not foreseeable in the coming years so that inclusion of this market in the revised draft Recommendation remains warranted. Competition law is in such cases insufficient, as the compliance requirements of an intervention to redress the market failure would be extensive, including for example detailed accounting rules, assessment of costs and monitoring of terms and conditions including technical parameters.

The market defined in the context of this Recommendation is Wholesale Transit Services in the Public Telephone Network. Depending on network topologies, the delineation between call origination and transit services can vary and it is left to NRAs to define those elements constituting each part. It should be noted by the NRAs that while there is a degree of discretion in deciding the appropriate elements constituting call origination, call termination and transit services, these elements are additive, the sum of the three making the whole. This means for instance that if call origination and call termination are already defined that then transit is also defined by default.

Retail Regulation

In the initial Recommendation, in line with Annex 1 of the Framework Directive, two access markets and four calls markets were identified as being susceptible to ex ante regulation. Retail regulation can only be justified if, with all regulatory remedies on wholesale markets including Carrier Selection and Carrier Pre-Selection in place, there remains a lack of effective competition at the retail level.

Regarding retail access to the public telephone network at a fixed location, the only wholesale regulation that could potentially impact on competition in this market is local loop unbundling, as local loop unbundling enables new entrants to provide narrowband access services to retail customers. However, local loop unbundling requires time and high investments, a large portion of which are sunk. Moreover, new entrants in principle do not unbundle local loops to provide narrowband access only. Local loop unbundling therefore does not remove the high and non-transitory barriers to enter the retail access market at a fixed location, nor does it make this market tend towards effective competition. Even in combination with the development of other infrastructures such as cable and fibre-to-the-home, such a tendency is not envisaged yet on a European basis. Therefore, even in the presence of wholesale regulation, the retail market for access to the public telephone network at a fixed location remains susceptible to ex ante regulation.

As regards the retail calls markets at a fixed location, the conclusion is different. Wholesale regulation, including Carrier Selection and Carrier Pre-Selection obligations, significantly reduce the barriers to enter these markets. This is evidenced by large scale market entry of alternative operators across Europe, to the detriment on the incumbents which overall are losing significant market share. Market entry of Carrier Select and Carrier Pre-Select

operators, in combination with VoB services in Member States with significant broadband penetration, imply that overall in the EU, retail fixed calls markets tend towards effective competition. Potential restrictions of competition may still arise, for example through price squeeze strategies of incumbent operators that remain dominant on related upstream markets, but where such strategies constitute an abuse of dominance, competition law provides the appropriate instruments to deal with such market failures. Therefore, the retail calls markets are no longer considered susceptible to ex ante regulation on a European basis. However, in case an NRA finds that national circumstances require a different conclusion, it is open to that NRA to demonstrate that (some of) the retail calls markets in its country continue to meet the three criteria test. This may for example be the case in Member States where Carrier Select and Carrier Pre-Select obligations have only recently been introduced or so far remain ineffective (e.g. because of particular consumer habits) and where broadband penetration is low and VoB offerings insignificant.

Conclusion

On the basis of the above, it is considered that the following specific markets related to the provision of public telephone services at fixed locations should be included in the revised Recommendation:

Retail level

- (1) Access to the public telephone network at a fixed location

Wholesale level

- (2) Call origination or capacity (on all networks serving a fixed location).
- (3) Call termination on individual networks.
- (4) Transit services in the public telephone network.

4.2.2. Access to data and related services at fixed locations

The aim of this section is to (i) describe and define relevant markets for access to generic data services (in particular the provision of Internet service) at fixed locations at a retail level, (ii) define the linked wholesale markets and (iii) identify the relevant markets which warrant ex-ante regulation.

In the area of data services at fixed locations, the initial Recommendation identified the following markets as susceptible to ex ante regulation:

- Wholesale unbundled access (including shared access) to metallic loops and sub-loops (or equivalent);
- Wholesale broadband access.

Retail Markets

The increased use of Internet for a mix of communications services has created potentially wide-ranging retail markets for access to data and related services at fixed locations. In general, the provision of retail Internet access consists of two parts: (i) the network or

transmission service to and from the end-user's location and (ii) the provision of Internet services, in particular end to end connectivity with other end users or hosts. These two services may be bundled together.

At the current time, it is possible to identify three commonly available forms of Internet access (i) dial-up service, (ii) high bandwidth services using digital subscriber line (DSL) technologies (or equivalents) or cable modems and (iii) dedicated access.²⁵

In the period since the initial Recommendation large numbers of residential subscribers and small business users accessing Internet from fixed locations have switched from narrowband to broadband access either through cable modems or more widely via xDSL modems. Although so far consumers have switched to varying degrees across the Member States, the trend is obvious and appears set to continue. Nevertheless, a significant number of users continue to have narrowband connections, including dial-up access via analogue telephone lines and ISDN.

From the demand-side, substitutability between narrowband and broadband Internet access seems limited. There are a number of technical characteristics of broadband access that imply certain applications are just not viable on dial-up access. On this technical basis and from the standpoint of broadband, therefore, narrowband would be a separate market, because the services and/or the quality features of those services (including their uplink and downlink speed) which can be offered over a narrowband connection would not be seen as viable substitutes from the point of view of an end user which is making use of a broadband connection²⁶. In addition, a flat-rate or un-metered narrowband dial-up service may not be considered to be an 'always-on' service in the way that a broadband service could be, as the service is likely to be interrupted if un-used for a given period. For a specific group of customers, in particular those which are less sensitive to bandwidth and speed, broadband access may be a substitute for narrowband access, but evidence shows that once customers have migrated from narrowband to broadband access, they are unlikely to switch back, even in response to a small but non-transitory increase in price. Substitutability therefore is at most in one direction, from narrowband to broadband.

Also from the supply-side, a provider cannot readily switch from offering narrowband Internet access to offering broadband Internet access and vice versa.

A range of broadband access possibilities at a fixed location exist, including DSL networks and cable TV networks that have been upgraded to provide a return path.²⁷ Satellite and terrestrial TV networks (provided they have adequate capacity and are linked to a return path)

²⁵ Higher bandwidth or broadband Internet services may be characterised as allowing downstream capacity to end-users in excess of 128 kbits/sec. The bandwidth of the service supplied may be asymmetric or symmetric. Dedicated access would typically involve the provision of symmetric bandwidth.

²⁶ The above analysis may well lead to different results were the starting point to be services offered on narrowband connections. In other words, it may exist for this type of markets asymmetric substitutability: for example, under certain conditions a broadband connection may be a viable substitute for a narrowband connection, since it offers additional features, whereas a narrowband connection may not be a viable substitute for a broadband connection. As broadband offers gradually become available at higher average speeds, substitutability with narrowband access further decreases.

²⁷ DSL remains the main technology for broadband access across the EU. The DSL share of fixed broadband lines in 2005 was 80.4% compared to 16.8% of lines provided by cable and 2.8% by other technologies. DSL continues to gain in importance compared to cable. See the Commission Staff Working Paper attached to the 11th Implementation Report, p. 34.

are also capable of providing data services and access to Internet²⁸. In certain Member States fibre-to-the-home networks are being rolled out on a limited scale. In the future, other wireless technologies and power-line technologies may be exploited for access at fixed locations. Experience under the market analysis and Article 7 review procedures so far indicates that at retail level broadband access services over these platforms, where available, generally belong to a single product market. Likewise, within the category of DSL based services, there is no evidence suggesting that ADSL, ADSL2, ADSL2+, VDSL and future other DSL based retail broadband access services would not be part of a single product market. But when defining markets taking into account the Recommendation, NRAs should analyse on a case-by-case basis substitutability of services provided using these various technologies, thereby taking the principle of technology neutral regulation as a starting point.

Price differentials can be observed between narrowband and broadband access but these can vary and they may be a function of the specific data-rate or qualitative features of services offered, whether flat-rate narrow-band offers are available or not, whether there is competition between different forms of broadband access or for other reasons. It is not therefore easy, at the current time, simply on the basis of price differentials, to discern whether separate retail markets exist.

At the same time, for the purposes of deriving wholesale markets, there are important distinguishing characteristics from a demand perspective between broadband services and dial-up or narrow-band service. At a retail level customers in the broadband market have a range of options to purchase connectivity at these speeds. Consumers can buy service from cable operators with upgraded networks using cable modems, they can buy service from new entrants using either unbundled local loops that the entrant has modified or which have been modified for them, or the customer can buy these services directly from the incumbent. Other technologies such as wireless local loops are not widely available, but are capable of providing equivalent services. Between these options, provided prices are comparable, a consumer will be indifferent.

In the narrowband market, dial-up services may be paid for on the basis of a subscription, usage or a combination of the two. Un-metered or flat-rate retail (subscription only) service is widely available in the Community.

Metered and un-metered (flat-rate) access can be considered to be part of the same market for a number of reasons. Firstly, the only difference between the products is the way in which tariffs are structured. Secondly, the two products appear to be substitutable for end-users, although there appears to be little evidence of end-users substituting metered service in response to a price increase in un-metered service. Thirdly, if obligations exist to allow operators to buy wholesale call origination on an unmetered basis supply substitution will be possible in that a hypothetical monopolist that raised the price of un-metered access would induce other providers (of metered products) to offer an un-metered product at a lower, competitive price level. Therefore metered and un-metered call origination do not constitute distinct markets.

²⁸ Internet access via the TV is becoming more common, although there are often limitations with respect to the content that can be accessed and the applications that can be used. In most cases a standard modem on a telephone line is used. However, the broadcast path could also be used in which case access would more closely resemble other higher speed access methods.

It would be open to NRAs to impose requirements on the broader call origination market which included a requirement to offer un-metered call origination, provided this obligation is proportionate as stated in Article 8(4) of the Access Directive.

On the basis of the above, two retail markets are identified: narrowband (dial-up) Internet access and broadband Internet access. It will be examined further hereafter to what extent wholesale and/or retail regulation are warranted in order to ensure effective competition on these markets. The relevant market for dedicated access is treated separately in section 2.2.3 below.

Wholesale inputs to broadband Internet access

In order for broadband access to Internet and related data services to be supplied to an end user at a fixed location, an appropriate transmission channel is required, that is capable of passing data in both directions and at rates that are appropriate for the service demanded. Therefore, an undertaking providing services to end users needs to build, establish or obtain access to a transmission channel to an end user location.

The least replicable element in the establishment of an access transmission channel to an end user location is the local loop. There are major obstacles, in terms of cost, time and legal barriers to duplicate the incumbent's local access network. Barriers to enter the local loop market are indeed high and non-transitory. Behind the barriers to entry, there is no tendency towards effective competition. While upgraded cable systems have become more widely developed and deployed in some parts of the Community, such systems overall still have a limited coverage. Moreover, the unbundling of cable networks at this stage does not appear technologically possible, or economically viable, so that an equivalent service to local loop unbundling cannot be provided over cable networks. Other access technologies including wireless local loops, digital broadcast systems and power-line systems are starting to become available, but only on such a marginal scale that they do not exercise any constraint on the local loop operators. Thirdly, competition law would be insufficient to redress the market failure on the local loop market, as the compliance requirements of intervention in this market are extensive (including the need for detailed accounting, assessment of costs and monitoring of terms and conditions including technical parameters). The local loop market hence meets the three criteria test and continues to be susceptible to ex ante regulation.

The question then arises whether in addition to LLU, the market for wholesale broadband access constitutes a distinct market and, if so, whether it warrants ex ante regulation. An operator using unbundled local loops will not normally consider wholesale broadband access to be a substitute even if the service provided by the wholesale broadband access provider allowed the supply of all the same services that were provided over the unbundled loops. Once an operator has invested in local loop unbundling, it is unlikely to switch to wholesale broadband access as a large part of its unbundling investment would be sunk. Equally, it is questionable as to whether an entrant using wholesale broadband access to deliver retail broadband services to the final user market could easily switch to using unbundled local loops to provide an equivalent service. From a demand perspective, a retail provider using wholesale broadband access will only consider unbundled local loops a substitute if it has all the other network elements needed to self-provide an equivalent wholesale service. The supply substitution possibilities depend on the same condition. Therefore, unbundled local loops and wholesale broadband access constitute distinct markets.

The local loop market is situated upstream from the wholesale broadband access market and regulation on the local loop market may facilitate market entry on the wholesale broadband access market. However, in view of the investment required for LLU and the absolute cost advantages of the incumbent resulting from economies of density and scale, high barriers to enter the wholesale broadband access market remain even in the presence of regulated LLU. The wholesale broadband access market hence continues to meet the first criterion under the modified Greenfield approach. Experience under the market analysis and Article 7 notification procedures so far indicates that the coverage of LLU in a given Member State, in combination with the existence of alternative broadband access networks such as cable and/or fibre, may imply that in a limited number of Member States the market for wholesale broadband access may tend towards effective competition behind the barriers to entry. This may in particular be the case where both broadband penetration and unbundling rates are very high, and in particular where alternative operators have started to provide wholesale broadband access services in large parts of the country in competition with the incumbent.²⁹ Across the EU, however, this is not the case yet and is not foreseeable within the next years. Therefore the wholesale broadband access market continues to meet the second criterion. Where there is no tendency towards effective regulation on the wholesale broadband access market in a given Member State and the incumbent operator continues to have SMP, competition law is not sufficient to redress the market failure as under competition law the provision of wholesale broadband access services could in principle not be mandated and compliance requirements would be high (including detailed monitoring of cost and technical conditions). Moreover, co-ordination should be ensured between regulation of wholesale broadband access and regulation of local loop unbundling in order to ensure consistency in the regulatory interventions. Since the third criterion is also met, the wholesale broadband access market continues to warrant inclusion in the revised draft Recommendation as a market susceptible to ex ante regulation.

In the initial Recommendation, the wholesale broadband access market was said to cover 'bitstream'³⁰ access that permit the transmission of broadband data in both directions and other wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bitstream access. In this context, the question has arisen whether wholesale access to cable networks that provide a return path, is part of the relevant market. Across the EU, cable represents 16,8% of broadband connections only, compared to 80,4% of DSL-lines and its relative importance continues to decrease. Experience under the market analysis and Article 7 notification procedures so far has indicated that, where cable networks exist, their geographical coverage is often limited and wholesale access to such networks does not constitute a direct substitute for DSL based wholesale access products from the demand or the supply side, so that inclusion in the same product market is not justified.³¹ The presence of cable in a given Member State may, however, exercise an indirect constraint on the provider of DSL based wholesale broadband access, through the substitutability between both products

²⁹ See case NL/2005/0281.

³⁰ For the purpose of this Recommendation bitstream is a service which depends in part on the PSTN and may include other networks such as the ATM network.

³¹ For existing wholesale customers, migrating from DSL based access to cable-based access would cause substantial switching costs so that switching is unlikely to occur in reaction to a small but significant non-transitory price increase. Suppliers would also be in a position to price discriminate between existing wholesale customers and wholesale customers that have not committed yet to a particular technology so that existing customers would not benefit from any constraining effect of uncommitted customers.

at retail level. Such indirect pricing constraint, where it is found to exist, should be taken into account when assessing if the incumbent DSL operator has SMP on the relevant market.

Another question that has arisen is whether wholesale broadband access services using DSL-technologies other than ADSL are part of the relevant market. The speeds which DSL technologies are capable of providing are evolving continuously with higher speed service availability depending on the network topology, proximity to exchange points and so on. DSL technologies are currently capable of supplying up to 20 Mbit/sec to end users providing the ancillary elements are suitable and the future roll-out of VDSL allows for speeds up to 50 Mbit/sec. For the time being, end users using DSL technologies typically expect to receive service in the range of 2-10 Mbits and there are no indications that this will change dramatically over the next one to two years, unless in certain Member States, TV over DSL would develop rapidly. To satisfy such retail demand, wholesale broadband access services over any DSL technology appear to be substitutable, provided that switching between such technologies for the customer does not entail switching costs. It remains open to individual NRAs to examine this issue in further detail on the basis of national circumstances.

On the basis of the above, the relevant markets identified for the purposes of this revised draft Recommendation as being susceptible to ex ante regulation are:

- unbundled access (including shared access) to metallic loops and sub-loops (including shared access); and
- wholesale broadband access. The point in the network at which the wholesale broadband access market will need to be supplied will depend on the market analysis and in particular on the network topology and the state of network competition.

Wholesale inputs to dial-up Internet access and services - wholesale call origination

Despite the growth of broadband access, narrowband dial-up access to the Internet remains an important end user product.³² An Internet service provider (ISP) supplying dial-up Internet access requires wholesale call origination and wholesale call termination as inputs as well as wholesale Internet connectivity. A wholesale product corresponding to the retail product for access to the public telephone network at a fixed location would be necessary for the provision of dial-up Internet services. Users encountering a hypothetical monopolist on the call origination market would be able to easily switch service provider through the use of Carrier Pre Selection (CPS) or Carrier Selection (CS). Switching call origination service providers is in general both easy and cheap. This may result in there being more separate bills to be paid as the access provider and the service provider(s) cease to be the same entity or entities. While there is undoubtedly a range of customers who value the ease of single billing, it is not clear that this population would be significantly large to mitigate the disciplining role of those not concerned with single billing. Whether service is supplied on a metered basis or on an un-metered basis (or a combination of the two), call origination frequently takes place using appropriate number ranges which route calls to the network used by an ISP for onward connectivity with the public Internet. Depending on the specific call origination arrangements used, ISPs may compensate the originating network operators on behalf of their end-users or call origination may be paid for directly by end-users.

³² In most Member States, dial-up still represents more than half of total fixed Internet access (see Commission Staff Working Paper annexed to 11th Implementation Report, p. 32).

In general, end-users accessing the Internet via dial-up means at a fixed location use the undertaking that provides access to the public telephone network. The relevant market includes both call origination for the purpose of speech communications and for other forms of communication such as fax or data. Therefore, the relevant market for wholesale call origination for dial-up Internet service is call origination on the public telephone network provided at a fixed location (the same market defined in section 4.2.1).

Wholesale call termination

In order to provide dial-up end-users with Internet access and connectivity, ISPs need to ensure that dial-up calls are terminated; i.e. go through a terminating operator en route to the ISPs server.

Wholesale call termination as part of Internet service provision is different from call termination on fixed or mobile networks for the completion of calls between two end-users. In the case of call termination for Internet service provision, end-users have a contractual relationship (implicit or explicit) with an ISP but normally have no notion of the undertaking terminating dial-up calls. The ISP chooses the terminating operator (or operators) that receives the dial-in calls and may itself pay the terminating charge³³. Since any terminating charge is incorporated into the overall amount that is charged by the ISP (and faced by the end-user), and end-users can switch between competing ISPs, ISPs have an incentive to minimise the termination charges that they pay.

In general, ISPs will have a wide choice with respect to terminating operators since entry into this market is relatively easy and there is evidence of ISPs switching terminating operators. Switching terminating operators is easy provided that such alternatives exist. However, in certain Member States it may be that there is less choice of terminating operators or that one or more operators that have market power on originating access are in a position to more fully exert that market power with respect to call termination. The more limited choice may occur because operators may need to build out networks in order to terminate dial-up calls under unmetered arrangements. Therefore if NRAs consider it necessary to define an Internet termination market they can do so by following the Art. 7 procedure.

Whilst the relevant wholesale call origination market fulfils the criteria to warrant identification in the Recommendation, the relevant wholesale call termination market does not for the purpose of this Recommendation.

Wholesale Internet connectivity

Irrespective of whether end-users access Internet via dial-up or broadband means, ISPs still need to ensure connectivity with other ISPs and their end-users.

To ensure that data packets sent by end-users reach the intended destinations and also that incoming traffic is received, undertakings need to make the necessary arrangements to permit connectivity with all other Internet end users or at least with the networks that they use. This global connectivity can be arranged in a number of ways. It can be purchased from a network

³³ A number of actual business models may exist. In the metered approach, a portion of the retail usage charge may be passed from the originating to the terminating operator and on to the ISP. In a subscription model, the terminating operator may compensate the originating operator and charge this to the ISP.

that is in a position by its own arrangements to guarantee such connectivity. It can be obtained by interconnecting and exchanging traffic with a sufficiently large number of networks that all possible destinations are covered. Alternatively it can be arranged by a combination of interconnecting with certain networks and purchasing the remaining connectivity that is needed.

Two questions arise for the purposes of the Recommendation. Is it necessary to identify a market for Internet connectivity or packet delivery for the purposes of ex ante market analysis, and if so, what is the relevant market? There are a number of differences between the typical arrangements for terminating calls on the public telephone network and delivering packets to destination addresses on the public Internet. In the latter case, end users are implicitly paying to both send and receive packets. It is not automatically or typically the case that incoming traffic is charged for and that this charge is passed to the traffic sender via the sender's network. As indicated above, traffic connectivity can be arranged in a number of ways.

Entry barriers to this market are low and although there is evidence of economies of scale and that the ability to strike mutual traffic exchange (peering) agreements is helped by scale, this alone can not be construed as inhibiting competition. Therefore, unlike the case of call termination in section 4.2.1, there is no a priori presumption that ex ante market analysis is required. Therefore, no market for wholesale Internet connectivity (or delivery of incoming packets) is identified for the purposes of the Recommendation.

Conclusion

Therefore it is considered that the following specific markets related to access to data and related services at fixed locations should be included in the revised Recommendation:

Wholesale level

- Wholesale unbundled access (including shared access) to metallic loops and sub-loops (or equivalent)
- Wholesale broadband access.
- Call origination on the public telephone network at a fixed location.

4.2.3. Dedicated connections and capacity (leased lines)

The markets related to dedicated connections and capacity have a link to some of the markets defined with respect to access at fixed locations and the provision of services at fixed locations. For example, dedicated connections may be an alternative to unbundled local loops and vice versa in certain circumstances. Also dedicated trunk or long distance connections may be an alternative to long distance call conveyance. Lower speed leased lines may be replaced in certain instances by standard broadband connections based on DSL or cable modems depending on quality of service requirements.

Dedicated capacity or leased lines may be required by end users to construct networks or link locations or be required by undertakings that in turn provide services to end users. Therefore it is possible to define retail and wholesale markets that are broadly parallel.

The key elements in the demand and supply for dedicated connections are service guarantees, bandwidth, distance and the location or locations to be served. There may also be qualitative characteristics because in some cases distinctions are still made between voice grade and data grade circuits.

At the retail level, specific reference is made in the Universal Service Directive to the provision of the minimum set of leased lines³⁴. The minimum set of leased lines refers to specified leased circuits with harmonised characteristics that must be made available under particular conditions throughout the national territory. In line with the approach set out for the identification of markets it is clear that there would be consumer harm at the retail level absent a regulatory intervention. However, whether there is a need to regulate at both retail and a wholesale level in the market is not clear.

At the wholesale level, it is possible to distinguish separate markets, in particular between the terminating segments of a leased circuit (sometimes called local tails or local segments) and the trunk segments. What constitutes a terminating segment will depend on the network topology specific to particular Member States and will be decided upon by the relevant NRA.

While many trunk segments on major routes are likely to be effectively competitive in certain geographic areas in Member States, other trunk segments may not support alternative suppliers. Depending on the proportion of such routes in a given Member State, one may see a tendency towards effective competition behind the barriers to entry where alternative operators have made sufficient investments in alternative infrastructures and are in competition with the incumbent on the merchant market. The trunk segment leased line market has so far been found not to meet the second criterion in one Member State and hence not to be susceptible to ex ante regulation. In a number of other Member States, the NRA has found the market for trunk segments of leased lines to be effectively competitive. This trend is likely to continue. However, across the EU a tendency towards effective competition does not yet exist and seems not imminent so that inclusion of this market in the revised draft Recommendation remains warranted on the basis of the first and second criteria. Given that across the EU a vast number of routes continue to be only served by a single operator, there will be little incentive to open these up to other parties on a commercial basis. In this way, new entrants cannot compete with the established operator throughout a large proportion of the territory. Whilst it might be considered that competition law can address the failure on a route by route basis, it is unrealistic for competition law to be able to do so as long as the number of unduplicated trunk routes in a country remains high considering the general costing and pricing principles that would have to be applied throughout the network. For the aforementioned reasons trunk segments of leased lines continue to be susceptible to ex ante regulation on an overall European basis, but individual NRAs may come to a different conclusion on the basis of national circumstances.

In relation to terminating segments the existence of high and non-transitory entry barriers and the absence of a tendency towards effective competition across the EU are more obvious. Often the terminating segments of leased lines rely in one form or another on the former incumbent's ubiquitous access network. The control over that ubiquitous access network continues to provide the incumbent with a legacy advantage on the terminating segments of leased line market that new entrants, across the EU, have not yet overcome. Even more than

³⁴ OJ C 339, 7.11.1998, p. 6.

with trunk segments, there is little dynamic towards effective competition and competition law cannot alone address the failures on the trunk segments market.

With SMP regulation applied at the wholesale level, there is not likely to be consumer harm on the retail leased lines market. Wholesale regulation, where appropriate, should be sufficient to ensure that there is competitive supply at the retail level. The minimum set of leased lines was included in the initial Recommendation in line with Annex 1 of the Framework Directive. However, it is not clear that there is any significant residual market failure that would be required in order for this market to warrant ex-ante regulation. Putting consideration of its inclusion in the text of the directives to one side we can examine whether this market satisfies the three criteria.

With wholesale regulation in place there should be little barriers to market entry into the retail market. Firms can make tenders to provide a widely based leased line offer to the customer's premises. Having overcome the problem of making a ubiquitous offer, then entry barriers into this market are no longer high. Thus, the retail market for the minimum set of leased lines will not be identified in this draft revised Recommendation. Consequently the Commission will propose to make the Minimum Set of Leased Lines a null set.

Conclusion

Therefore it is considered that the following specific markets related to the provision of dedicated connections and capacity (leased lines) should be included in the Recommendation:

Wholesale level

Wholesale terminating segments of leased lines.

Wholesale trunk segments of leased lines.

4.3. Services provided at non-fixed locations

The aim of this section is to (i) describe and define relevant markets for mobile services at a retail level, (ii) define the linked wholesale markets and (iii) identify the relevant markets which are susceptible to ex-ante regulation.

In the area of services provided at non-fixed locations (mobile services), the initial Recommendation identified the following markets as susceptible to ex ante regulation:

- Wholesale access and call origination on public mobile networks;
- Wholesale voice call termination on individual mobile networks;
- Wholesale national market for international roaming on public mobile networks.

Retail markets

Customers use mobile phones for different purposes, such as making a voice call or sending an SMS. Rather than using different providers of these services, customers appreciate the ease and convenience of having only one handset and SIM card. Thus, consumers purchase a bundle or "cluster" of services from one mobile operator which usually includes local national and international (and roamed) calls and SMS. In this manner mobile firms benefit from economies of scope and consumers benefit from a reduction in transaction costs. Thus, the

relevant market should include a “cluster” of products, where non-substitutable services are included in the same market.

With respect to the overall retail mobile market, it remains unclear whether residential and most business customers can be considered to be part of the same market or not as there does not appear to be a clear way to separate them, even if there may be significant differential pricing of services in order to attract certain types of customer or use³⁵. With respect to demand substitution, end users may be indifferent between tariff packages designed for business or residential users provided the terms suit their usage profile. With respect to supply substitution, an undertaking serving the business market may easily switch to supplying residential users in response to a small but non-transitory price increase by a hypothetical monopolist.

However, it is clear that large business users are in a position to demand and get personalised offerings. These firms often tender to have their mobile communications needs fulfilled, and the contract terms are private information. Moreover, these users are closed user groups who care about both making and receiving calls. They internalise the externality caused by the Calling Party Pays (CPP) convention. For this reason, business users that individually negotiated rates are explicitly excluded from the remainder of the analysis. The actual boundary between this group of business users and other business users may differ between Member States and it will be for NRAs to properly delineate where this lies.

Pre- and post-pay mobile services can also be considered to be part of the same market. Supply substitutability is relatively easy, as is demand substitutability (in particular from pre-pay to contractual terms).

Mobile telephone users have no apparent substitute for mobile access and there is no supply substitute unless new spectrum becomes available. Therefore it seems that access could be considered as a market that is separate from the supply of services over the network at a retail level. However, every end-user purchases access to a mobile network with the objective of making calls or receiving calls (and using SMS etc.) or both (nationally or whilst roaming internationally). Even if a user purchasing service chose not to originate calls, their decision to have service must be based on a need for call termination (to receive calls) otherwise access would be meaningless. This has implications for the definition of corresponding wholesale market for termination.

Similar considerations exist for international roaming at a retail level. Retail international roaming services include the ability to make and to receive calls whilst in a country other than the one where the end user has established his or her network subscription. From a demand perspective, the retail provision of international roaming services could be examined to see if it is a separate market. However, it is a standard part of the bundle of services offered by mobile operators. Moreover, roaming is likely to be even more marked by transactional complementarities than other services offered by mobile operators (where a consumer might like to sign contracts with different operators for different countries and for different times of the day etc.). Thus, retail roaming is part of the cluster of services purchased. Moreover, a domestic supplier of other mobile telephony services could respond to a price increase by a hypothetical monopolist by making agreements with foreign operators so as to supply retail roaming services.

³⁵ One area where a specific business market might be identified is in the retail provision of national and international services (including international roaming) for large corporate customers. Such a market is not identified for the purpose of ex ante regulatory analysis.

Therefore it is possible to define a single cluster retail market that includes access, national, international and roaming calls and SMS.

Since the adoption of the initial Recommendation, mobile services have continued to spread with mobile penetration reaching 92.8% of the EU population in 2005. Mobile number portability has become compulsory since 2003. Despite a slow start number porting has increased dramatically in 2005, with 28 million mobile number ports. Most of these happened, however, in only a number of countries. In over half of the Member States, mobile network operators concluded wholesale access agreements with service providers and mobile virtual network operators (MVNOs) and in countries where this happened competition tends to be more intense. The sector shows a trend towards consolidation, with transactions integrating competing mobile networks within certain Member States (the Netherlands, Austria) as well as pan-European transactions such as Telefonica/O2. At the same time, 3G operators are entering the market.

Related Wholesale Markets

In order to provide retail mobile services, operators need various wholesale inputs, including termination services, access and call origination services and international roaming services.

Wholesale call and SMS termination on mobile networks

As for fixed telephony, termination services are the least replicable input for retail mobile services. Mobile call termination is an input both to the provision of mobile calls (that terminate on other mobile networks) but also to calls that are originated by callers on networks serving fixed locations that terminate on mobile networks. This also applies to SMS termination, though very few messages currently originate directly on the fixed network but more and more come via the Internet. Since the termination charge is set by the called network, which is chosen by the called subscriber, the calling party in general does not have the ability to affect or influence termination charges. This is the case under the calling party pays (CPP) principle which is currently common in Europe. As the market failure is the same for both call and SMS termination and as both services are sold as part of the same mobile cluster both at retail and wholesale level, it seems appropriate to deal with them as part of a single termination market per operator.

The CCP convention allows the terminating operator to raise its prices without a constraint from either party to the call. The calling party pays a bundled fee and will not see a direct price signal. The receiving party makes no payment by convention so cannot constrain the ability of their terminating operator. To the extent that the increased price reduces the number of calls that a person receives they are made worse off. However, this may not be really noticed and the person will not be able to attribute this fall off in calls to a higher termination rate. Thus, MNOs can raise the price of reaching one of its subscribers readily.

This externality, whereby the called party may independently and adversely affect the calling party, can potentially be internalised, so that the ability for a network to set excessive termination charges is constrained. Whether such a process can be expected to occur does affect both how a relevant termination market is defined and whether a relevant termination market should be identified for the purposes of the Recommendation. These issues are examined in more detail below.

At a retail level a call/SMS to a given user or user's terminal is not a substitute for a call/SMS to another user and this limitation on demand substitution follows through at the wholesale level. In respect of supply substitution, if the supplier of call/SMS termination raises its price, it is not easy for alternative suppliers to switch to supply that market because they would need the SIM card details of that user to do so. However, the market is wider than call/SMS

termination on a given user terminal because it is not possible for an operator to readily price discriminate between termination charges to different users across their network. Therefore the relevant market is at least as wide as termination for each operator.

However, with such a starting point in market definition, the supplier and the product are perfectly linked. It is important therefore to consider the possibilities for demand and supply substitution that might constrain termination charges and also the behaviour of network operators in setting termination charges. A constraint would exist if, when a network operator tried to raise termination charges (or resisted lowering them), the overall impact were unprofitable. Such supply side substitution is not currently possible but may become feasible at some point in the future.

This could become the case with software enabled SIM cards, comparable to cases where operators establish preferred arrangements for their end-users when they are roaming internationally.

Nonetheless, it is clear that the first criterion of a high and non-transitory entry barrier is met for mobile termination of voice calls and SMS messages. The fact that a mobile operator has a collection of customers for which it has a monopoly for terminating traffic cannot be overcome by other operators regardless of their size.

In principle mobile termination charges might be constrained via demand substitution, but there is no potential for demand substitution at a wholesale level. Demand at the wholesale level is inextricably linked to supply. The operator (of the caller) is unable to purchase call or SMS termination on a given network from an alternative source (as indicated above).

However, there are various possibilities for demand substitution at the retail level. It may be that other forms of calls or communications are reasonably close substitutes for the calls considered above, such as call back and call forwarding but in order for that potential substitution to broaden the market it would need to constrain the behaviour of the operator setting termination charges by lowering its overall profitability. Similar considerations apply for SMS messaging.

There may be substitutes for different classes of call, for instance a possible substitute for a fixed to mobile call is a mobile to mobile call³⁶. The substitute call would need to be on net to lower profitability and constrain behaviour. In conjunction with the possibility for closed groups of users to exert buyer power (as described below), the potential substitution has a stronger impact because it could lead not only to the loss of termination charges but also to the loss of subscribers from one network to another.

A possible substitute for an off-net mobile call could be a mobile to fixed call. This would result in the loss of the termination charges but it is likely that the alternative call is only a close substitute in specific circumstances (e.g. knowing that the called party is close to a given fixed phone).

To summarise, some of these potential substitutions could constrain termination charges but empirical evidence does not seem to indicate that in practice they do so. In practice, none of the demand substitutes above seem to operate a level that would constrain the mobile operator's behaviour.

Another specific way in which end-users and their operators can avoid excessive termination charges is by tromboning (traffic re-file) or re-routing. In particular, it is possible to re-

³⁶ It is possible for these alternatives to be substitutes (as well as complements) even if broadly speaking the fixed market is defined separately from the mobile market

originate traffic so that it appears that it is coming from the mobile network on which calls are due to terminate. The latter practice is only viable for end-users that originate a significant amount of traffic for termination on a mobile network. In addition, it is possible for mobile operators to design differentiated tariff services in order to separate such user groups.

Another possible constraint on the ability of operators to set excessive termination charges may come from buyer power at the retail level. Two main types of buyer power may arise.

The first is where users of mobile phones are sufficiently concerned about receiving incoming calls that the price of incoming calls and SMS affects their choice of supplier. For this to exert a constraint on the pricing of termination it is necessary that such a factor is as important to users as the pricing of other services such as outgoing calls, rental subscriptions etc. Under the calling party pays (CPP) principle, the calling party pays for the call, and the called party does not, therefore there is no direct relationship between the charges applied and demand for the service by the user of the mobile network who receives the call. Mobile users have shown little price sensitivity to how much it costs others to call them.

A second type of buyer power can come from closed user groups where a particular group of users (whether or not they pay for part of the bill associated with incoming calls) make sufficient calls/SMS between them that intra-group calls/SMS constitute a significant proportion of their bill. If a given network raised termination charges and thereby increased the price of incoming calls, group members could switch networks to be on a given network and take advantage of lower on net prices. However, mobile operators are able to price-discriminate among the various categories of users and (through the use of on-net tariffs) offer closed economic user groups discounts for calls to particular mobile etc. Thus, for on-net calls there is no market failure as the mobile operator has an incentive to encourage intensive use of its network.

In general therefore, whilst it is apparent that end-users who subscribe to mobile services have a choice about the network to which they subscribe and that it is relatively easy to switch between networks, there is limited evidence of widespread constraints on the pricing of wholesale call and SMS termination.

The conclusion at the current time (under a calling party pays system) is that call and SMS termination by third parties on individual networks is the appropriate relevant market.

A market definition for call and SMS termination on each mobile network would imply that currently each mobile network operator is a single supplier on each market. However, whether every operator then has market power still depends on whether there is any countervailing buyer power, which would render any non-transitory price increase un-profitable.

It is, of course, open to NRAs to treat calls and SMS separately. However, as the market failure is the same and they are sold as part of the same mobile cluster it may be more appropriate to deal with them as part of a single termination market per operator.

The decisions of some national appeals bodies have highlighted the potential bargaining that may occur due to countervailing buyer power. Whilst not stating that the level of termination rates is the result of a bargaining process, these decision point to the need to fully examine the issue of countervailing buyer power on a case-by-case basis when analysing the existence on SMP on this market.

Access and Call Origination

Besides call termination, the key elements required to produce a retail service are network access and call origination. Network access and call origination are typically supplied together by a network operator so that both services can be considered as part of the same market at a wholesale level³⁷.

The relevant wholesale market is access and call origination on mobile networks. This market is still subject to entry barriers. Undertakings without spectrum assignments can only enter this market on the basis of future spectrum allocations and assignment or secondary trading of spectrum. This may not be an absolute entry barrier, however, in case operators voluntarily share spectrum.

An additional factor when considering entry barriers is that the number of mobile network operators that a national market can sustain from an economic perspective might be limited. Barriers to entry for a new network operator may be high and possibly non-transitory in certain countries irrespective of the availability of spectrum if the minimum economies of scale which are sustainable in view of the network roll out costs restrict the number of entrants and technological development does not overcome these scale restrictions.

The degree of competition generally observed in this market at the retail level indicates that ex-ante regulatory intervention at a wholesale level may not be warranted in all countries alike. In addition, in most Member States the wholesale mobile access and call origination market is effectively competitive as mobile network operators conclude access agreements on commercial terms. In some Member States, however, there are no mobile virtual network operators (MVNOs) or service providers on the market. As indicated above, retail markets where there are MVNO access agreements tend to be more competitive. There are two possible interpretations of this phenomenon (which are not mutually exclusive): the first is that the introduction of MVNOs brings more competition to the market; the second is that competitive markets deliver voluntary wholesale access as a natural outcome.

In competitive markets, operators may have an incentive to conclude voluntary access agreements as can be observed in many Member States today. This may in particular be the case where operators have excess capacity and can identify market segments where they perform less well. In such circumstances, it may be in the individual interest of an MNO to sign an access agreement with a partner than can sell to these market segments more effectively. This in turn increases the intensity of competition on the retail market and such a market dynamic has been seen in the majority of Member States.

In other Member States, however, it has been observed that firms have an incentive to tacitly collude so as to dilute the normal competitive dynamic. In certain circumstances in the mobile sector, by refusing to grant access to their networks, mobile network operators may seek to prevent MVNOs or service providers from entering the retail market in order to protect market share and rents at the retail level.

In such circumstances, although individually they have incentives to provide MVNO access, collectively MNOs may be better off if none of them grants such access as this could enable them to protect rents and they may tacitly collude to this effect.

In such as situation, mandating access to MVNO/service providers could be an effective means to break the tacit collusion and thereby deliver effective competition at the retail level.

³⁷ In fact it could be argued that access, call origination and call termination constitute one wholesale market and on the other hand that call termination is a separate stand-alone wholesale product. The former is sold to the retail arm of a network operator; the latter is sold to other networks.

On balance, there seem to be arguments both in favour and against maintaining this market in the revised Recommendation. The starting point is that the Commission indicated in the Explanatory Memorandum of its initial Recommendation that it was not anticipated that this market would be included in future revisions of this Recommendation. The level of competition generally observed at the retail level in most Member States could also plead against regulating this wholesale market. However, in a limited number of Member States mobile network operators, by refusing wholesale mobile access despite pent-up demand for such access, MNO's may seek to protect retail market share and rents and thereby cause consumer harm. This may justify regulatory intervention in such cases.

In view of the complexity of the issues that this market presents and in view of the fact that the market analysis in a number of Member States is still ongoing so that the Commission's overview for the time being is not yet complete, the Commission seeks in particular the views of stakeholders on the need to maintain the wholesale mobile access and call origination market in the revised Recommendation. In any event, if the market were removed from the list, this would not preclude individual NRAs from finding on the basis of national circumstances that the market meets the three criteria test and is susceptible to ex ante regulation. Similarly, if the market is maintained in the list, this does not require NRAs to regulate this market as they may find the market in their country effectively competitive as a number of NRAs have concluded so far.

Wholesale international roaming

The wholesale international roaming market was included in the first version of the Recommendation. Experience with market analysis has revealed that this market has exceptional characteristics which make it different from all the other markets discussed.

Wholesale international roaming services provide access and capacity (airtime minutes) to a foreign mobile network operator for the purposes of enabling its subscribers to make and receive calls while on another operator's network abroad. International wholesale roaming services are thus provided by a domestic mobile network operator (visited network) to a mobile network operator in another country (home network). Wholesale international roaming satisfies a demand by foreign mobile network operators whose main objective is to offer their own subscribers a seamless service, not limited to the territory in which they have their own physical network. This operators' demand results from a demand from their subscribers to be able to make and receive calls and SMSs on their mobile terminals abroad without having to acquire a new SIM card, or enter into another subscription with a foreign GSM operator, or change their number.

The result is a market with very particular characteristics: wholesale minutes sold to an operator in one geographic market are sold on to retail consumers in another, separate geographic market. Any economic analysis has to examine a market where retail and wholesale markets have different operators, different structures, different data requirements and come under different jurisdictions, giving rise to problems of co-ordination for NRAs when analysing this market.

Further difficulties concern the level and nature of retail demand in this market. Roaming services are generally considered to constitute part of a broader retail services market. In this broader market, the proportion of roaming services is uncertain or unknown at the time of subscription, and consumers have great difficulty interpreting retail roaming prices. At the time of purchase, prices for roaming services may therefore be ascribed a low weighting in the user's purchasing decision. Neither do operators have clear incentives to bargain for lower

roaming rates, since they are at the same time buyers and sellers of roaming minutes to foreign operators and the relative bargaining position will depend on size and net traffic flow between operators.

The overall result is a situation where very high consumer prices persist and where the market is characterised by rigidity in its pricing and structure. The work undertaken by the national regulatory authorities (both individually and in the European Regulators Group) in analysing the wholesale national markets for international roaming in accordance with the 2002 framework, has demonstrated that it has not yet been possible for a national regulator acting alone to effectively address the high level of wholesale international roaming charges on the basis of the normal market analyses procedures.

In order to address the excessively high level of wholesale international roaming charges and to respond to the difficulties faced by NRAs identified above, the Commission is simultaneously pursuing various antitrust cases, including an ex-officio investigation into the competitive effects of roaming alliances, as well as considering a proposal for an EP and Council Regulation to lower international roaming rates both at wholesale and retail level across the EU. In this very exceptional case of the normal market analysis procedure not being adequate, the question of whether or not this market fulfils the 3 criteria is not considered.

In these circumstances and depending on the outcome of the other initiatives mentioned above to address the issue, the Commission will need to decide whether it would be appropriate to continue to include the market for Wholesale international roaming in the revised version of the Recommendation.

Other Mobile data services

In addition to voice and SMS services mobile or wireless cellular networks can be used to access data and related services including Internet, mobile TV etc.

Such retail services are currently less developed than their equivalent provision to fixed locations and it remains to be seen how services will be supplied and priced in the context of third generation networks. It remains difficult at this stage to foresee how data services and access to Internet will develop, and also how voice and non-voice services will develop in the context of third generation networks. Much of the services that may be accessed through these networks are also available on a nomadic basis through other technologies. Even though the mobile element may be missing, for the majority of uses even the mobile phone may be used more in a nomadic fashion. At this stage these issues remain unresolved. Thus, there remains great uncertainty at this stage as to whether the first criterion will apply. Moreover, it is not clear how competition will develop behind any entry barrier. Will 3G mobile firms attempt to create a walled garden or will they take an expansive approach to allowing their subscribers to use their networks to obtain services?

Most of these issues can currently be dealt with only with a high degree of uncertainty. Thus, no retail or wholesale markets are identified still for the purposes of the revised draft Recommendation.

Conclusion

Therefore it is considered that the following specific markets related to the provision of Voice Services provided at non-fixed locations should be included in the Recommendation:

Wholesale level

- Voice call and SMS termination from third parties on individual mobile networks.
- Wholesale national market for international roaming on public mobile networks.

The Commission seeks, in particular, stakeholders' views on the continued need for inclusion of:

- Access and call origination on public mobile telephone networks.

4.4. Markets related to Broadcasting Transmission

Electronic communications services exclude services providing or exercising control over content transmitted using electronic communications networks and services. The provision of broadcasting content therefore lies outside the scope of this regulatory framework. On the other hand, the transmission of content constitutes an electronic communication service and networks used for such transmission likewise constitute electronic communications networks and therefore these services and networks are within the scope of the regulatory framework.

We first outline the structure of the retail market. The overall retail market(s) consist(s) of the delivery of radio and television broadcasting and includes free-to-air broadcasting, pay broadcasting, as well as pay platforms and also the delivery or transmission of interactive services.

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Free-to-air broadcasting is a further example of a two sided market. Householders want to see (or listen to) content. Free-to-air broadcasters produce content but use advertising income and/or state contribution to cover their costs. Advertisers, in turn, want to reach households. For advertisers a prerequisite, in a free-to-air broadcaster, is that they reach the maximum number of householders as possible. Thus, free-to-air broadcasters are driven by their commercial need to satisfy the demands of advertisers to sign transmission agreements with any transmission platform that has been chosen by even a small (but significant) number of households. Failure to do this will result in an automatic fall in advertising revenue.

Pay broadcasters have a direct commercial relationship with the viewer (listener) as a subscriber. Similarly to free-to-air broadcasters, pay broadcasters are also interested in being on most transmission platforms possible as that increases the maximum number of potential subscribers.

Pay platforms aggregate free-to-air and pay channels into package offerings to the public for subscriptions and transmit this package of channels through their own platform (for example, in case of a vertically integrated cable operator acting both as a pay platform and as a transmission service provider) or through a third party's transmission platform (for example, a satellite transmission service provider). Whereas the transmission services a pay platform purchases (captively or on the merchant market) are electronic communications services and fall under the regulatory framework, the relationship between the individual broadcasters and

the pay platform concerns a content aggregating service and does not fall under the regulatory framework.

Currently, end users, depending on their particular circumstance, may receive radio and television broadcasting via (analogue or digital) terrestrial, (analogue or digital) cable, (analogue or digital) satellite or DSL networks. Whether services broadcast over these transmission systems constitute separate retail markets or not depends on a number of factors, such as their price, the coverage or availability of the different transmission systems and the ability of end-users to switch between broadcasting or transmission platforms.

In particular, it is important to note that many households have free-to-air terrestrial broadcasts available comprising the most popular channels or stations. In terms of TV, free-to-air terrestrial broadcasts are chosen by almost 40% of EU households. Given the role of regulation – in particular ‘must-carry’ which is discussed in greater detail below – this allows households the possibility of receiving an adequate service without an on-going subscription. This may place a limit on the prices that subscription services provided over any platform can charge without losing a significant number of subscriptions.

A significant and increasing proportion of EU households are deciding to subscribe to either a satellite or cable pay platform. Across the EU 25 this amounts to over 60% of households in total. This has risen from 41% in the old EU-15 in the year 2000, and has increased markedly in recent years. There are individual Member States that do not exhibit such a pattern (Greece and Cyprus for example). At the other extreme are Member States such as Austria and the Netherlands where the vast majority of households have cable pay platform subscriptions. However, it is not clear that this trend will continue into the future as digital terrestrial is launched, TV over DSL takes up and as more and more companies move their content “into the clear” on satellite.

Increasingly cable and satellite services carry radio broadcasts too. In addition, radio broadcasts are very often made available as live streams on the websites of the radio stations.

Although satellite coverage covers most of the area of the Member States there are often rules that inhibit the adoption of this reception technology. Local planning rules are such an example. The Commission has taken action against a number of Member States to enforce the individual’s right to install a satellite dish. Indeed cable is strongest where such restrictions used to apply.

Satellite companies are now making arrangements to minimise inadvertent spill-over, which makes this technology a more and more attractive proposition for broadcasters as they are less likely to become mired in IPR disputes. This, in turn, may increase the degree of excess capacity in the satellite sector.

In all but a handful of Member States the majority of households have normally up to three potential means of receiving broadcast content. With technological developments in the area of digital terrestrial broadcasting and broadcasting over DSL networks the number of alternative transmission channels from the point of view of the households is expected to further increase. Consequently no retail market is identified for the purposes of the Recommendation. The remaining paragraphs deal with the related wholesale markets.

At the wholesale level, as indicated above, buyers of broadcasting transmission services (i.e. free-to-air broadcasters, pay broadcasters and pay platforms) consider broadcasting transmission services provided over different platforms (i.e. terrestrial, cable, satellite or DSL,

where available) as complementary rather than substitutes. Thus, in line with the notifications that the Commission has received so far, this market can be segmented by platform.

When analysing these markets under the SMP regime laid down in the Framework Directive, the following types of regulation that may be in place within the Member States should be taken into account, in line with the modified green-field approach.

Must carry rules can be imposed in line with Article 31 of the Universal Service Directive. Member States can impose a must carry obligation when a significant number of end users use a network as their principal means of receiving radio and television broadcasts. The approach to must carry differs across the Community, and in some cases channels designated as must carry take up a significant proportion of the available channels available. Much of this difference can be traced back to the requirement that a significant number of end users must use a network as their primary means of receiving broadcasts. In many countries analogue terrestrial is the only candidate, in others cable networks need only be considered.

Article 5 of the Access Directive enables NRAs in certain specific and limited circumstances to impose access and interconnection on all undertakings without regard to their SMP status. Specifically in the context of broadcasting, under Article 5.1(b) of the Access Directive the NRA may, to achieve its objectives in terms of ensuring accessibility for end-users to digital radio and television broadcasting services specified by the Member State, impose obligations on operators to provide access to Application Program Interfaces (APIs) and Electronic Programme Guides (EPGs) on fair, reasonable and non-discriminatory terms.

So far only the UK has invoked Article 5 in the context of broadcasting. Ofcom imposed a general obligation on all digital interactive TV companies to provide access to APIs. Remedies in relation to EPGs were only placed on BSkyB, as other platforms (cable and digital terrestrial) were seen as closed access systems. In the UK, access to the EPG has had an immediate impact on the number of channels available on the main satellite system. In recent times many of the “must have” channels and their digital off-shoots have moved into the clear and are now available without on-going charge. Even though this does not cover closed access systems such as cable it will have an indirect effect through the vehicle of household choice. It is likely that similar measures could be taken with respect to IPTV.

According to Article 12 of the Framework Directive, where undertakings are deprived of access to viable alternatives because of the need to protect the environment, public health, public security or to meet town and country planning objectives, Member States may impose the sharing of facilities or property (including physical co-location) on an undertaking operating an electronic communications network. Such sharing or coordination arrangements may include rules for apportioning the costs of facility or property sharing.

Absent any such regulation there are likely to be high and non-transitory entry barriers in this market. Firstly, there is the limited economic incentive to duplicate any given existing platform. Sunk costs are potentially a formidable barrier to entry into the wholesale market. This applies to all platforms. In relation to terrestrial it is very difficult to build a network due to very tight planning restrictions related to heights of towers etc. In relation to cable the insurmountable barrier of building (on an economically rational basis) a *de novo* network in a brown-field site where there is already a strong incumbent cable operator. On the other hand, a quarter of all EU households have broadband access and an increasing number of operators are offering IPTV. In relation to satellite the issues are somewhat different. There are two providers of satellite capacity (which are characterised by excess capacity) but the normal

commercial relationship is with a content aggregator that has purchased satellite capacity. Potentially it is open to a broadcaster to deal directly with the satellite provider. However, there remain high barriers to entry into the retail market absent regulated access to APIs and EPGs. One of the open issues is the degree to which broadcast transmission over satellite meets the first criterion. The Commission invites, in particular, views on whether wholesale broadcast transmission over satellite meets the first criterion.

The dynamic behind the high and non-transitory entry barriers are complex in relation to broadcast transmission. As indicated above, broadcasting is subject to many other forms of regulation unrelated to SMP. These include must carry rules, access under Article 5 of the Access Directive and Article 12 of the Framework Directive. The particular implementation of each of these (must carry in particular) vary considerably across Member States. From that perspective, it is difficult to assess on an EU-wide basis the market dynamic behind the barriers to entry.³⁸ Whilst there is a view that the dynamic may be towards effective competition in relation to cable and satellite in most Member States, there is also a view that the situation is different in relation to terrestrial broadcast transmission (and possibly cable transmission in certain Member States). Further input on this on a Member State by Member State basis will be critical before a firm determination can be made either way.

Competition law on its own cannot be effective in this case. The remedies that may be required may not be readily imposed and monitored using competition law alone.

On this basis, it remains open as to whether this market will be included at all (or indeed if only part of the original market should be included) in the revised Recommendation. The views from the public consultation will be helpful in this regard.

Conclusion

In view of the diversity of non-SMP regulation in this market as described above and limited experience so far under the market reviews and Article 7 notification procedures, the stakeholders' views would be most welcomed on whether the following market (or part thereof) should be maintained in the revised Recommendation:

- Broadcasting transmission services over individual transmission platforms to deliver broadcast content to end users

5. TRANSITION TO THE NEW RECOMMENDATION

Note. The present document is a working paper for consultation, and does not affect the status of the current Recommendation, which remains fully applicable.

The transition between editions of the Recommendation raises issues for all stakeholders. This is particularly the case when a market is being removed as this may happen in the middle of an on-going market analysis by an NRA.

The removal of a market from the Recommendation (i.e. once the second edition of the Recommendation is published) means that the Commission no longer believes that this

³⁸ For this market, a limited number of notifications under the Article 7 procedure has been received so far.

market satisfies the three criteria in most circumstances. However, there may be Member States where particular market conditions mean that the three criteria remain satisfied. In those circumstances, NRAs should append to their analysis detailed reasoning outlining why, in their particular circumstances, the three criteria are satisfied. In these cases the NRA can draw on the reasoning in the initial Recommendation. In the interim period between publication of this working document and the final adoption of the revised Recommendation, there will be markets where there may be uncertainty as to whether the three criteria are still satisfied. In the case of a market that is being considered for removal from this Recommendation, NRAs should first determine that the three criteria are satisfied before they engage in a market analysis. Once the second edition of Recommendation is adopted and applied, NRAs will not have to demonstrate to the Commission that, in relation to the markets identified in this Recommendation, the three criteria are met.

6. PUBLICATION OF RECOMMENDATION AND SUBSEQUENT REVISION

The Recommendation will be periodically reviewed by the Commission depending on the speed of market developments, the period needed by NRAs to undertake market analysis, the principle set out in section 1 that the imposition of ex-ante regulation to address lack of effective competition implies a degree of continuity, and the need for predictability and legal security for market players.

National regulatory authorities will regularly review their market analysis on the basis of the market identified in any updating of the Recommendation, as stated in Article 16 of the Framework Directive.

In reviewing the Recommendation, the Commission will consult Member States, NRAs and NCAs, and all interested parties via a public consultation.

DRAFT 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 communication networks and services (Text with EEA relevance).

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services³⁹, and in particular Article 15(1) thereof,

Whereas:

- (1) Directive 2002/21/EC (hereinafter the Framework Directive), establishes a legislative framework for the electronic communications sector that seeks to respond to convergence trends by covering all electronic communications networks and services within its scope. The aim is to reduce ex-ante sector-specific rules progressively as competition in the market develops.
- (2) The purpose of this Recommendation is to identify those product and service markets in which ex ante regulation may be warranted. The objective of any ex-ante regulatory intervention is ultimately to produce benefits for end users by making retail markets sustainably competitive.
- (3) Article 15(1) of the Framework Directive requires the Commission to define markets in accordance with the principles of competition law. Markets are therefore defined using competition law principles to set the product market boundaries within the electronic communications sector, while the identification or selection of defined markets for ex ante regulation depends on those markets having the characteristics which may be such as to justify the imposition of ex ante regulatory obligations. In accordance with the Framework Directive, it is for national regulatory authorities to define relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory.
- (4) Recourse should be had to a test of three criteria to identify markets that are susceptible to ex ante regulation. . The first criterion is the presence of high and non-transitory entry barriers. These may be of structural, legal or regulatory nature. However, given the dynamic character and functioning of electronic communications markets, possibilities to overcome barriers within the period of the review have also to be taken into consideration when carrying out a prospective analysis to identify the

³⁹ OJ L 108, 24.4.2002, p. 33.

relevant markets for possible ex ante regulation. Therefore the second criterion admits only those markets the structure of which does not tend towards effective competition within the period of the review. The application of this criterion involves examining the state of competition behind the barriers of entry. The third criterion is that application of competition law alone would not adequately address the market failure(s) concerned. Thus, in addition to being defined in accordance with the principles of competition law, markets should also be identified on the basis of these three criteria. Any market which satisfies the three criteria in the absence of ex ante regulation is susceptible to ex-ante regulation.

- (5) Emerging markets, i.e. markets where due to their novelty it is impossible to apply the 3 criteria, should not in principle be subject to ex ante regulation even if there is a first mover advantage.
- (6) As far as entry barriers are concerned, two types of entry barriers are relevant for the purpose of this Recommendation: structural barriers and legal or regulatory barriers.
- (7) Structural barriers to entry result from original cost or demand conditions that create asymmetric conditions between incumbents and new entrants impeding or preventing market entry of the latter. For instance, high structural barriers may be found to exist when the market is characterised by absolute cost advantages, substantial economies of scale and/or economies of scope, capacity constraints and high sunk costs. To date, such barriers can still be identified with respect to the widespread deployment and/or provision of local access networks to fixed locations. A related structural barrier can also exist where the provision of service requires a network component that cannot be technically duplicated or only duplicated at a cost that makes it uneconomic for competitors.
- (8) Legal or regulatory barriers are not based on economic conditions, but result from legislative, administrative or other state measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market. Examples are legal or regulatory barriers preventing entry into a market where there is a limit on the number of undertakings that have access to spectrum for the provision of underlying services. Other examples of legal or regulatory barriers are price controls or other price related measures imposed on undertakings, which affect not only entry but also the positioning of undertakings on the market.
- (9) Entry barriers may also become less relevant with regard to innovation-driven markets characterised by ongoing technological progress. In such markets, competitive constraints often come from innovative threats from potential competitors that are not currently in the market. In such innovation-driven markets, dynamic or longer term competition can take place among firms that are not necessarily competitors in an existing “static” market. This Recommendation does not identify markets where entry barriers are not expected to persist over a foreseeable period. In assessing whether entry barriers are likely to be persistent absent regulation, it must be examined whether the industry has experienced frequent and successful entry and whether entry has been or is likely in the future to be sufficiently immediate and persistent to limit market power. Such barriers to entry will depend inter alia on the minimum efficient scale of output and the costs which are sunk.

- (10) Even when a market is characterised by high barriers to entry, other structural factors in that market may mean that the market tends towards an effectively competitive outcome within the period of the review. Market dynamics may for instance be caused by technological developments, or by the convergence of products and markets which may give rise to competitive constraints being exercised between operators active in distinct product markets. This may also be the case in markets with a limited - but sufficient - number of undertakings having diverging cost structures and facing price-elastic market demand. There may also be excess capacity in a market that would normally allow rival firms to expand output very rapidly in response to any price increase. In such markets, market shares may change over time and/or falling prices may be observed. Where market dynamics are changing rapidly care should be taken in choosing the period of review so as to reflect the pertinent market developments.
- (11) The decision to identify a market as justifying possible *ex ante* regulation should also depend on an assessment of the sufficiency of competition law to address the market failures that result from the first two criteria being met. Competition law interventions are unlikely to be sufficient where the compliance requirements of an intervention to redress a market failure are extensive or where frequent and/or timely intervention is indispensable, or where creating legal certainty is of paramount concern.
- (12) The application of the three criteria would limit the number of markets within the electronic communications sector where *ex ante* regulatory obligations are imposed and thereby contribute to the aim of the regulatory framework to reduce *ex ante* sector specific rules progressively as competition in the markets develops. These criteria should be applied cumulatively, so that failing any one of them would indicate that the market should not be identified as susceptible to *ex ante* regulation.
- (13) There are in the electronic communications sector at least two main types of relevant markets to consider: markets for services or products provided to end users (retail markets), and markets for the inputs which are necessary for operators to provide services and products to end users (wholesale markets).
- (14) Regulatory controls on retail services should only be imposed where national regulatory authorities consider that relevant wholesale measures or measures regarding carrier selection or pre-selection would fail to achieve the objective of ensuring effective competition and public interest. By intervening at the wholesale level member states can ensure that as much of the value chain is open to normal competition processes as possible, thereby delivering the best outcomes for end users. Should a national regulatory authority have reason to consider that wholesale interventions would prove unsuccessful, retail regulation may be imposed.
- (15) The process of identifying markets in this Recommendation is without prejudice to markets that may be defined in specific cases under competition law. Moreover, the scope of *ex ante* regulation is without prejudice to the scope of activities that may be analysed under competition law.
- (16) National regulatory authorities can assume that the 3 criteria are met in relation to markets identified in this Recommendation, but for markets not listed in the Recommendation national regulatory authorities should undertake the 3 criteria test. For markets listed in this Recommendation a national regulatory authority may choose not to analyse a market if it determines that the three criteria are not satisfied in the

particular situation. National regulatory authorities may identify markets that differ from those of the Recommendation, provided that they act in accordance with Article 7 of the Framework Directive. Failure to notify a market which affects trade between Member States may result in infringement proceedings being taken. Markets that differ from those listed in this Recommendation should be defined on the basis of competition principles developed in the Commission Notice on the definition of relevant market for the purposes of Community competition law and be consistent with the Commission Guidelines on market analysis and the assessment of significant market power whilst satisfying the three criteria set out above.

- (17) The fact that this Recommendation identifies those product and service markets in which ex ante regulation may be warranted does not mean that regulation is always warranted or that these markets will be subject to the imposition of regulatory obligations set out in the specific Directives. In particular, regulation cannot be imposed or must be withdrawn if there is effective competition on these markets absent regulation, i.e. if no operator has significant market power in the sense of Article 14 of the Framework Directive. Regulatory obligations must be appropriate and be based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in the Framework Directive, in particular maximising benefits for users, ensuring no distortion or restriction of competition, encouraging efficient investment in infrastructure and promoting innovation, and encouraging efficient use and management of radio frequencies and numbering resources.
- (18) This Recommendation has been subject to a public consultation and to consultation with national regulatory authorities and national competition authorities.

HAS ADOPTED THIS RECOMMENDATION:

1. In defining relevant markets in accordance with Article 15(3) of Directive 2002/21/EC, national regulatory authorities are recommended to analyse the product and service markets identified in the Annex.
2. The markets included in this Recommendation have been identified on the basis of the following 3 criteria:
 - (a) The first criterion is the presence of high and non-transitory entry barriers. These may be of structural, legal or regulatory nature,
 - (b) The second criterion admits only those markets the structure of which does not tend towards effective competition within the period of the review. The application of this criterion involves examining the state of competition behind the barriers of entry.
 - (c) The third criterion is that application of competition law alone would not adequately address the market failure(s) concerned.

For the wholesale markets listed, the related retail markets are characterised by consumer harm absent regulation.

- 3 When defining markets other than those identified in the Annex, national regulatory authorities should ensure that the three criteria are met.

4. This Recommendation is without prejudice to market definitions, results of market analyses and regulatory obligations adopted by national regulatory authorities in accordance with Articles 15(3) and 16 of Directive 2002/21/EC prior to its entry into force.
5. This Recommendation is addressed to the Member States.

Done at Brussels,

For the Commission

Member of the Commission

ANNEX

Retail level

1. Access to the public telephone network at a fixed location for residential and non-residential customers.

Wholesale level

2. Call termination on individual public telephone networks provided at a fixed location.

For the purposes of this Recommendation, call termination is taken to include local call conveyance and delineated in such a way as to be consistent with the delineated boundaries for the markets for call origination and for call transit on the public telephone network provided at a fixed location.

3. Call origination on the public telephone network provided at a fixed location.

For the purposes of this Recommendation, call origination is taken to include local call conveyance and delineated in such a way as to be consistent with the delineated boundaries for the markets for call transit and for call termination on the public telephone network provided at a fixed location.

4. Transit services in the fixed public telephone network

For the purposes of this Recommendation, the boundaries of this market should be delineated in such a way as to be consistent with the delineated boundaries for the markets for call origination and for call termination on the public telephone network provided at a fixed location.

5. Wholesale unbundled access (including shared access) to metallic loops and sub-loops (or equivalent) for the purpose of providing broadband and voice services.

6. Wholesale broadband access.

This market covers 'bit-stream' access that permit the transmission of broadband data in both directions and other wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bit-stream access.

7. Wholesale terminating segments of leased lines
8. Wholesale trunk segments of leased lines
9. Voice call and SMS termination on individual mobile networks
10. Access and call origination on public mobile telephone networks*
11. Wholesale national market for international roaming on public mobile networks.
12. Broadcasting transmission services, to deliver broadcast content to end users*

* The Commission notes that the number of notifications for these markets has been relatively limited (various analyses by the NRAs are still on-going). In view thereof and the complexity of issues raised, the Commission seeks particularly the stakeholders' view on whether these markets should be retained in the revised version on the Recommendation.