Revised

ERG Working paper[1]

on the SMP concept for the new regulatory framework

September 2005

Table of Contents

1 Scope of the paper

The ERG Work Programme for 2004, identified the need for further work on a common position on the concept of significant market power. In this context the Work Programme stated: There is already an ERG working paper (ERG (03)09) on the concept of SMP. The goal is to arrive at a common ERG position on SMP designation. Further work will be done on the theoretical implications of the SMP-criteria as set out in §78 and 97 of the SMP-guidelines. Specific attention will be given to the theoretic economic background, and its practical implications on market analysis in the new regulatory framework. This work will be integrated with ERG (03) 09.

In fulfilling this mandate a document was set up on the basis of the ERG Working paper ERG (03)09. After internal agreement within IRG the document was discussed with the services of the European Commission in order to find general acceptance within ERG. In December 2004 Plenary, a Public Consultation on the document was decided and several responses were received. The following document takes into account those responses.

On content: This paper identifies criteria for the assessment of effective competition and describes their implication for the assessment of market power. In so doing, the report builds on the criteria listed in the Commission SMP-guidelines (section 3) and the Annex to the Framework Directive, which in turn are the result of jurisprudence of the European Courts and the practice of the European Commission,. Nevertheless, it has to be taken into account, that this document is merely a starting point and cannot prejudice the interpretation or weight attributed to certain criteria by NRAs in the market analysis procedure, nor the interpretation of the concept of SMP of Article 14, paragraph 2 of the Framework directive as interpreted by the Court of Justice. In this respect, it is important to note that this document only serves as guidance for NRAs and is not a substitute for the Commission SMP Guidelines.

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[1] The paper reflects the current status of discussion within ERG. ERG documents do not necessarily reflect the views of the European Commission.

The deliverable consists of the following four chapters:

- Chapter 2 provides an introduction and some background information
- Chapter 3 lists and explains the common understanding on single dominance criteria as provided through the SMP-guidelines (§ 78) of the European Commission
- Chapter 4 lists and explains the common understanding on joint dominance criteria as provided through the SMP-guidelines (§ 97) of the European Commission. It also takes into account relevant jurisprudence of European Courts on Joint Dominance.
- Chapter 5 finally, discusses some indicators that can provide some useful information to support a thorough and overall analysis of the economic characteristics of the relevant market.

2 Introduction and General Background

1. The new framework obliges NRAs to carry out analyses of the relevant markets with the purpose to determine whether there is effective competition on a relevant market or not. If an NRA comes to the conclusion that there is no effective competition, one or several operators are deemed to have significant market power (SMP). According to Art 14 (2) of the Framework Directive "an undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers". Art 14 (3) introduces leveraging of market power and states, that "where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking." Art 14 (2) follows the definition that the Court of Justice case law ascribes to the concept of dominant position in Art. 82 of the treaty. (§ 70 SMP guidelines). Consequently, in applying the new definition of SMP, NRAs will have to ensure that their decisions are in accordance with Commission's practice and the relevant jurisprudence of the Court of Justice and the Court of First Instance (CFI) on dominance.

2. Annex II to the Framework Directive and the SMP-Guidelines[2] contain a number of demonstrative criteria which should be taken into account when NRAs conduct market analyses and decide if there is effective competition or single/joint dominance in a relevant market. However, while the guidelines provide explanation on several methodological aspects of market definition and market analysis, it only explains the relevance of some criteria for market analysis and the assessment of SMP (particularly in section 3). Chapter 3 and 4 of this document aim to provide additional information on the criteria for single and joint dominance.

3. Hence, the document aims

   i) to make the concept of SMP more concrete,
   ii) to explain further the criteria which are provided in the SMP-Guidelines and in Annex II of the FD,
   iii) to support thereby consistency in the interpretation and application of the criteria among NRAs,

[2] The relevant section of the SMP-guidelines is chapter 3 "Assessing Market Power (Dominance). Paragraph 78 of the guidelines lists amongst others a set of criteria to be relevant for single dominance. Paragraph 97 on the other hand provides a not exhaustive list of criteria relevant to evaluate the existence of Joint Dominance.

iv) to provide a basis for making the criteria operational (in order to support a harmonised understanding amongst NRAs in case of Art. 7 procedures and – where applicable – for international comparisons)

v) to add some indicators that are considered to be relevant in the context of market analyses.

4. Concerning the last mentioned aspect, the Guidelines explicitly state that the criteria listed on single- and joint dominance are demonstrative and other criteria may also be considered when assessing the effectiveness of competition. Chapter 5 takes this into account and adds (and explains) some further indicators to support a thorough and overall analysis of the economic characteristics of the relevant market.

5. The Guidelines do not specifically state that the criteria identified for evaluation of single dominance are also relevant for assessing joint dominance. However, it is in line with standard competition analysis that when an assessment is made on the existence of joint dominance, single dominance criteria have to be taken into account.

6. The criteria listed below are not to be regarded as a simple checklist to evaluate whether an SMP position (dominance) exists. Market analyses have to be considered as an overall forward looking approach of analysing the economic characteristics of a given relevant market (§ 78 SMP-guidelines) taking into account the specific facts of the individual case. Accordingly, a dominant position will only be found by reference to and assessment against a number of criteria. For this reason and because of the diversity of the markets under consideration, it is not considered appropriate to set priorities (put weights) on the criteria. What (set of) criteria is of particular importance has always to be considered in the context of a certain market taking into account the specific facts of the individual case. In order to evaluate the relevance of criteria to assess the existence of a dominant position, it is also useful to consider them against the background of the respective market phase: concentration processes, the mixture of behavioural parameters and the resulting performance indicators etc. are often different, depending on the particular market phase. In fact this is the only approach which is in line with the relevant jurisprudence of the European Court of Justice/Court of First instance in relation to the assessment of a single or joint dominant position.

3 Criteria for assessing single dominance

This chapter highlights the main criteria considered to be relevant when assessing dominance in a given market. As mentioned above, it shall not be considered as covering all relevant criteria; some further indicators to support a thorough and overall analysis of the economic characteristics of the relevant market are provided in chapter 5. Again it has to be mentioned that a dominant position cannot derive from a single criterion but from any combination of the criteria. The explanations and examples given under the criteria are not intended to represent a full description of all the factors that might be taken into account, rather they are intended to provide a better understanding of some of the main points that can be considered in the analysis.

7. *Market shares (§ 75-78 SMP-guidelines)*. Market shares, important as they may be, are – as any other criterion – not conclusive on their own. The economic relevance of market shares as an indicator for the assessment of single dominance derives from economic theory and empirical evidence on the relation between market shares and profitability (in terms of price-cost margins).[3] Although theory and empirics indicate that there is a

[3] Theoretically this can be (most easily) demonstrated by the relation between the Lerner index (price cost margin) and the market-share in oligopolistic markets with Cournot competition. In this case the Lerner-Index

positive correlation between market shares and individual price cost margin, there is no clear-cut relation between a certain market share and the existence of dominance. According to the EC's competition law practise suppliers with market shares below 25 % are not likely to enjoy single dominance. According to case law a market share over 50 % would lead to a rebuttable presumption of dominance. In the European Commission's decision-making practice, single dominance concerns normally arise where an undertaking has at least 40 % market share. However, there may even be concerns about dominance where an undertaking has less than 40 %, depending on the size of that undertaking's market share relative to its competitors.[4]

In addition, a snap shot on market shares has less meaning then the development of market shares over time. While persistence of a high market share over time can indicate dominance, declining market shares on the other hand may provide evidence of entry and increasing competition (although this may not preclude a finding of dominance). The fact that, in the beginning of a liberalisation process, the market share of the monopolist decreases does not mean that there is no longer dominance. This may be indeed the "natural" effect of opening the market for competitors. In emerging or fast growing markets, high market shares are less indicative of market power than in mature or slow-growing markets.[5] Fluctuations in market shares may also indicate a lack of market power. The market share's significance in the competitive environment also depends on the distance from the other competitors and the division of market shares between them. Apart from the more common analysis of market shares, appropriate measures to evaluate market concentration are the Hirschmann-Herfindahl Index (HHI) or concentration ratios, like CR3 or CR5.[6]

Market shares may be assessed either on the basis of volume (capacity, minutes, number of termination points etc.) or value of sales. The criteria to be used to measure market shares of undertakings concerned will depend on the characteristics of the relevant market. In general it is likely that the most appropriate measures will be volume for bulk products (e.g. wholesale conveyance minutes), and value for differentiated (branded) products. Hence volume data should be used if there are no large differences in prices, since this minimises the differences between results based on volume and value data. If there were significant differences in prices, calculations based on volume data would not paint a realistic picture of the position and economic significance of market players. In practice, therefore, market shares are usually calculated using sales revenues instead of volumes although in most cases it might be appropriate to analyse both for a proper assessment.[7]Where – concerning a fairly homogenous product or service – a firm has a

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can be described as follows $\frac{P-MC}{P}=\frac{s_i}{\varepsilon}$, whereas P stands for the price, MC for marginal costs, s_i for the market share and ε for the price elasticity of demand.

4 The converse is also possible, as was seen in the Finnish case, where SMP was not found by the Commision despite a market share of over 50%.

5 Recital 27 of the Framework Directive (2002/21/EC) highlights on this when it states: "…Those guidelines will also address the issue of newly growing markets, where de facto the market leader is likely to have a substantial market share but should not be subjected to inappropriate obligations." A further discussion on dominance and emerging markets can be found in the ERG common Position 2004.

6 In its comments on Case No UK/2003/0001 on mobile network access and call origination, the Commission highlighted: "Moreover, while HHI ratios are an accepted measure of market concentration in evaluating the increase in concentration resulting from a merger, for example, the Commission considers that HHI indices are not the only appropriate ones in assessing the *current* level of concentration in narrow oligopolies, especially for the purposes of assessing SMP. Concentration ratios, in particular, can provide an additional relevant view of market concentration."

7 In its decision to the cases FI/2003/0024 and FI/2003/0027 on publicly available telephone services provided at a fixed location for residential and non-residential customers, the Commission noticed in its conclusions, that "The evolution of market shares over time provides information about the dynamics of market structure as a result of both competitive interaction between the suppliers and the subsequent change in market performance. In this context, market shares for several consecutive years, calculated both in terms of

higher market share by value than by volume, this might be an indication that it can price above rivals and make super normal profits. Such a pricing behaviour might be a sign of significant market power. In general therefore, the comparison of volume/revenue based market shares can provide some indirect and useful information on market power.

8. *Overall size of the undertaking (§ 78 SMP-guidelines).* This refers to the potential advantages, and the sustainability of those advantages, that may arise from the large size of an undertaking relative to its competitors. Areas where such advantages may exist include economies of scale (see also separate criterion below, paragraph 14); finance (see also separate criterion below, paragraph 12); purchasing; production capacities; distribution and marketing. Such advantages may accrue in part due to other activities of the undertaking outside the market under consideration.

9. *Control of infrastructure not easily duplicated (§ 78, 81, 82 SMP-guidelines)*. This indicator refers to a situation in which the availability of a certain infrastructure is

   i) necessary to produce a particular product/service,

   ii) the required infrastructure is exclusively or overwhelmingly under control of a certain undertaking and

   iii) there are high and non-transitory barriers to substitute the infrastructure in question

   In such a situation, the control of infrastructure not easily duplicated can make it feasible for the undertaking in question to behave independently from other suppliers (network operators) and to exercise market power (in absence of significant countervailing power), as there is almost no actual or potential competition. One example is control/ownership of a large network that a competitor would find costly and time-consuming to build in order to provide the service in question. Such control may hence represent a significant barrier to entry. In addition it might be possible for the supplier to lever its market power horizontally (to adjacent markets) or vertically (downstream markets).

10. *Technological advantages or superiority (§ 78 SMP-guidelines)*. Such advantages may represent a barrier to entry as well as an advantage over existing competitors due to lower production costs or product differentiation. Doing a forward-looking analysis, however, NRAs will have to take into account that some technological advantages might only be temporary and may therefore not be a permanent source of market power.

11. *Absence of or low countervailing power (§ 78 SMP-guidelines)*. The existence of customers with a strong negotiating position, which is exercised to produce a significant impact on competition, will tend to restrict the ability of providers to act independently of their customers. The extent of countervailing buyer power largely depends on whether customers can credibly threaten to switch to other suppliers, to self-provide the service, to significantly reduce consumption or to cease to use the service at all in case of a price increase. Many factors play a role in determining the scale of countervailing power on the part of the buyers. The higher the amount of purchase of services by customers or the higher the proportion of the producer's total output that is bought by a certain customer, the stronger the countervailing power might be. The higher the portion of the costs for a service in relation to their total expenditure and the better informed, the more sensitive consumers are to the price and quality of the service and the more ready they might be to switch suppliers or to reduce demand. Further to this, the higher a seller's locked-in investment in specific customers (asset specificity), the more willing he will be to negotiate. Overall, this criterion is more meaningful in wholesale markets, because

volumes and revenues, is another appropriate means to obtain a picture of the evolution of competitive forces in the relevant markets."

providers purchasing network services from other providers are in general more visible and powerful than retail customers.

12. *Easy or privileged access to capital markets/financial resources (§ 78 SMP-guidelines)*. Easy or privileged access to capital markets may represent a barrier to entry as well as an advantage over existing competitors. Aside from internal sources (eg. as indicated by the cash flow or revenue) the ability to procure outside capital, a firms capital structure and its ability to increase equity capital (eg. structure of shareholders) might be considered. Further to this access to capital might be influenced if a firm has links with other companies (eg affiliated companies belonging to the same group) that are favourable for its activities in the market in question. However when doing the analysis one also has to look at the intercompany links the competitors may have.

13. *Product/services diversification (e.g. bundled products or services); (§ 78 SMP-guidelines)*. Diversification is where a firm produces a range of products/services (which may or may not be in separate markets). Product or service diversification can be observed particularly in more mature markets and is characterised by the fact that an undertaking is able to provide a “portfolio” of related products and services, which, especially when combined with bundling, may have the consequence of making competitive entry into the supply of one or more of the services potentially more difficult. In that sense product/services diversification may enable the undertaking in question to secure and maintain its client basis.

14. *Economies of scale (§ 78 SMP-guidelines)*. Economies of scale arise when increasing production causes average costs (per unit of output) to fall. Economies of scale are common where the production process involves high fixed costs, which is often the case in communication markets. One other way in which increasing scale can lower unit costs is by allowing greater specialisation, and in turn higher productivity. Although economies of scale on their own do not create entry barriers (given a certain level of demand, technology and cost function, entrants can exhaust the same economies if they are able to produce the same volumes), they can de-facto amount to an entry barrier if further factors, such as sunk costs, switching costs etc. exist[8] so that economies of scale create an asymmetry between the incumbent and new entrants or smaller competitors. If this is the case, economies of scale can act as a barrier to entry as well as an advantage over existing competitors.

15. *Economies of scope (§ 78 SMP-guidelines)*. Economies of scope exist where average costs for one product are lower as a result of it being produced jointly with other products by the same firm. Cost savings may be made where common processes are used in production. Economies of scope are common where networks exist, as the capacity of the network can be shared across multiple products. Similar to the economies of scale discussed above, economies of scope can be a barrier to entry as well as an advantage over existing competitors. If the existence of economies of scope requires entrants to enter in more than one market simultaneously, this may require additional expertise, more capital etc., which may sum up to higher costs, thus hampering ease of market entry.

16. *Vertical integration (§ 78 SMP-guidelines)*. Vertical integration while normally efficient, can strengthen dominance by making new market entry harder due to control of upstream or downstream markets. As such, vertical integration may give an advantage to the integrated firm (over its competitors), as access to sales and supply markets might be more easily attainable for the integrated firm (through better prices, service levels, lead times and development of new products). Vertical integration potentially creates conditions for leverage of market power from (say) upstream to downstream markets,

8 See eg. Carlton, D.W./Perloff, J.M. (2000), p. 79ff for the relation between economies of scale and sunk costs.

due to both the incentive and ability for vertically integrated firms to limit entry into downstream markets.. Also relevant in this context is the fact that vertically integrated multi product operators often have a clear competitive advantage over their competitors if they are in a position to bundle products (e.g. access and voice traffic or voice traffic and internet access etc.) which may either not be replicable for the competitors due to a lack of corresponding wholesale products which might increase the cost of entry.

17. *A highly developed distribution and sales network (§ 78 SMP-guidelines)*. Well-developed distribution systems are costly to replicate and maintain, and may even be incapable of duplication. They may represent a barrier to entry as well as an advantage over existing competitors.

18. *Absence of potential competition (§ 74, 78, 80 SMP-guidelines)*. This refers to the prospect of new competitors (which are in the position to switch or extend their line of production) entering the market (e.g. due to a hypothetical price increase) within the timeframe considered by the review. The record of past entry is one factor that can be looked at, as well as potential (structural, legal or regulatory) barriers to entry. Some of them are discussed under “Ease of market entry” below.

19. *Barriers to expansion (§ 78 SMP-guidelines)*. There may be more active competition where there are lower barriers to growth and expansion. While growth and expansion is easier to achieve for individual firms (and in particular for new entrants) in growing markets, it might be inhibited in mature, saturated markets, where customers are already locked in with a certain supplier and have to be induced to switch.

20. *Excessive pricing.* As stated in paragraph 4 above, the SMP-guidelines explicitly state that criteria other than the ones listed in that document may be considered when assessing effective competition. In this context, the ability to price at a level that keeps profits persistently and significantly above the competitive level is an important indicator for market power. The SMP-Guidelines (§ 73) refer to the importance, when assessing market power on an ex-ante basis, of considering the power (or ability) of undertakings to raise prices without incurring a significant loss of sales or revenue. In a competitive market, individual firms should not be able to persistently raise prices above costs and sustain excess profits. As costs fall, prices should be expected to fall too, if competition is effective. Although the existence of prices at a level that keeps profits persistently and significantly above the competitive level is an important indicator for the existence of SMP it is not a necessary condition for finding SMP given the ex ante character of the regulatory framework.

    Factors that may explain excessive prices, such as greater innovation and efficiency, or unexpected changes in demand, should however be considered in interpreting high profit figures. Conversely, low profits may be more an indicator of the inefficiency of the firm than of effective competition. Excessive prices in principle can be detected by an analysis of Price Cost Margins (PCM) which measure directly the deviation of prices from costs.[9] However, although valuable from a theoretic perspective, in many cases necessary data to calculate PCM will not be available at a disaggregated product or market level. In addition, the fact that in communication markets usually there are multi-product undertakings with high joint and common costs that have to be attributed to certain services may make the calculation of PCM even more difficult

21. *Ease of market entry (§ 80 SMP-guidelines).* The threat of potential entry may prevent firms from raising prices above competitive levels, leading thereby to a situation in which no market power is exercised. However, if there are significant barriers to entry, this threat may be weak or absent. Operators may then be able to raise prices and make

[9] More formally, price cost margins can be described as (P-C)/P, whereas C (cost) can eg. be marginal, incremental or fully allocated costs; see also footnote 3 above.

persistent excess profits without attracting additional competition that would reduce them again. The impact of these barriers is likely to be greater where the market is growing slowly and is initially dominated by one large supplier, as entrants will be able to grow only by attracting customers from the dominant firm. However, barriers to entry may become less relevant where markets are associated with ongoing technological change and innovation.

Structural barriers plus any evidence of both potential and actual entry are relevant to the assessment, although lack of entry may also be a rational decision given price signals and potential profits. For example, not enough customers may be willing to switch given the level of potential savings available. Market reviews might consider whether there is evidence that new competitors have a significant impact within the time frame considered by the review. There are two broad categories of barriers to entry – strategic and absolute. Absolute barriers exist where firms own, have access to, or are granted privileged use of important assets or resources which are not similarly accessible to potential entrants. Strategic barriers arise due to the strategic behaviour of existing market players, for example through pricing behaviour (such as predatory pricing, price-squeezing, cross-subsidies and price discrimination) or through non-price behaviour (such as increased investment, promotion and distribution). Whilst structural and behavioural aspects can be interwoven, making the absolute-strategic distinction blurred, the distinction may help to indicate appropriate remedies to address dominance. Sunk costs can be an important barrier to entry. These are costs which are needed to enter an industry but which cannot be recovered on exit. Existing firms, which only have to cover ongoing costs, could set prices too low to allow entrants to both recover sunk costs and compete. Several other potential barriers to entry were already introduced above. Further examples are: patents and other intellectual property rights; brand image (including high advertising); distribution agreements etc.

22. *Costs and barriers to switching.* When considering a switch to new services in place of existing services, there are three possible cases. First, consumers will remain with current services if satisfied. Second, if not satisfied after a comparison of information, they will substitute services in question for new services, unless significant barriers exist (such as uncertainty about the quality of service and reputation of alternative suppliers). If consumers already have a considerable investment in equipment necessary for the services, are locked into long-term contracts or are concerned about disruptions and inconveniences in so doing, they will stick to current services and show inertia in the choice of services and carriers. Related to significant barriers to switching suppliers are high connection/disconnection fees, lengthy contracts with penalty clauses, additional costs for new peripheral equipment, billing arrangements including separate bills, the existence and effectiveness of number portability etc. Consumers' reluctance to switching suppliers can subsequently work as a potential barrier to entry and/or expansion. Consumer surveys can ask detailed questions on the extent and substance of such barriers to switching. One of the proxies for measuring this variable is the percentage of actual switching to new service or suppliers after receiving relevant information. If the level of consumer satisfaction drops over time but the rate of switching suppliers stay relatively low, this implies a high level of switching barriers exists in the relevant market.

23. The determination that a company has a dominant market position requires a wider assessment of all the competitive conditions of significance for the market in question. If this assessment reveals an imbalance in the relevant characteristics to one company's advantage, this could mean that the company's scope for using competitive parameters or market strategies can no longer be adequately constrained by its competitors.

4 Criteria for assessing joint dominance[10]

24. Joint (or collective) dominance refers to a situation where a dominant position (in the sense of Art 14 (2) FD) is held by two or more undertakings that are legally and economically independent of each other (§ 89 SMP-guidelines). Without prejudice to the case law of the Court of Justice on joint dominance, this is likely to be the case where the market satisfies a number of characteristics, in particular in terms of market concentration, transparency and other characteristics mentioned below. Again there is no specific ranking of importance amongst the criteria and NRAs are requested to consider and examine these criteria and make an overall assessment rather than mechanistically applying a check-list (§ 98 SMP-guidelines). What does need to be established is that market operators have a strong incentive to converge to a co-ordinated market outcome and refrain from reliance on competitive conduct (§ 99 SMP-guidelines). However, if an NRA intends to assess collective (or joint) dominance in a particular case, it will be necessary to take into account the Commissions practice and the European Courts jurisprudence.

25. There have been three cases in particular which provide useful guide to the tests that must be satisfied in order to find a position of joint dominance. These are: Compagnie Maritime Belge Transports SA v Commission, Gencor and the CFI's decision in the Airtours/First Choice merger case. In the last mentioned case the Court of First Instance (CFI) overturned the Commission's findings and outlined certain criteria that must be given to determine undertakings as oligopolistic jointly dominant (such oligopolistic joint dominance can be distinguished from a situation in which joint dominance might be found on the basis of structural links between undertakings). Since the case law on joint dominance is continually evolving, this shall not be interpreted as the final definitive statement on joint dominance, but it has to be taken into account when assessing joint dominance. The CFI's judgement defines collective dominance as a situation in which it is possible, economically rational and preferable for firms to adopt, on a lasting basis, a common policy in the market with the aim of selling at above competitive prices. In the Airtours/First Choice merger decision the CFI set out three necessary conditions for a collective dominance position:

i) Each member of the dominant oligopoly must have the ability to know how the other members are behaving in order to monitor whether or not they are adopting the common strategy. It is therefore necessary for sufficient transparency for all firms in the oligopoly to be aware, sufficiently precisely and quickly, of the way in which the other firms' market conduct is evolving. The most important criteria from those listed below to meet this condition are: Market concentration (paragraph 26), transparency (paragraph 27), mature market (paragraph 28), predictable growth on the demand side (paragraph 29) and homogeneity of products (paragraph 31).

ii) Any tacit co-ordination must be sustainable over time. Implicit in this is the view that a retaliatory mechanism of some kind is necessary, so that any firm that deviates from the co-ordinated practice would be met by competitive reactions (not necessarily only addressing the cheating firm) by other firms. The most important criterion listed below to meet this condition: Retaliatory mechanisms (paragraph 40).

iii) It is necessary that existing and future competitors, as well as customers, do not undermine the results expected from the common policy. Particularly relevant in this context is whether there are fringe competitors and, if they are able to counteract a collective dominant position. Important criteria to be considered in this context are the existence of high barriers to entry (see below

[10] As already mentioned in paragraph 5 above, the criteria identified for the evaluation of single dominance are also relevant for assessing Joint Dominance and should therefore be taken into account.

paragraph 36), differences in cost structures (paragraph 32) and demand elasticities (paragraph 30).

26. *Market concentration (§ 97, 99 SMP-guidelines).* Collective dominance is more likely in a highly concentrated market in which a few market players (facilitates co-ordination by reducing transaction and monitoring costs) have a high market share. However, even where a market is highly concentrated it does not necessarily warrant a finding that the structure of the market is conducive to collective dominance in the form of tacit co-ordination.

27. *Transparency (§ 97 SMP-guidelines)*. For the evaluation of this indicator one has to make a distinction between transparency between competitors and transparency between suppliers and consumers. A situation where companies can easily obtain good knowledge of their competitors' prices and customers is more conducive to collective dominance. If there is transparent information on rival's prices and output, a quick detection of cheating rivals is possible and essential for the maintenance of collusion. From this perspective, publications of prices, pre-announcements of price changes, and similar communications, can support transparency as they may facilitate tacit collusion whereas secret price cutting to certain customers is the most common form of cheating. On the other hand, transparency between consumers and suppliers could be a pro-competitive indicator as well-informed customers will in general be more price sensitive.

28. *Mature market* (§ 97 SMP-guidelines). In more mature markets, it is harder to enter the market and attract new customers.

29. Stagnant or moderate growth on demand side (§ 97 SMP-guidelines). The faster and more predictably demand is growing, the more likely providers are to compete aggressively due to the potentially higher returns available in terms of future market shares and profits. However, economic theory also indicates that (long term) future profits from collusive behaviour increases with growing demand whereas short-term profits from cheating are independent from demand growth (assuming that cheating will lead to a competitive outcome). Whenever short-term gains from cheating are small compared with the cost of future retaliation, collusion is easier to sustain. In a ceteris paribus analysis with a fixed number of market participants, this leads to the economic conclusion that collusion in a situation with strong demand growth (frequently given in an early market stage) is more likely than in a situation with moderate growth.[11] Thus the interpretation of this criterion with respect to its meaning for collective dominance is ambiguous.

30. *Low elasticity of demand (§ 97 SMP-guidelines).* Demand elasticity is an ambivalent criterion in context of the assessment of joint dominance. Both a high as well as a low elasticity of demand can enforce collusion. Where customer demand does not change much in response to price changes, there is less incentive to reduce prices in order to undercut competitors; hence it would require substantial price cuts to attract further demand. If oligopolists – on the other hand - face a highly elastic demand curve, they might feel an incentive to undercut the collusive price level, since already small reductions of prices cause a large expansion of demand (the price-effect is more then compensated by an increase in volume – leading to a net revenue effect). If the interaction of oligopolists however lasts for several periods, the cheating firm has to expect punishment by the competitors. They may react by cutting down their prices with the result that in the end of this process none of the oligopolists might be better off. A high elasticity of demand implies that rivals can react very effectively to cheating. The collusive outcome in general becomes more sustainable, the more severe the punishment is (this phenomenon is known as Topsy-Turvy principle in super games).

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11 See Ivaldi, M. et.al: The economics of tacit collusion, Final report for DG Competition, p. 26f., European Commission, March 2003

31. *Homogeneous product (§ 97 SMP-guidelines).* The more similar the products, or the more similar they are perceived by customers, the stronger the potential for price competition between providers and the easier the mutual control; both aspects may increase the incentive and ability to collude. In differentiated product markets, on the other hand, competition does not focus on price alone, but takes place along multiple dimensions, and agreements (tacit or otherwise) are more difficult to reach.

32. *Similar cost structures (§ 97 SMP-guidelines)*. Similar cost structures would make muted price competition easier, as for a given price level similar costs will produce similar levels of profit. If firms have different marginal cost functions, their individual price preferences will differ at any given output level. This makes agreeing on a common profit-maximising price more difficult. .]

33. Similar market shares (§ 97 SMP-guidelines). Large imbalances of market shares between suppliers may make collective dominance less likely. Behaviour that limits competition may be more likely where market shares are similar. A situation of stable market shares over time may result from collusion or muted competition.

34. Lack of technical innovation, mature technology (§ 97 SMP-guidelines). The more mature the technology, the lower the scope for providers to compete by being differentiated on technology grounds. The situation is completely different as long as technical innovation takes place. First, technical innovation comes along with product differentiation and in the context with differentiated products competition takes place along several dimensions; the consequence is that an agreeing on a joint-profit maximising outcome is harder to achieve. Second, sitting back and enjoying high profits may increase the likelihood of new competitors coming in with innovative products. Third, because of uncertainty over future market conditions, competitors in innovative markets may wish to compete fiercely and gain market share now, in order to have a strong starting position in the next market phase.

35. *Absence of excess capacity (§ 97 SMP-guidelines).* Absence of excess capacity would tend to make it easier to maintain an anti-competitive agreement, as providers would not have an incentive to deviate from an agreement by using their excess capacity to produce at a lower price, and in so doing make more profit overall.

36. High Barriers to entry (§ 97 SMP-guidelines). For an explanation on the implication for the assessment of market power see in particular paragraph 21 “Ease of market entry” above.

37. *Lack of countervailing power (§ 97 SMP-guidelines).* The existence of customers with a strong negotiating position, which is exercised to produce a significant impact on competition, will tend to restrict the ability of providers to act independently of their customers. For an explanation on the implication for the assessment of market power see paragraph 11 “Absence of or low countervailing power” above.

38. *Lack of potential competition (§ 97 SMP-guidelines).* This refers to the prospect of new competitors entering the market within the timeframe considered by the review. For an explanation on the implication for the assessment of market power see in particular paragraph 21 “Ease of market entry” above.

39. *Various kinds of informal or other links between the undertakings concerned (§ 97 SMP-guidelines).* Evidence of such links will inform an assessment of the potential for collusion. However such evidence is not a pre-requisite for finding a collectively dominant position. For example, links may exist to legitimately resolve common issues through self-regulation. Patterns of price movements are one piece of evidence that might indicate

concerted action by firms, although this has to be interpreted carefully, as other reasons (e.g. increasing input prices) might be the cause for that development.

40. *Retaliatory mechanisms (§ 97 and § 99 SMP-guidelines).* The likely existence of such mechanisms can deter action that might break collective agreements, as they will make it not worthwhile for any member of the potential dominant oligopoly to depart from the common course of conduct to the detriment of the other oligopolists. An example of such a mechanism would be a credible threat of stronger price competition that would impact unequally upon providers.

41. *Lack or reduced scope of price competition (§ 97 SMP-guidelines).* If competition were effective, one would generally expect to see prices close to or moving towards cost. But the potential for tough price competition can create an incentive not to compete actively. An assessment of some of the other collective dominance criteria may also indicate limited scope for price competition. So a potential result of collective dominance is evidence of a history of market price movements within a narrow range.

5 Further possible indicators to identify market problems

The above criteria serve to assess the existence of single or joint dominance. However in most cases such an assessment will be triggered by a NRA's overall concerns as to the general state of competitiveness prevailing in a given market. The indicators discussed below are among those that often prompt an NRA to carry out a further and more detailed analysis of a given market.

42. *Evidence of previous anti competitive behaviour.* Effectively competitive markets lack any form of collusion be it explicit or tacit[12] among suppliers and anti-competitive behaviour, e.g. predatory pricing and other anti-competitive practices such as market foreclosure, refusals to deal, delaying tactics etc. The indicator can be judged on the grounds that economically feasible and fair transactions are achievable. NRAs can collect information on the number of applications for such services and agreements and on the length of average period of time between the applications and agreements for these services. A more obvious indicator of previous anti-competitive behaviour is the existence of past binding decisions finding a breach of competition law.

43. *Active competition on other parameters.* Aside of pricing other strategic competition parameters, such as marketing, innovation etc. exist. Another parameter is the rate of growth in geographic/service coverage by competitors. An indirect way of measuring the level of active competition as well as the ease of entry might be to look at the number of recent entries and exits in the relevant market. Concerning competition in innovation, measures include the number and nature of services offered by providers and the degree of innovation in terms of service packaging, bundling and exploitation of technological convergence. This can be also measured through the speed and varieties with which innovative services are brought to the market. However, the measurement of this parameter is hard to standardize and the practical difficulties of monitoring retail offerings may limit the analysis on this indicator to a very general level.

44. *Existence of standards/conventions.* Useful background information not only for market delineation but also for the assessment of product homogeneity/heterogeneity, the

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[12] The incentive to tacitly collude is generally greater the lower is market concentration (i.e. the benefits of collusion are highest when the market is effectively competitive), but the ability to tacitly collude is greater the more concentrated is the market.

existence of market barriers for potential entrants and for the assessment of dominance can be obtained by considering the existence and consequences of standards and conventions. The extent of technical standardization may determine the potential for product differentiation as well as the ease of market entry (availability of a certain technology; compatibility with other firms' products/technologies). Moreover, reliance upon conventions like the "calling-party-pays" principle or the adoption of the standard international roaming agreement by the GSM Association, may help to interpret the other indicators mentioned in this document and/or to understand the source of a market failure or competition problems.

45. *Customers ability to access and use information.* Limited customer access to and use of reliable information on prices and other aspects of the services can dampen competition by reducing the degree to which customers act upon differences between providers. As a result, providers are better able to act independently of customers. However, it is possible for active behaviour by relatively more aware customer segments to produce competitive effects disproportionate to the number of customers involved. This indicator is distinct from "costs and barriers to switching" in that switching does not cover first time purchasers of a product. These customers may be more numerous than switchers at certain stages of a product's life cycle. The measurement of this indicator can be conducted through consumer awareness surveys (on a regular basis) across a range of important issues in communications markets, including the availability of quality of service offers. For this indicator, directly measurable data may include information on prices and available service options to consumers by service providers, the level of content contained in information on services via Internet, the provision of requested information in a timely manner and others.

46. *Price trends and pricing behaviour.* Pricing patterns substantially determine the welfare of customers, and thereby overall welfare. The degree of competition in a relevant market (and its dynamic) might be observed through time series of price movements (possibly linked to international benchmarks),[13] the reactions on price setting of single providers and prevailing differences in prices over time (for homogenous products). If for example competitors cut their prices whereas a particular undertaking (or group of undertakings) leaves its prices unchanged, economic theory would conclude that this should lead to a loss in sales to this (group of) undertaking(s). If therefore a (group of) undertaking(s) can sustain its (their) prices permanently at a higher level, this can be seen as an indication that this (group of) undertaking(s) is free to behave independently from its rivals. Further insights can be gained by an extension of the observation period, which may reveal whether a certain undertaking (group of undertakings) is forced to react to its competitors' price cuts with a lag. The shorter the lag and the sharper the price response in reaction to price cuts of rivals, the fiercer competition can be assumed to be.[14] Pricing patterns might

[13] In cases FI/2003/0024 and FI/2003/0027 on publicly available international telephone services provided at a fixed location for residential and non-residential customers, the European Commission claimed a lack of evidence to support the finding of a lack of SMP. With respect to prices the EC noticed: "Concerning prices, Ficora states that prices have decreased by 50% since 1994, without any specific information on the degree of changes on a yearly basis or their absolute levels. This must be read against the background that, according to data collected within the framework of the 9th implementation report, Finland appears to be amongst the Member States with the highest retail tariffs for international calls both for non-residential and residential users." Furthermore the Commission notes in its conclusions: "In particular, the evolution of price levels over time is a good indicator of market performance, and thus reflects the development of the competitive conditions in the relevant market." On this basis price trends and international comparisons provide relevant background information for the SMP analysis. Fair enough to add, that FICORA explained that the price basket applied does not reflect the structure of Finnish international calls, that calls to the nearest EU country in Finland are below the EU average and that the minimum cost of an international call in Finland is well below the average cost in the EU: (data referring to tables of the 9th implementation report).

[14] In its comments to case UK/2003/0040: Wholesale mobile voice call termination the Commission states with respect to Oftels proposed designation of Inquam as an operator having SMP: "Without questioning Oftel's conclusion, the Commission would like to point out that Ofcom may want to consider strengthening its SMP analysis with regard to Inquam by taking into account for example Inquam's pricing behaviour in the past."

therefore provide important additional information on the effectiveness of competition and might be taken into account as pricing is central to economic conduct.

47. *International benchmarking*. For many of the criteria listed above additional valuable information can be obtained if these are benchmarked with the corresponding criteria in comparable economies.[15, 16] It has to be recognised, however, that international benchmarking will only be useful if benchmarks are not influenced by the exercise of market power.

[15] See also footnote 11 above.

[16] In its comments to Case No UK/2003/0001 on mobile network access and call origination the Commission noted: "In its market concentration analysis, Oftel relies on a comparison of the Herfindahl-Hirschmann Index ("HHI") score in the UK market with that in other large Member States. The Commission considers that the fact that the UK market has a lower HHI score than markets in other Member States is not in itself an indication of its propensity towards, or away form, collective (or indeed single-firm) dominance."