

Review of the Significant Market Power (SMP) Guidelines

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Abstract EN

This Study provides support to the European Commission in its revision of the 2002 guidelines on market analysis and the assessment of significant market power for electronic communications networks and services ("2002 SMP Guidelines"). The main issue explored both from an economic and a legal perspective is the concept of joint SMP of telecoms operators for the purpose of ex ante regulation in the electronic communications sector. The Study also analyses developments in the concept of market definition and the finding of individual SMP as well as implications of the proposed European Electronic Communications Code for the market analysis process. In addition, it covers all the sections of the 2002 SMP Guidelines.

The analysis is based on a review of competition case-law, detailed case studies of relevant market analyses conducted by NRAs, the analysis of economic evidence and the results of an interactive workshop with BEREC and NRAs, in which various hypothetical market scenarios were considered.

The conclusions of the Study regarding joint SMP are based on general competition law principles, drawing in particular from the ECJ's findings in *Airtours* and *Impala*. It takes into account particularities of the electronic communications sector and the extensive experience of market regulation by NRAs in order to suggest the main steps that could be taken by NRAs when assessing whether a market is characterised by joint SMP, and the evidence that could be presented, respectively, in the case there is no pre-existing regulation and where such regulation exists and might affect wholesale and retail outcomes.

Résumé FR

Cette étude vise à fournir une aide à la Commission européenne dans le cadre de la révision des lignes directrices de 2002 sur l'analyse de marché et l'évaluation de la puissance sur le marché pour les réseaux et les services de communications électroniques. La question principale, qui est étudiée tant du point de vue économique que juridique, est relative au concept de puissance significative sur le marché (PSM) conjointe des opérateurs de télécommunications pour l'application de la réglementation *ex-ante* dans le secteur des communications électroniques. L'étude analyse également les développements des concepts de définition de marché et de PSM simple ainsi que leurs implications pour le projet de Code européen des communications électroniques en matière d'analyse de marché. En outre, l'étude couvre toutes les sections des lignes directrices de 2002 sur l'analyse de marché et l'évaluation de la puissance sur le marché.

L'étude est basée sur un examen de la jurisprudence en matière de droit de la concurrence, sur un examen détaillé des analyses de marchés menées par les autorités réglementaires nationales (ARN), sur une revue de la théorie économique et sur un atelier interactif avec l'ORECE et les ARN durant lequel différents scénarios de marché ont été discutés.

Les conclusions de l'étude en matière de PSM conjointe sont basées sur les principes du droit de la concurrence, développés en particulier par la Cour de justice de l'Union européenne dans ses arrêts *Airtours* et *Impala*. Elles tiennent compte des caractéristiques particulières du secteur des communications électroniques et de l'expérience acquise par les ARN en matière d'analyses de marchés pour proposer les principales étapes que pourraient devoir suivre les ARN lorsqu'elles doivent déterminer si un marché est caractérisé par la présence d'une PSM conjointe, et les éléments de preuve qui doivent être rapportés, d'une part, en cas d'absence de réglementation préexistante et, d'autre part, lorsque cette réglementation est présente et peut influencer sur les performances des marchés de gros et de détail.

0 Executive summary

The *SMP Guidelines*¹ are a vital tool in the application of *ex ante* regulation in the electronic communications sector in the EU. They are directly referenced in the EU framework for electronic communications and underpin the approach taken by NRAs in defining relevant product and geographic markets, and assessing the presence of Significant Market Power (SMP).

Since the SMP Guidelines were originally adopted in 2002, there have been significant changes in electronic communications markets. Fibre has been deployed closer to the home to deliver ‘very high capacity’ broadband connections. OTT has emerged as a competing force to certain retail services. Convergence has developed in the provision of retail services, which are increasingly sold in bundles including content alongside Internet and telephony. Trends towards a common converged core infrastructure, likely based on fibre, is set to intensify with the deployment of 5G mobile networks. In combination, these developments have led to markets which in several ways exhibit different competitive dynamics from the situation that prevailed in 2002.

In addition to market evolution, since the EU framework for electronic communications came into effect in 2002, there have been a number of legal and procedural developments which make the review of the Guidelines important at this time:

- There have been developments in competition law as well as a new and significant body of *ex ante* case practice.
- Based on NRA’s experience of applying *ex ante* regulation, the Body of European Regulators for Electronic Communications (BEREC)² has highlighted perceived challenges in the evidential burden concerning joint SMP especially in the context of forward-looking analysis in markets which may already be subject to regulation, and called for guidance to support the practice of NRAs in this context.
- The proposed EU framework for electronic communications (the proposed ‘EU Electronic Communications Code’)³ envisages certain changes to the market analysis that may warrant adaptations to the existing guidance.⁴

The purpose of the study is to provide independent analysis to support the Commission in its review of the *SMP Guidelines*. The main issue explored in the study is the interpretation of joint SMP and associated standards of evidence. The study also includes an analysis of developments in market definition, and how the role of SMP

1 Commission Guidelines on market analysis and the assessment of significant market power 2002/C 165/03 [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711\(02\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711(02)&from=EN)

2 Whose remit is defined by the Regulation No 1211/2009 of 25 September 2009.

3 Proposal for a Directive of the European Parliament and Council establishing the European Electronic Communications Code COM/2016/0590 final http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=comnat:COM_2016_0590_FIN

4 The proposed changes include *inter alia* removing existing references to leveraged SMP and the ‘list of criteria’ for joint SMP (Annex II), and also includes changes concerning the use of mapping to inform geographic market definitions, symmetric obligations and consultation processes, which may warrant changes to the Guidelines.

regulation may evolve in the context of planned changes to the Electronic Communications Code. The analysis has been based on a review of *ex post* case-law, detailed case studies of relevant market analyses conducted by NRAs, data analysis and an interactive workshop with BEREC and NRAs. Challenges and potential solutions for the interpretation of joint SMP and associated evidence base were assessed by considering four scenarios relevant to evolving telecoms markets in Europe.

0.1 Joint dominance/SMP

0.1.1 Collusion and the economic underpinnings for joint dominance

Collusion is present when firms have mutual beliefs with regards to the use of certain strategies that result in prices which are above competitive benchmarks.⁵ Collusion can be *explicit* when firms communicate about their strategies (for instance by exchanging sensitive information). Collusion can also be *implicit* when firms do not communicate between each other, but the market structure leads to adopt strategies which are collectively beneficial to the colluding parties. Experimental studies suggest that the risk of collusion increases with a decline in the number of firms and is especially pronounced in the case of duopolies.⁶

Collusion may be difficult to sustain because of the inevitable tension between the individual short term interest of each firm not to collude and the collective long term interest of the group of firms to collude. It will only be stable internally when the long term benefit of colluding is higher than the short term benefit of competing. Moreover collusion needs also be to stable externally. This will only be the case when non-collusive firms, potential entrants or consumers could not destabilise the outcome. Finally, collusive equilibria may also be difficult to reach, especially when firms do not communicate. Indeed, it is not because collusion is sustainable internally and externally that it is achievable, and economic theory shows that markets prone to collusion may be associated with different firms' strategies, market equilibria and outcomes. Thus, there are three main conditions supporting collusion: (i) the ability and the incentives to get to a coordinated outcome: the focal point, (ii) the ability and the incentives to sustain the coordinated outcome which implies the possibility of detection and punishing any deviation from the focal point, (iii) the absence of actual or potential market constraints destabilising the coordinated outcome.

The finding of tacit collusion should ideally be determined by combining structural and behavioural analysis. In this regard, there are various aspects of the electronic

⁵ J.E. Harrington (2015), *Thoughts on why certain markets are more susceptible to collusion and some policy suggestion for dealing with them*, Note for the OECD Global Competition Forum, DAF/COMP/GF(2015)8, p.2.

⁶ See for example C. Engel (2015), "Tacit Collusion - The Neglected Experimental Evidence", *Preprints of the Max Planck Institute for Research on Collective Goods, Bonn 2015/4*, N. Horstmann, J. Kramer, D. Schnurr (2016), "Number Effects and Tacit Collusion in Experimental Oligopolies", available on SSRN.

communications sector which may lend themselves to the potential for collusion. These include high entry barriers and concentration (in some markets), as well as published offers and links between the parties (e.g., due to the need for interconnection) – which support transparency. Behavioural analysis tries to determine whether the observed firms' behaviours can be better explained by collusion or competition. The application of the behavioural analysis to the electronic communications sector is possible when the market is not subject to regulation. However, the application of behavioural analysis to electronic communications markets is complex when the market is regulated because the combination of regulation and market dynamics makes it difficult to disentangle the effects of each.

Intervention to address tacit collusion is normally justified on the basis that such strategies may harm the development of competition and lead to suboptimal outcomes for consumers. Indeed, analysis conducted for this study of both fixed and mobile cases in the absence of regulation (or where the take-up of regulated access was minimal) suggests that markets with two firms with symmetric and stable market shares (a structure which may be conducive to tacit collusion), are often associated with denial of access, higher prices and slower upgrades, while wholesale conduct and outcomes in three player markets may be more varied depending on whether specific players (often smaller providers) play a disruptive or follower role. Conversely, markets with four or more widespread infrastructure providers show greater tendencies to be associated with commercially provided wholesale access and more positive outcomes concerning quality and/or price.

0.1.2 Developments in case law relevant to joint dominance

The *Compagnie Maritime Belge*⁷ Ruling was the key precedent under the Article 102 TFEU jurisprudence at the time the *SMP Guidelines* were drafted. This precedent established the proposition that: “[A] dominant position may be held by two or more economic entities legally independent of each other, provided that from an economic point of view they present themselves or act together on a particular market as a collective entity”.⁸ The Court of Justice further specified that: “[The] existence of a collective dominant position may therefore flow from the nature and terms of an agreement, from the way in which it is implemented and, consequently, from the links or factors which give rise to a connection between undertakings which result from it; **such a finding may be based on other connecting factors and would depend on an economic assessment and, in particular, on an assessment of the structure of the market in question**”.⁹ (Emphasis added)

⁷ *Compagnie Maritime Belge Transports v Commission* [2000] EU:C:2000:132.

⁸ *Supra*, Paragraph 36.

⁹ *Supra*, Paragraph 45.

Since 2002, the abstract criteria established in *Airtours*¹⁰ (which was recent at the time when the SMP Guidelines were adopted) have become the preferred legal standard used across the EU for the appraisal of whether or not a situation of collective dominance exists in any given market.

Specifically, the Court of Justice in *Airtours* in 2002 outlined three cumulative conditions that it considered necessary to establish that coordinated effects could flow from an oligopoly environment (*i.e.*, a situation of collective dominance), namely:

- (i) the operators in question must be able to monitor the behaviour of each other to ensure each adheres to the terms of the tacit coordination;
- (ii) a credible deterrent mechanism must be in place to “punish” deviating oligopolists from the parallel conduct engaged in pursuant to their tacit understanding; and
- (iii) there must be no effective external constraints, such as from consumers or potential competitors, that could jeopardise the tacitly coordinated conduct adopted on the market by the oligopolists in question.

The most significant relevant case to emerge after the *Airtours* case derives from appeals before the European Courts brought by Impala over the course of 2006 (General Court) and 2008 (Court of Justice).

The Impala judgements confirm the appropriateness of the criteria set forth in the *Airtours* Case as the basis for a finding of collective dominance, but elaborate on its application. Specifically, they highlight the need for an integrated approach rather than a mechanical approach that would involve the separate verification of each of the criteria taken in isolation, which takes due account of the overall economic mechanism of hypothetical tacit coordination. This follows from the fact that : (i) the Court of Justice has remarked that tacit coordination “*is more likely to emerge if competitors can easily arrive at a common perception as to how the coordination should work, and in particular, of the parameters that lead themselves to being a focal point of the proposed conditions*”;¹¹ while (ii) the General Court had previously held that the three conditions necessary for the establishment of a collective dominant position (as set forth in the *Airtours* case) could “*in the appropriate circumstances, be established indirectly on the basis of what may be a very mixed series of indices and items of evidence relating to*

¹⁰ Case T-342/99 *Airtours v Commission* EU:T:2002:146, at Paragraphs 62, 195. This case was delivered in the context of a review of an appeal from a Commission Decision granting clearance to a 4-to-3 merger in the sector for the supply of package holidays under the *EU Merger Regulation*.

¹¹ Case C-413/06 P *Bertelsmann and Sony Corporation of America v Impala* [2008] ECR I-4951 para 125.

*the signs, manifestations and phenomena inherent in the presence of a collective dominant position.*¹²

As regards case law concerning joint dominance in the electronic communication sector, the main decisions concerning joint dominance relate to the wholesale market for Mobile Access and Call Origination in Spain, Poland and Italy, and the potential foreclosure of alternative mobile competitors (MVNOs) by an existing group of mobile network operators working in an oligopolistic environment.¹³ The use of common network technology, common technical standards, similar asset bases and the existence of a saturated market were all factors which supposedly reinforced a common alignment of interests to exclude market entry. The Italian investigation highlights that the existence of symmetric competitive conditions across a range of competitively relevant parameters has been of central importance in sustaining a competition law action for collective dominance.

0.1.3 Challenges with applying joint SMP in an *ex ante* context

The *ex ante* concept of joint SMP is equivalent to the concept of joint dominance under competition law. However, examining joint SMP from an *ex ante* perspective raises two important challenges. First, the analysis is forward-looking – this presents difficulties in oligopolistic markets where behavioural factors may influence outcomes (for example as seen in the three player markets analysed in the Report).¹⁴ Second, pre-existing regulation may affect the economic indicators at wholesale and retail levels, making it more complex to prove that current outcomes are sub-optimal and indicative of tacit collusion. In general, in cases where pre-existing regulation obscures the market situation, NRAs should follow the ‘Modified Greenfield Approach’, under which they analyse the retail market under the assumption that no SMP regulation is applied, while wholesale market analyses assume no SMP regulation in the market under consideration. In cases of potential collective dominance in markets which are subject

¹² Refer to Judgment of the Court of First Instance of 13 July 2006 in Case T-464/04 *Independent Music Publishers and Labels Association (Impala, Association Internationale) v Commission* (“Impala”) [2006] ECR II-2289, at paragraph 251. The Court of First Instance refers to the standard of proof being one of a “*delicate prognosis as regards the probable deployment of the market and the conditions of competition on the basis of a prospective analysis*” and one in relation to which a regulator will have a wide margin of discretion in reviewing economic evidence (paragraph 250).

¹³ Decision of 9 December 2012, Case *Mensajes cortos*, S/0248/10, available at: https://www.cnmc.es/sites/default/files/259674_1.pdf. Decision of 15 February 2006 in Case *Polska Telefoniczna Cyfrowa / Centertel / Polkomtel*, DOK2-073-30/05/MKK, available at: <https://uokik.gov.pl/download.php?plik=5470>. Decision of 3 August 2007 in Case A357 - *TELE2/TIM-VODAFONE-WIND* available at <http://www.agcm.it/component/domino/open/41256297003874BD/0E38483EFCEDA4B9C125732F0052306F.html>

¹⁴ Applying the concept of joint SMP *ex ante* presents the challenge that NRAs must make a prospective analysis, which can be more complex in oligopolistic markets where market outcomes may vary depending on the conduct of the operators. Case studies in the Report suggest that variable outcomes are observed, for example, in three player markets, while there are fewer variations in the outcomes in markets with two players with stable and symmetric market positions, and high entry barriers.

to pre-existing regulation, there are additional considerations that should be taken into account when applying the Modified Greenfield Approach can be applied¹⁵.

Out of 7 cases notified which involved a proposed finding of joint SMP at the wholesale level (see table below), it was upheld following review by the Commission and national courts in only three cases – in the mobile and broadcasting markets.

Table 1: Potential cases of interest

Country	Relevant market and proposed SMP designation	Status
Mobile cases		
Ireland (2004)	Joint SMP M15 (2003 Rec)	Upheld by Commission Overturned by specialist administrative tribunal
Spain (2005)	Joint SMP M15 (2003 Rec)	Upheld by Commission
France (2005)	Joint SMP M15 (2003 Rec)	Challenged by Commission, collusion found in <i>ex post</i> investigation
Malta (2006)	Joint SMP M15 (2003 Rec)	Upheld by Commission
Slovenia (2008)	Joint SMP M15 (2003 Rec)	Challenged by Commission
Fixed broadband cases		
Malta (2006)	Joint SMP M5 (2007 Rec)	Challenged by Commission
Belgium (2011)	Analogue and digital broadcasting signals Imposition of remedies (incl BB resale) based on individual SMP	Upheld by Commission
Netherlands (2015)	Risk of Joint SMP in Retail broadband market in the absence of wholesale regulation, but individual SMP found in M3a (2014 Rec)	Challenged by Commission
Broadcasting cases		
Italy	Joint SMP M18 (2003 Rec)	Upheld by Commission

¹⁵ The reason why a joint SMP analysis poses additional challenges for the application of the Modified Greenfield Approach when compared with single SMP is that, whereas structural factors – including, although not restricted to market share - play a significant role in the assessment of single dominance, in accordance with case-law, joint dominance requires that more elements be considered, including evidence supporting the existence of a common policy between the players (e.g., through parallelism in retail pricing, profitability, and so forth). However, such a common policy may not be visible in the market in circumstances where wholesale access has been mandated and is effective. Wholesale access may have been applied not just as a result of SMP regulation, but through other avenues, such as licence conditions associated with spectrum allocation or remedies resulting from merger reviews.

The main challenges to a joint SMP finding in mobile markets have been the potential for disruptive competition (new MNO entry and/or expansion of newcomer MNOs) which may render the conditions for tacit collusion unstable in the medium term. The European Commission reached similar conclusions in finding that the market for mobile access and origination should no longer be considered to be ‘susceptible to *ex ante* regulation’ in the context of the 2007 Recommendation on Relevant Markets. This does not however prevent NRAs from identifying and analysing this market on a case by case basis where the competition conditions justify it.

Fixed broadband access markets present more long-standing challenges for competition as there are frequently only one or two suppliers in the provision of infrastructure (outside very dense areas) and economies of scale are significant. This is the market in which NRAs expect there to be potential challenges associated with tacit collusion going forward. However, to date, competition issues in these markets have been addressed through access regulation on the basis of single SMP. The pre-existing regulation which renders analysis more challenging coupled with a lack of precedents for a joint SMP finding in these markets,¹⁶ may deter NRAs from assessing the potential for joint SMP even where the evidence might justify it.

In its response to the Commission consultation, BEREC highlights challenges with the standard of proof as regards the focal point, relationship between retail and wholesale and conducting market analysis in a hypothetical setting. Specifically, BEREC asks for guidance on the type of evidence that NRAs can use in a regulated environment, in which certain evidence of actual market dynamics that would normally be required may not be available.

0.1.4 Conclusions and recommendations concerning joint SMP

An analysis of the relevant cases to date suggests that the type of guidance that BEREC requests would be helpful especially in the case of potential oligopolies occurring in fixed broadband markets. These are markets that are susceptible to *ex ante* regulation at the EU level.¹⁷

Specifically, the *SMP Guidelines* should be modified to reflect case-law of the European Courts and the administrative practice of the Commission as well as to elaborate upon the particular ways in which the electronic communications sector can be conducive to

¹⁶ The ACM identified the risk of joint SMP in retail fixed broadband markets, but tempered its conclusions following serious doubts expressed by the Commission. The single proposed finding of joint SMP in the wholesale broadband access market (Malta) was reversed following objections by the Commission

¹⁷ It could be argued that, given the mobile access and calls origination market was excluded from the list of relevant markets and it therefore not considered susceptible for *ex ante* regulation at the EU level, it was unlikely to provide the conditions for tacit co-ordination to be sustained systematically at the EU level. This finding should be set into the context of requirements imposed by spectrum auctions as well as by merger commitments existing at the national level. However, it is always open to NRAs to establish on the basis of particular national circumstances that, first, the three criteria test is fulfilled and the market is susceptible to the *ex ante* regulation and, second, the market is characterised by joint SMP and operators are tacitly colluding.

tacit collusion. In this regard, the structure and the logic of the *EU Regulatory Framework* should also serve as a necessary backdrop in the interpretation and application of the criteria set forth in *Airtours* as interpreted by *Impala*. Key elements of revised guidelines could include the following principles.

1. Determine, under the type of prospective analysis set forth in *Airtours* and *Impala*, whether **tacitly collusive outcomes are likely to arise from current stable market structures**.
2. In doing so, **conduct an integrated analysis** in taking due account of the various elements which have an impact on an assessment of whether tacit collusion is sustainable and desirable from the oligopolists' point of view, as opposed to other market outcomes.
3. **Take due account of the working principles set forth in the EU Regulatory Framework** in conducting a joint SMP analysis. These include: (i) before undertaking any wholesale analysis, the need to reach the conclusion that the retail market is (absent wholesale regulation, based on SMP finding) characterised by market failure(s); (ii) the understanding that other *ex ante* measures of a symmetric nature which are already in place are insufficient to address the problem identified at the retail level; (iii) the understanding that the "three criteria" test has already been satisfied, including the conclusion of existence of high and non-transitory barriers to entry (*i.e.*, when carrying out a previous market analysis which concluded on the single SMP of the incumbent, and this conclusion is unlikely to change – even in the national circumstances – as long as the market is on the list of the markets susceptible to *ex ante* regulation); (iv) the understanding that wholesale access, if appropriately crafted, could address the problem identified and, conversely, that its effective absence in the presence of demand provides *inter alia* a possible focal point for tacit collusion; and (v) that the statutory basis upon which the issue of **collective SMP needs to be assessed by NRAs is that market structures are “conductive” to tacit collusion**. This last point is especially important when reviewing markets in which pre-existing regulation may affect wholesale behaviours and retail outcomes.
4. In the analysis, **reflect characteristics specific to the electronic communications sector** market. In particular, the dynamics of the sector are consistent with "transparency" conditions being likely to be satisfied, while countervailing buyer power is likely to be absent on the part of retail customers in residential markets.
5. Acknowledge that, while the burden of proof remains with the NRA to prove all elements of a case of collective SMP, **more emphasis can be attributed to the impact of structural elements which support tacitly collusive**

outcomes – especially when reviewing markets in which there is pre-existing regulation.

6. Outcomes associated with collective dominance such as the absence of retail price competition or limitations in investment and/or innovation, may be visible in markets where there is no pre-existing wholesale regulation. In circumstances where there is pre-existing wholesale regulation, **NRAs should apply a Modified Greenfield Approach**, the analytical tool associated with the analysis of the three criteria test and the assessment of SMP in the presence of regulation. It should be noted that this concept has been applied by NRAs both in relation to individual SMP assessments and (albeit more rarely to date) in the consideration of whether joint SMP exists.¹⁸

Taking into account these factors alongside evidence from the practical experience of NRAs, the following table lists the main steps that could be taken by NRAs when assessing whether a market is characterised by joint SMP, and the evidence that could be presented respectively in the case where there is no pre-existing regulation and where such regulation exists and may affect wholesale and retail outcomes.

It is important to note in this context, that, while evidence is required to support conclusions for each of the five steps, it is not necessary for all aspects to be proven in relation to any given individual step. Rather, the **evidence should point towards a conclusion that the essential elements for each step have been identified. In this regard, it is possible to take into account other factors that are not herein in as far as they support the theory of harm based on undelying economics of tacit collusion.** This is important to ensure that a integrated rather than a check list approach is taken.

In turn, **if the indicators associated with each step are collectively satisfied, a conclusion of joint SMP is likely to be justified.**

¹⁸ See, for example, the 2017 CNMC Decision concluding that market for mobile access and origination was no longer susceptible to *ex ante* regulation, and the considerations of ACM (2015) concerning the ‘risk’ of joint dominance in the retail broadband market absent regulation, noting that while the ACM’s conclusions may have been challenged by the Commission, the challenge did not extend to the use of the Modified Greenfield Approach.

Table 2: Possible steps and associated evidence for the analysis of suspected joint SMP

Step	Criterion	Indicator	Example evidence/KPIs	
			No pre-existing regulation	Pre-existing regulation
1.	Is there the prospect for retail market failure? ¹⁹	Poor value and/or quality, limited innovation, limited choice	<p>High prices relative to European/other relevant benchmarks/underlying costs; or if bundling makes price comparisons difficult²⁰ high ARPUs relative to quality (e.g. advertised bandwidth/actual speeds/ included services/volumes) and/or investment</p> <p>Limited or delayed deployment of next generation infrastructure (e.g. FTTP) compared with European/other relevant benchmarks</p> <p>Limitations on quality of offer compared with capabilities (e.g. bandwidth limitations)</p> <p>Limitations on innovation (failure to develop innovative services/bundles) despite interest from alternative operators</p> <p>Inability for customers to unpick bundles despite demand to do so</p> <p>Limited switching</p>	<p>When markets are regulated and should be analysed under a Modified Greenfield Approach (<i>i.e.</i>, without taking into account such regulation), the behavioural analysis is particularly difficult to assess. In this case, which does not happen infrequently in the electronic communications sector, the structural approach should be given more weight.</p> <p>If access is not extensively utilised or does not enable competitors to perform network upgrades or compete on price, (some of) the same evidence might be available</p> <p>Otherwise, consider implications of removal of access regulation, from a theoretical perspective and with reference to period prior to effective access regulation and, if any, countries with comparable wholesale market structures in which regulation is not applied.</p> <p>Analysis of the links between the presence, significance and scale of regulated access-based competitors and outcomes over time may also yield insights regarding the likely outcomes if existing regulation were removed</p>
2.	(Assuming the absence of single SMP), Is the market structure conducive to tacit collusion?	Similarity of network infrastructure/vertical integration and retail operations and/or links between the operators concerned	Stable (potentially similar) retail market shares for subscribers and/or revenues. ²¹ High individual and combined market share of oligopoly members over a relevant period, high and stable HHI. Evidence of market share gap between oligopoly members and fringe competitors	<p>Similar retail product scope, evolution of network coverage/upgrades, vertical integration of infrastructure based competitors</p> <p>Slowing/stable penetration (market maturity)²⁴</p> <p>Low price elasticity of demand²⁵</p>

¹⁹ This step is relevant not only to an analysis of joint SMP, but to SMP analysis more widely

²⁰ Bundling may result in products not being homogeneous, but do not necessarily undermine the potential to engage in tacit collusion as ARPUs could be observed

²¹ Differences between market shares by subscriber and revenues may have different implications. For example, an operator with fewer customers but higher ARPU might have greater reluctance to pursue its competitors' clients.

<p>If so, who are the possible oligopoly members that may tacitly collude?</p>		<p>Co-operation agreements or other links²² between the leading players.</p> <p>Co-investment arrangements, if they are not open to third parties, network sharing.</p> <p>Similar level of retail prices/ARPU (is there price parallelism?) amongst leading members even where there might be different cost structures</p> <p>Similar profitability, retail product scope, network coverage²³ over a relevant period of time</p> <p>Slowing/stable penetration (market maturity)</p> <p>Low price elasticity of demand</p> <p>Vertical integration</p>	<p>If regulated access is not extensively utilised or does not enable competitors to perform network upgrades or compete on price, evidence regarding symmetry and stability for retail market share, pricing and/or profitability might be available.</p> <p>Evidence of a lower cost competitor²⁶ pricing at a similar level to a higher cost regulated operator may also be relevant, as may be collective denial of access in the presence of demand.</p> <p>Otherwise or additionally consider whether there is high and stable (potentially symmetric) individual and collective wholesale (incl. self-supply) market shares for the leading group and/or links between leading players, e.g., network sharing, co-investment agreements not open to third parties.</p> <p>If wholesale shares vs infrastructure competitors are influenced by the presence of regulation (c.f. unbundling impact on wholesale shares of incumbent vs cable), consider whether in the absence of access, market shares and pricing would be likely to converge on the basis that the gained retail share and increased prices would outweigh the lost wholesale share. Such analysis could be made with reference to correlations between market shares, pricing and access-based competition, evidence concerning situation prior to access and if any, other comparable markets without regulation or where regulation removed. Account should be taken however of any specific reasons or evidence in this market to suggest that this would not be the case (e.g., long term wholesaling or co-investment agreements).</p>
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- ²⁴ Slowing or stable penetration makes it harder for new competitors to gain scale as they would need to encourage switching rather than being able to target new customers. As there is a higher cost associated with encouraging customers to switch, it may also deter existing larger operators from making such efforts. Maturity of the market in this context does not imply that there cannot be innovation in the market through the development of faster connections or services.
- ²⁵ It should be noted however in relation to this criterion that its effects may be ambiguous. While it may raise the incentives to collude and set prices above the competitive level, it also renders retaliation (e.g. through means of a price war) less effective
- ²² Past proven cartelisation behaviour may provide guidance on the likelihood of tacit collusion *ex ante*, where it reinforces one of the Airtours-criteria, and where the type of cartel behaviour corresponds to the market failures anticipated by the existence of tacit collusion. (By contrast, in markets which are not inherently conducive to coordinated effects, past proven cartelisation behaviour may give rise to the inference that tacit collusion is difficult to sustain absent formal agreement. Refer to CMA's Merger Assessment Guidelines, op. cit., at section 5.5.7.)
- ²³ Reference to deployment announcements, topographic maps
- ²⁶ Although the incumbent may benefit from scale economies, other operators such as cable operators may benefit from the ability to match the quality of the incumbent using a lower cost technology

3.	What is the focal point for a co-ordinated outcome at wholesale level	Denial of access agreements, degraded access, excessive wholesale rates and/or margin squeeze	<p>No/low access-based competitor market shares</p> <p>Evidence of pent-up, unsatisfied demand, e.g., collective refusal of requests/failure to reach reasonable negotiated settlement/agreements which do not permit the access seeker to differentiate service from host on the basis of technology/pricing/bundling and innovation.</p> <p>If there is limited demand, consider whether such demand limitations may be as a result of constructive refusal to supply, or would normally be expected to exist in the presence of effective wholesale offers</p>	<p>Consider behaviour of regulated firm(s) in the provision of access. Was it (were they) reluctant to grant access/tried to impose terms which restricted ability to innovate and compete on price and quality? Was regulation (or the threat of regulation) required to obtain agreement? Would the potential behaviour be more reasonably explained by collusion or by the force of competition?</p> <p>What incentive would the operator have to provide wholesale access on fair and reasonable terms in the event that regulation was removed, with reference to experience in other markets with similar structures in which there was no regulation/regulation was removed?</p> <p>Consider behaviour of other firm(s) in leading group. Did they deny reasonable requests for access, even though they had capacity and granting it might have enabled them to expand market share? Is there an alternative reasonable explanation (than tacit collusion)?</p>
4.	How will oligopolists retaliate in case of a deviation from the co-ordinated outcome?	Evidence of financial and technical capability to retaliate, ability to identify the deviating player	<p>High (compared with benchmarks/costs) pricing amongst leading group over sustained period and/or (if pricing is complex) high or increasing ARPUs in the absence of significant additional investment and expanded service offerings²⁷</p> <p>Sustained high profit levels (ROCE) amongst leading group compared with cost of capital/comparators</p> <p>Technical capacity to increase volumes (to accommodate additional wholesale or retail subscribers) – noting that retaliation might also occur in a different market</p> <p>Potential for switching at wholesale and/or retail level</p> <p>The ability to identify and target retaliation at the deviating company is especially likely in the case of a duopoly</p>	<p>If access is not extensively utilised or does not enable competitors to perform network upgrades or compete on price, (some of) the same evidence might be available.</p> <p>Otherwise consider what would be the ability and incentives of firms to tacitly collude on pricing and refuse wholesale access on reasonable terms, with reference to past behaviour or comparators. In telecoms, transparency conditions could normally be considered to be met. Ability to price above the competitive level and earn profits in excess of cost of capital could be predicted through structural market characteristics (see above) in the absence of evidence to the contrary (e.g. long-term wholesaling agreements enabling effective competition).</p> <p>The ability to identify and target retaliation at the deviating company is especially likely in the case of a duopoly</p>

²⁷ Such evidence is needed to prove that operators in the leading group would have the financial capability to retaliate by lowering prices and bringing profits down to the competitive level

<p>5.</p>	<p>Is a collusive outcome likely to be disrupted by a fringe or new entrant operator?</p>	<p>High barriers to entry or expansion</p> <p>Low countervailing buyer power</p>	<p>Main consideration: High economic barriers to entry (limited viability of further infrastructure duplication). This indicator is likely to be met in fixed markets outside dense urban areas or within (where duct access or alternatives not available)</p> <p>The following could also be considered, but may be susceptible to change over time:</p> <ul style="list-style-type: none"> - Existing fringe players reliant on infrastructure of leading group - Limited shares of fringe players despite aggressive pricing - Legal barriers to entry <p>Buyers unable to exert influence on pricing, terms and conditions. In telecoms this condition is normally met at least for mass-market buyers</p>	<p>Main consideration: High economic barriers to entry (limited viability of further infrastructure duplication). This indicator is likely to be met in fixed markets outside dense urban areas or within (where duct access or alternatives not available)</p> <p>The following could also be considered, but may be susceptible to change over time:</p> <ul style="list-style-type: none"> - Existing fringe players reliant on infrastructure of leading group - Limited shares of fringe players despite aggressive pricing - Legal barriers to entry <p>Buyers unable to exert influence on pricing, terms and conditions. In telecoms this condition is normally met at least for mass market buyers.</p>
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0.2 Other issues

In addition to addressing joint SMP in some depth, the report considers possible changes that may be required to the SMP Guidelines on market definition issues, leverage of market power and the essential facilities doctrine, as well as the aspects of the Guidelines which concern SMP obligations and procedural requirements associated with the market analysis process. The Recommendations of the study team are briefly elaborated below.

0.2.1 Market definition

The SMP Guidelines of 2002 contain an extensive section (section 2) concerning market definition. This section sets out (i) the main criteria for defining the relevant product market; (ii) considerations when defining geographic markets; (iii) route by route markets and (iv) chain substitutability. Finally, it includes a section on the Commission's own practice, under Regulation no. 17 and the merger control Regulation relating to the electronic communication sector. Reference to the Access notice is also made.

Much of the guidance – and particularly guidance on the main criteria for defining relevant product markets – remains relevant. There have not been significant changes in case law this area. However, new issues have been raised due to technological developments and convergence. The approach to market definition within *ex ante* regulation of the electronic communication sector has also evolved in successive versions of the Recommendation on relevant markets susceptible to *ex ante* regulation.

Recommendations concerning market definition

The general principles concerning the definition of product markets remain sound.

The SMP Guidelines should be updated to reflect market developments (such as OTT, convergence, NGA) alongside more recent competition law cases and *ex ante* regulatory practice and challenges in market definition

Key issues which could be further explored include the relationship between retail and wholesale markets, assessing substitution amongst different technologies (and the role of switching costs thereof), defining bundled markets and chain substitution. Specific recommendations are made in this regard:

The relationship between retail and wholesale markets: The Guidelines should clarify that retail markets should be defined and analysed before defining wholesale markets/s required to address any identified competition problems. The highest upstream wholesale market (*i.e.*, the one that is most upstream of the retail market in question in the vertical supply chain) should be identified first

– which may include generic inputs such as duct access that could be used across multiple markets.

Product substitutability across differing technologies: Different retail broadband technologies such as VDSL and cable broadband are likely to be equivalent in functionality and price. In determining whether separate markets for different technologies exist at wholesale level, switching costs incurred by access-seekers already present on a given platform should be taken into account. This may point towards limitations in demand substitution between different technological platforms. However, other factors also need to be considered to ensure that the analysis does not reflect only the *status quo*, but rather the situation that may exist in a competitive market in which there had been progress in developing new technological solutions to enable access to different platforms, and efforts had been made to address barriers to switching and interoperability. Thus, the lack of supply of a certain type of wholesale access product does not mean that it should not be considered to form part of the relevant wholesale market, providing it is technologically feasible for it to serve that purpose. From the demand-side, the perspective of new entrants should also be considered. As such players would be unlikely to have invested in access to specific platforms only, they would not be affected by switching barriers that may apply to current entrants. Based on these latter considerations, a multi-platform market might be found to exist at the wholesale level.

Implications of bundling on market definition: The SMP guidelines could usefully refer to the potential for bundled markets at retail level. A bundled market exists if on the basis of the SSNIP test, consumers would not unpick the bundle and buy individual services. The assessment should be made on the basis of the bundling practices and pricing structures that would exist in a competitive environment. Given that NRAs are not required to prove SMP in a retail market, but only identify competition problems, it may not be necessary to precisely delineate the scope of a market which involves bundles. If competition problems are found which relate to retail bundles, NRAs should identify associated wholesale markets which address relevant concerns. If this results in the identification of new or expanded wholesale markets (e.g. to address competition concerns in TV distribution or mobile), the 3 criteria test should be performed. Other solutions apart from SMP regulation should also be considered.

Chain substitution: Existing general guidelines on chain substitution in the SMP Guidelines remain relevant. More specifically, it should be noted that a chain of substitution across residential broadband has been found in both *ex post* and *ex ante* practice. Conclusions regarding chain substitution in business access are more mixed. The primary rationale for bandwidth breaks in business service market definitions have been differences in the intensity of competition.

However, a geographic market analysis which distinguishes dense business districts from other areas may affect conclusions in this regard.

Geographic segmentation: The generic guidance on geographic market segmentation in the SMP Guidelines remains relevant. However, guidance on the criteria to be used for geographic segmentation could be developed to highlight the importance of (i) number and type of operators and their current and prospective coverage; (ii) market shares; and (iii) differences in price or quality of service. Infrastructure mapping envisaged under the proposed Code could support such assessments. When segmenting markets at the level of the market definition, the differences in competitive intensity should be such as to justify differences in the SMP findings (*i.e.*, individual SMP/joint SMP/effective competition). Competitive differentiation which is unstable or falls short of supporting different SMP findings should be addressed at the level of remedies.

0.2.2 Leveraging of market power

The *SMP Guidelines* make reference to the fact that a position of SMP can be established on the basis of a situation of leveraged market power (Paragraphs 83-85), derived from the logic of the *Tetra Pak II Case*²⁸ and based on the explicit terms of Article 14(3) of the *Framework Directive*.

Recommendations concerning leverage

Given the lack of recourse to the concept under many years of practice in the implementation of *ex ante* regulation, and given the ability of *ex post* competition rules to effectively address market failures arising from the vertical leveraging practices of dominant undertakings, it is suggested that the Commission should consider removing the existing discussion on leveraged dominance from the *SMP Guidelines*.

To the extent that a discussion of leveraging is relevant, guidance should more appropriately be provided in the context of any discussion on bundling practices more generally.

0.2.3 The essential facilities doctrine

The *SMP Guidelines* make reference to the concept of “essential facilities” (at Paragraphs 81-82) within the broader context of an assessment of SMP or dominance (Section 3). The concept of essential facilities is generally understood to embrace both the concepts of market definition *and* market dominance in such a way as to render the independent delineation of the relevant product market unnecessary as a preliminary analytical step before embarking upon an analysis of market dominance.

²⁸ Case C-333/94 P *Tetra Pak v. Commission* [1996] ECR I-5951.

Recommendations concerning essential facilities

The essential facilities doctrine is arguably not relevant to the *SMP Guidelines*, given that its application is only relevant in an *ex post* enforcement context. In the event that it is decided to maintain the reference to the essential facilities doctrine, given the interaction between *ex ante* and *ex post* disciplines, it seems advisable that the *SMP Guidelines* be revised to reflect the impact of the *TeliaSonera* Ruling and the *Slovak Telekom* Decision, insofar as margin squeeze cases can be considered under Article 102 TFEU infringement actions based on the regulatory duty to provide wholesale access, rather than on the basis that an essential facility is found to exist.

0.2.4 Imposition of obligations on SMP and non-SMP operators

Section 4 of the *SMP Guidelines* concerns the imposition, maintenance, amendment or withdrawal of obligations under the regulatory framework. It focuses respectively on obligations that are associated with a finding of SMP, as well as similar obligations that may, exceptionally, be imposed on undertakings which have not been designated as having SMP.

Recommendations on SMP and non-SMP obligations:

-
- The section in the *SMP Guidelines* on SMP and non-SMP obligations will, if retained, need to be updated to reflect the provisions of the Electronic Communications Code on these matters.
 - The draft Code proposed by the Commission would provide that symmetric obligations (up to the first distribution point) should be applied where there are replicability issues and SMP civil engineering access should always be considered within the market analysis. If these remedies alone can achieve effective infrastructure competition, this would obviate the need for other SMP-based remedies. The draft Code also envisages certain circumstances in which forbearance could be exercised in relation to SMP regulation (e.g., in the presence of suitable co-investment offers which do not raise *ex post* competitive concerns and which are open and can lead to improvements in sustainable competition downstream).
 - References to non-SMP obligations which aim to foster interconnection and interoperability, and which facilitate access to conditional access systems and EPGs, remain relevant.
-

0.2.5 Procedural issues

The last two Sections of the *SMP Guidelines* deal with procedural issues, namely (i) the powers of investigation of the NRAs and the cooperation procedures at the national and EU levels for the purpose of market analysis and (ii) the procedures for consultation and publication of the proposed NRA's decisions.

Recommendations concerning procedural issues

These Sections need to be updated to reflect the evolution of “hard” and “soft” law, case-law and Commission practice since 2002, in particular the adoption of the Procedural Recommendation in 2008,²⁹ the revision of the Regulatory Framework, the replacement of the ERG by BEREC in 2009, and the delivery of several Judgments by the Court of Justice.

In particular, the paragraphs relating to the powers of investigation of the NRAs, the cooperation procedures at the EU level and the mechanisms to consolidate the internal market need to be updated. New paragraphs on the powers of the Commission and BEREC in relation to remedies should be included. New paragraphs on the effects of the 2008 Procedural Regulation could also be included.

²⁹ Commission Recommendation of 15 October 2008 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ [2008] L 301/23.

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PART I: JOINT SMP

1 Introduction

1.1 An evolving market

Since the SMP Guidelines³⁰ were originally adopted in 2002, there have been significant changes in electronic communications markets. Convergence has taken hold not only in the provision of retail services, which are increasingly sold in bundles including content alongside Internet and telephony, but also in core networks. Trends towards a common converged core infrastructure, likely based on fibre, is set to intensify with the deployment of 5G mobile networks.

A further development on the supply side has been the evolution in fixed broadband networks to bring fibre closer to the customer. This next generation deployment has also changed the nature of and scope of competition. When the Guidelines were first adopted, fixed broadband networks were characterised by one or two networks only, with most additional competition based on bitstream access and unbundling of the local loop. Thus, competitive conditions were relatively homogenous across much of Europe. More recently, additional infrastructure competition has emerged in some urban areas, in particular, on the basis of duct access or through the development of local networks often deployed with the collaboration of the municipality or utility companies. New models of access, including voluntary agreements have emerged, based on long-term contracts, while co-investment and infrastructure swaps feature in an increasing number of markets. A trend towards 'virtual access' has also provided the potential for new players including cable operators to engage in wholesale provision.

Fixed mobile consolidation, and the growing prevalence of bundles has also increased pressure on operators which previously operated solely in fixed or mobile markets to add capabilities. In cases where network duplication is not feasible and wholesale access is not available on reasonable terms, these providers may, absent access regulation, struggle to maintain and expand their market position, leading to a reduction in the intensity of competition over time.

In combination, these developments may have led to markets which exhibit different competitive dynamics from the situation that prevailed in 2002.

1.2 The SMP Guidelines

The *SMP Guidelines* are a vital tool in the application of *ex ante* regulation in the electronic communications sector in the EU. They are directly referenced in the EU framework for electronic communications and underpin the approach taken by NRAs in

³⁰ Commission Guidelines on market analysis and the assessment of significant market power 2002/C 165/03 [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711\(02\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711(02)&from=EN)

defining relevant product and geographic markets, and assessing the presence of Significant Market Power (SMP).

Additional infrastructure competition and novel access and co-investment solutions have brought significant benefits to consumers and businesses, but also raise new challenges for the market analysis process, creating geographic differentiation within markets (for example between urban and less dense areas) and increasing the potential for cases which may involve oligopolies at the wholesale level of two or more players, sometimes involving formal links between them.

Convergence may also create new challenges that should be reflected in revised SMP Guidelines. Bundled product offerings at the retail level may make switching more difficult, thereby reducing competitive pressure. They may also make service price comparisons – which have been a key aspect of joint SMP analysis – more challenging. If retail markets are in time defined with reference to bundled rather than individual offers, this may also have implications for the demand and need for certain wholesale access products to be made available to ensure effective competition in the supply of bundled offers. The use of a common backbone infrastructure for the supply of fixed and mobile services, might also affect the definition of wholesale markets, breaking down the traditional links that have existed between service-specific retail markets and associated wholesale markets.

In addition to market evolution, since the EU framework for electronic communications came into effect in 2002, there have been a number of legal and procedural developments which make the review of the Guidelines important at this time:

- There have been developments in competition law as well as a new and significant body of *ex ante* case practice.
- Based on NRAs' experience in applying *ex ante* regulation, the Body of European Regulators for Electronic Communications (BEREC)³¹ has highlighted perceived challenges in the evidential burden concerning joint SMP especially in the context of forward-looking analysis in markets which may already be subject to regulation, and called for guidance to support the practice of NRAs in this context.
- The proposed Electronic Communications Code³² envisages certain changes to the market analysis that may warrant adaptations to the existing guidance.³³

³¹ Whose remit is defined by the Regulation No 1211/2009 of 25 September 2009.

³² Proposal for a Directive of the European Parliament and Council establishing the European Electronic Communications Code COM/2016/0590 final http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=comnat:COM_2016_0590_FIN.

³³ The proposed changes include *inter alia* removing existing references to leveraged SMP and the 'list of criteria' for joint SMP (Annex II), and also includes changes concerning the use of mapping to inform geographic market definitions, symmetric obligations and consultation processes, which may warrant changes to the Guidelines.

1.3 Structure of the report

The purpose of the study is to provide independent analysis to support the Commission in its review of the *SMP Guidelines* in a manner that ensures it is relevant and useful to NRAs in the context of current market challenges, including in situations where markets have an oligopolistic structure.

The first part of the study addresses the issue of joint SMP, and covers the following subjects:

- Chapter 1.1 describes economic theory on tacit collusion in general and in relation to electronic communications markets
- Chapter 3 provides an overview of case law concerning collective dominance
- Chapter 4 discusses the challenges involved in applying the joint dominance/SMP test in an *ex ante* context
- Chapter 5 assesses whether linkages can be observed between structural characteristics in fixed and mobile markets, and associated wholesale behaviours and retail outcomes
- Chapter 6 proposes the adaptation of guidance for joint SMP based on recent case law and regulatory experience

Further details of competition law and *ex ante* case studies, as well as an assessment of the proposed amendments to the joint SMP Guidance against hypothetical scenarios are contained in the Annex to the report.

2 Economic theory on collusion in electronic communications markets

This Chapter reviews the economic theory on collusion that underpins the concept of joint dominance. The first section discusses the meaning of collusion, the difference between explicit and tacit collusion, and the necessary conditions for a collusive outcome. The second section discusses, with reference to theoretical, experimental and empirical economic literature, which market characteristics meet those conditions and thereby facilitate collusion.

These characteristics enable the identification of markets which may be *susceptible* to collusion. However, a market susceptible to collusion does not necessarily lead to collusion. It is thus important to understand whether the firms' behaviours and the market outcome can be better explained by collusion or by competition. Some markers to identify collusion are therefore proposed in the third section. The fourth section applies the structural and behavioural analysis to the electronic communications sector.

Finally, we draw conclusions on what economic literature tells us about market characteristics which make markets susceptible to tacit collusion.

2.1 Conditions for collusion

2.1.1 What is collusion

According to Harrington, collusion is present when firms have mutual beliefs with regards to the use of certain strategies that result in prices which are above competitive benchmarks.³⁴ Thus, collusion (i) is based on a certain type of interactions between firms and (ii) results in a market outcome which is not competitive. The interactions are such that each firm will take into account the behaviours of the other firms and will adopt the best strategy for itself given the actions of the others, but also imply that the firm is conscious that its behaviour will influence others, hence it can adopt a strategy which is best for *all* the firms taken collectively and not for each firm individually. Because of the possibility to adopt such collective action, firms gain market power, with the result that market outcomes may be non-competitive.

Collusion can be *explicit* when firms communicate about their strategies (for instance by exchanging sensitive information) or possibly the market outcome (for instance by agreeing on price or market sharing). Collusion can also be *implicit* when firms do not communicate between each other, but the market structure leads to adopt strategies which are collectively beneficial. In general, economic theory on industrial organisation³⁵ does not distinguish between the mechanism of explicit and tacit collusion, although it recognises that explicit collusion is easier to detect and can be sanctioned with less risk for error.

2.1.2 The conditions for collusion

Economic theory shows that collusion can be difficult to sustain because of the inevitable tension between the individual short term interest of each firm not to collude and the collective long term interest of the group of the firms to collude. Indeed, it is not obvious that firms can sustain a coordinated outcome over time because although all firms taken together may have an interest in everyone colluding so that collective profit of the industry is higher (hence the part of each firm will be higher too), each firm has an individual interest to deviate from the collusion to achieve an even higher individual profit.

³⁴ J.E. Harrington (2015), *Thoughts on why certain markets are more susceptible to collusion and some policy suggestion for dealing with them*, Note for the OECD Global Competition Forum, DAF/COMP/GF(2015)8, p.2.

³⁵ See in general, M. Ivaldi, B. Jullien, P. Rey, P. Seabright and J. Tirole (2003), *The Economics of Tacit Collusion*, Report for DG Competition of the European Commission; M. Motta (2004), *Competition Policy: Theory and Practice*, Cambridge University Press, at 138-149.

Because of this tension, collusion is only possible when firms interact repeatedly in a so-called super-game and deviation can be punished, for example by reverting to the competitive price. In such a case, the potential deviating firm balances the short-term profit from deviation with the compounded long-term cost of punishment and retaliation. It maintains collusion if the former is smaller than the latter, and deviates otherwise.

In technical terms, the analysis is based on the so-called *incentive compatibility constraint*: each firm compares the short-term gain it makes from a deviation with the long-term profit it gives up when rivals react. There are thus three elements to analyse in determining whether the collusion is sustainable:

- (i) The short-term gain of deviation,
- (ii) the expected long-term cost of retaliation, which in turn depends on the probability and the speed of detection of the deviator (for which market transparency is crucial) and the importance of the punishment,
- (iii) the discount factor of expected cost of retaliation, which is related to the cost of capital that the deviating firms is facing on the market.³⁶

When the conditions for the incentive compatibility constraint are met, the collusion is stable internally, *i.e.* among the colluding firms. However the collusion also needs to be stable externally. It should not be upset or limited by the expansion of the non-collusive firms or the entry of new firms attracted by the supra-competitive price. This implies the presence of entry barriers to prevent entry or the expansion of non-collusive supply.³⁷ Finally, the collusion should not be upset or limited by the reactions of consumers, which may exercise countervailing buying power or who may shift, in the long run, to other products (long-term substitution elasticity).

Finally, even when the conditions for internal stability (the incentive constraint) and external stability (the entry and expansion barriers and the absence of countervailing buying power) are met, collusion can only be achieved if firms' strategies converge to a coordinated outcome (the focal point). In case of explicit collusion, the actions of the firms (communication or agreements) can contribute to this convergence process. In the case of tacit collusion, the convergence process is much more complex. Theory shows that markets which are susceptible to collusion can lead to very different interactions between firms and multiple market equilibria. Indeed, game theory has long recognised that repeated games (so-called "super-games") easily generate many equilibria. In this

³⁶ For instance, in the case of an oligopolistic industry where n identical firms produce the same good, it can be shown that collusion is sustainable when the discount factor of the firms lies above a threshold equal to $1-1/n$: P. Rey (2004), "Collective Dominance and the telecommunications industry", in P. Buiges and P. Rey (eds), *The Economics of Antitrust and Regulation in Telecommunications*, E. Elgar.

³⁷ Harrington (2015).

case, interactions may be collusive or not and equilibria may be competitive or not. As explained by Rey (2004):³⁸

even in situations where collusion is indeed sustainable, firms may still end-up “competing” in each and every period if they expect their rivals to do so: the fact that firms could sustain collusion does not mean that they actually succeed in doing it; firms may well compete in each period as if it were the last one, even if there exists another equilibrium in which they could maintain monopoly pricing forever.³⁹ And while there is a good understanding of the mechanisms underlying tacit collusion in general, as well as of many of the factors that hinder or enhance the ability to collude, this is not so for the conditions under which any particular form of tacit collusion emerges at a specific point in time.

To summarise, there are thus three main conditions which support collusion in a market:

- The ability and incentive to *sustain a coordinated outcome* which implies the potential of detection and punishment for any deviation from the focal point;
- The *absence of actual or potential market constraints destabilising* the coordinated outcome;
- The ability and incentive to *reach a coordinated outcome*: the focal point,

2.2 Structural analysis: Market characteristics facilitating collusion

2.2.1 Market characteristics identified by the economic theory

The economic theory of industrial organisation has identified several market characteristics which contribute to the fulfilment of the main conditions for collusion.⁴⁰ Many of those characteristics are mentioned in the Commission SMP Guidelines⁴¹ and

³⁸ Motta (2004:140) also observes that according to the ‘folk theorem’, firms can have any profit between zero and the fully collusive profit in games with infinite horizon if the discount factor (which is the cost of time and is linked to the WACC) is large enough.

³⁹ The mere repetition of the “static” or “non-collusive” equilibrium of a competitive game is always a possible equilibrium outcome when this competitive game is repeated, it even constitutes a « subgame-perfect » equilibrium; therefore, any collusive pricing equilibrium comes *in addition* to the standard static equilibrium.

⁴⁰ In particular P.A. Grout and S. Sonderegger (2005), *Predicting Cartels*, Economic Discussion Paper of the Office of Fair Trading, OFT 773; M. Motta 2004), *Competition Policy: Theory and Practice*, Cambridge University Press; Rey (2004); OECD (2013), *Policy Roundtable on Ex officio cartel investigations and the use of screens to detect cartels*, DAF/COMP(2013)27; OECD (2015), *Serials offenders: Why some industries seem prone to endemic collusion*, Background note of the Secretariat for the Global Competition Forum, DAF/COMP/GF(2015)4.

⁴¹ Commission Guidelines of 9 July 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ [2002] C 165/6, at para 97: high market concentration, high transparency, mature market, stagnant or moderate growth on the demand side, low elasticity of demand, homogeneous product, similar cost structures, similar market shares, lack of technical innovation, mature technology,

in Annex II of the Framework Directive.⁴² Those characteristics can provide the basis for a structural analysis but none of those characteristics are individually necessary nor sufficient to prove collusion. As put by Rey (2004), “*rather than a pure “check-list” of relevant factors, it seems indeed more appropriate to develop a clear understanding of why each dimension is relevant, as well as of how it affects collusion*”. Following OECD (2015), the main characteristics are presented, starting with structural characteristics, followed by supply-side factors and then the demand-side factors.

High market concentration

High concentration helps collusion for three reasons: first, it eases the identification of a focal point (for instance in terms of prices and market shares); second, it eases the detection of deviation and the identification of the specific deviator; and third, it increases the expected cost of punishment because the fewer firms are, the more profitable collusion is for each participant (hence, the more costly a reversal to competitive outcome would be).

To measure concentration within this context, it is better to use indicators which do not vary with asymmetry of market shares between firms such as the Concentration index (C2, C3, C4 which adds the markets shares of the 2, 3, 4, ... largest firms) than to use indicators that rise with the asymmetric distribution of market shares between firms, such as the HHI index because the latter compound two factors which have opposite effects on collusion: concentration facilitates collusion while asymmetry makes collusion more difficult.

High barriers to entry – Sunk fixed costs

High entry barriers, which may be the result of high fixed sunk costs, facilitate collusion by alleviating hit-and-run entry strategies which would erode profit of collusion and bind the firms to their markets over the long term. Moreover, the prospect of future entry tends to reduce the scope for retaliation, since firms have less to lose in case of punishment if entry occurs and the expected profit from collusion will be reduced anyway.⁴³

high barriers to entry, lack of countervailing buying power, lack of potential competition, various kind of informal or other links between the undertakings concerned, retaliatory mechanisms, lack or reduced scope for price competition.

⁴² The criteria mentioned in the current version of the Annex II of the Framework directive are: high market concentration, low elasticity of demand, similar market shares, high legal or economic barriers to entry, vertical integration with collective refusal to supply, lack of countervailing buyer power, lack of potential competition. The proposed European Electronic Communication Code proposes to delete this Annex.

⁴³ Note that 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.

Transparency

Transparency between competitors⁴⁴ facilitates collusion because it facilitates the detection of deviation, thereby increasing the expected cost of retaliation. However, contrary to what Stigler (1964) submitted,⁴⁵ the lack of transparency on prices and sales does not necessarily prevent collusion completely, but makes it both more difficult to sustain and more limited in scope. Indeed in this case, as famously shown by Green and Porter (1984), the best collusive strategy for firms consists in (i) starting with a monopoly price, and maintaining this price as long as each firm maintain its market shares and (ii) whenever a firm sees its market shares decreasing, launching a price war for a limited period of time and then reverting to the monopoly price.⁴⁶

Mature market technology and lack of technical innovation

Mature markets support collusion for several reasons:

- First, innovation allows one firm to gain a significant advantage over its rivals, thereby reducing both the value of future collusion and the scope of retaliation rivals may inflict;
- Second, technical innovation is associated with product differentiation and results in competition taking place in several dimensions. This makes a joint-profit maximising outcome harder to achieve;
- 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.

Homogeneous product

Product homogeneity is often thought to make collusion easier, since firms need to coordinate on fewer dimensions, such as price and capacity, compared with a situation where they compete on differentiated products. However, theory is ambiguous on this point (Motta, 2004). On the one hand, when products are differentiated a deviation is less profitable, compared with homogeneous products, because the firm cannot expect to steal a large market share from its competitors. This effect makes collusion more likely in differentiated products. And indeed, under certain circumstances, product differentiation may facilitate the sustainability of collusion. On the other hand, when a firm deviates the punishment is not very strong, since the firm will still have positive demand because its product is differentiated. This effect makes collusion more difficult to sustain.

⁴⁴ Transparency between competitors helps collusion whereas transparency between consumers and suppliers could be a pro-competitive indicator as well-informed customers are in general more price sensitive.

⁴⁵ G. Stigler (1964), "A Theory of Oligopoly", *Journal of Political Economy*, 72, 44-61.

⁴⁶ E.J. Green and R.H. Porter (1984), 'Non-Cooperative Collusion under Imperfect Price Information', *Econometrica* 55: 87-100.

Symmetry between firms

The different dimensions of symmetry between firms, such as costs and technological knowledge, production capacities,⁴⁷ market shares, and number of varieties in product portfolio, facilitates collusion:

- First, asymmetric firms have more difficulty to agree on a common policy as they have divergent interests (firms with lower marginal costs should sustain lower prices than other firms would wish to sustain). However, in some cases concerning mobile mergers joint SMP was found despite a significant asymmetry in market shares of the companies concerned;⁴⁸
- Second, low-cost firms are more difficult to discipline because they might gain more from undercutting their rivals and because they have less to fear from a possible retaliation from high-cost firms. In particular, the presence of maverick firms in the industry makes collusion difficult, if not impossible, to sustain. Those firms have a drastically different cost structure or a strong preference for short term results, and are thus unwilling to participate in any collusive action. It is important however to identify the origin of the maverick character to determine whether it is an inherent and enduring characteristic or reflects only a transitory situation.

Absence of excess capacity

Although this criterion was mentioned in the Framework Directive in 2002 and is included in the Commission Guidelines on market analysis, Motta (2004:149) shows that the effect of the absence of excess capacity on collusion is ambiguous because it decreases both the incentives to deviate (as there is no need to fill in capacity with a price reduction) but also the ability to punish such deviations (as there is no available capacity to increase production).

Links between the firms concerned

Links between firms align the interest of competitors as the profits of rival firms would affect the firm's own financial performance, and create occasions to meet and agree on common pricing policies.

Multi-market contacts

Multi-market contacts multiply the frequency of interactions between firms, thereby facilitate retaliation. Moreover, they might soften the asymmetries that arise in each individual market and create an overall symmetry that enhances collusion. This can be the case when a firm has a strong competitive edge in one market and its rival has its own competition advantage on another market where both are also competing. Indeed

⁴⁷ Note that the effect of production capacity constraint as such and without asymmetry between firms is ambiguous, see *infra*.

⁴⁸ See for instance Spain – Telefonica 53,4%, Vodafone 28,7% and Amena 17,9%.

Parker and Röller (1997)⁴⁹ have shown empirically that prices tend to be higher in US mobile telephony markets when there were multi-market contacts.⁵⁰

Frequent interactions between firms and regularity of the orders

Such interactions enable firms to react more quickly to a deviation, thereby decreasing the gain of deviation because a cheating firm is unable to deviate for a long period and increasing the cost of punishment because it happens more rapidly (and accordingly will be less discounted).

Low elasticity of demand

According to economic theory,⁵¹ the effect of market demand elasticity on the *sustainability* of collusion is ambiguous because it affects in the same way both short-term gains from deviation and the long-term cost of foregoing future collusion. However, low demand elasticity increases the *profitability* of collusion as it enables a higher maximum collusive price.

High growth in demand

High demand growth facilitates collusion because it increases the expected cost of punishment (as there is a lot to be gained for a sustained collusion in an expanded market) while not changing the benefit of deviation (as the benefit is independent of future demand growth). However, growing markets may also attract new entry which established market players may not be able to prevent if, for example, they are not able to satisfy the growing demand due to capacity constraints.⁵² Note that although demand stagnation was mentioned as facilitating collusion in the Directive in 2002, Ivaldi et al. (2003:26) and Rey (2004:98 and 108) show that the effect of demand stagnation on collusion is negative and not positive.⁵³

⁴⁹ P.M. Parker and L.H. Roller (1997), "Collusive Conducts in Duopolies: Multimarket Contact and Cross-Ownership in the Mobile Telephone Industry", *Rand Journal of Economics*, 28, 304-322.

⁵⁰ Note that with multi-market contact, punishment does not necessarily lead to a new market equilibrium on the market where collusion broke down, see for example Belleflamme and Peitz (2015:369),

⁵¹ Motta (2004:145), Rey (2004:100).

⁵² In the merger case M.7758 - *Hutchison 3G Italy / WIND / JV (2016)*, the Commission considered that the Italian retail mobile market was saturated as far as the penetration rate of SIM cards was concerned, and the total number of mobile subscribers was not expected to grow, whereas the monthly data traffic had been increasing in the preceding years and was projected to continue increasing steadily in subsequent years. Moreover, the growth of data traffic was not expected to lead to a significant fluctuation in the level of revenues, especially if compared to the past years. In addition, new MNO entry was not expected to take place at least within the foreseeable future. Although MVNO entry was more frequent, MVNOs played a marginal role in the market. This meant that MNOs could only have expanded their respective customer bases by stealing each other's customers through competitive prices which would have probably triggered an aggressive price war and the resulting loss of profits. Nevertheless, the Commission found that the merger would increase market concentration, remove Hutchison 3G as a standalone aggressive competitor, and increase symmetry among the remaining MNOs. The MNOs would be able to reach terms of coordination using post-transaction market shares at retail level as a focal point.

⁵³ Usefully, this criterion of the previous Directive has been played down by the ERG which considered that its effect on collusion is ambiguous: ERG Revised Working Paper on SMP, para.29.

Low demand fluctuations and business cycles

Demand fluctuations and business cycles hinder collusion because when market is at a peak, short-term gains from deviation are maximal while potential cost of retaliation is at a minimum. In addition, it decreases the degree of observability of the market and make more difficult to spot deviations and punish them.

Lack of countervailing buyer power

When buyers are powerful, colluding firms have more difficulty to impose prices above their costs as 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.

Several factors help countervailing buyer power (and make collusion more difficult): a high proportion of the producer's total output bought by a certain customer, a high portion of the costs for a service in relation to their total expenditure of the customers, or well informed customers. Overall, countervailing buyer power is more meaningful in wholesale markets because wholesale customers are in general more visible and powerful than retail customers.

Proposed ranking of market characteristics

Some economists have proposed a ranking of the market characteristics facilitating collusion. Rey (2004) distinguishes between:

- -The necessary factors: important entry barriers, frequent interactions between firms, and mature market where innovation plays little role;
- -The important factors: few participants and high concentration, symmetry between firms without the presence of maverick firms, and structural links and cooperative agreements between firms;
- -The additional factors, which can have an influence on the sustainability of collusion, although to a lesser extent and in a more ambiguous way: market transparency, horizontal and vertical product differentiation, multi-market contact between firms, low market demand elasticity, high demand growth, low demand fluctuations and business cycles, important network effects, and strong countervailing buyer power.

Grout and Sonderegger (2005) distinguish between:

- The fundamental factors: homogeneous products, stability in market conditions and output and presence of large and relatively constant leading firms;
- The relevant factors: high level of market transparency, high concentration ratio, high barriers to entry, no capacity constraints and high payroll per employee.

Harrington (2015) refers to an ideal market for collusion as having two firms, identical products, high entry barriers and high level of transparency.

Those rankings are similar but not the same and more importantly, none of the authors cited claim that the presence (or absence) of a highly ranked market characteristic would be sufficient to prove the existence (or absence) of collusion. As already explained, it is appropriate to develop a clear understanding of why each characteristic is relevant in the analysed market and how it affects the probability of collusion.

2.2.2 Experimental studies

The market characteristics identified by the economic theory have been tested in experiments and games played in laboratories. In a recent meta-study summarising many of those experimental researches, Engel (2015) shows that lab experiments confirm most of the theoretical findings and, importantly, can complement and refine those findings.⁵⁴

An interesting part of this experimental literature analyses the relationship between the number of players and the probability of collusion. In recent paper, Horstmann et al. (2016)⁵⁵ review most the past experimental studies and run their own experiment. They summarise the previous literature as follows: *Within and across the surveyed oligopoly experiments, markets with two firms are significantly more prone to tacit collusion than markets with three as well as four firms, everything else being equal.* (at p. 9). The authors run new experiments with symmetric as well as non-symmetric firms and reach the following conclusions: *“In the experiment with symmetric firms, the degree of tacit collusion based on the Nash or the Walrasian equilibrium is significantly higher in markets with two firms than in markets with three as well as four firms, and significantly higher in markets with three firms than in markets with four firms, everything else being equal”* (at p. 23) and *“In the experiment with asymmetric firms, the degree of tacit collusion based on the Nash or the Walrasian equilibrium is significantly higher in markets with three firms than in markets with four firms, everything else being equal”* (at p. 29).

2.2.3 Empirical and sectoral studies

A third layer of the economic literature analyses the decisions of antitrust authorities across the world and, on that basis, tries to determine which sectors have market characteristics which are more prone to collusion. Those characteristics may then be tested against those identified by the theoretical literature. A recent paper by the OECD Secretariat reviews some of those empirical studies and shows that many market

⁵⁴ C. Engel (2015), “Tacit Collusion - The Neglected Experimental Evidence”, *Preprints of the Max Planck Institute for Research on Collective Goods*, Bonn 2015/4.

⁵⁵ N. Horstmann, J. Kramer, D. Schnurr (2016), “Number Effects and Tacit Collusion in Experimental Oligopolies”, available on SSRN.

characteristics mentioned in section 2.2.1 above have been confirmed by those studies.⁵⁶

In other empirical research, Harrington (2015) proposes to identify the market characteristics of the industries where cartels have been identified and uses those to determine the markets susceptible to collusion. Studying the cement industry, Harrington identifies the following characteristics: (i) product homogeneity and short shelf life, (ii) price-inelastic market demand from industrial buyers that is highly sensitive to seasonal and business cycles, (iii) high transportation costs resulting in local geographic markets, (iv) high capital costs resulting in concentrated markets and entry barriers, (v) capital-intensive mature production technology and (vi) in some markets, excess capacity. Interestingly, many of those characteristics are also present in the telecommunications networks industry.

In a paper which also aims at identifying the markets susceptible to collusion, Grout and Sonderegger (2005) apply the main market characteristics facilitating collusion identified by the theoretical models and confirmed by the empirical models to the different sectors of the economy at a very dis-aggregated level (three-digit standard industry classification). They created the following Table. It ranks the industries where cartels have not yet been sanctioned but which have a high probability of existing given the characteristics of the industry. According to the authors, those industries should be actively investigated by antitrust authorities. Interestingly, the telecommunications industry sits at the top of the list.

⁵⁶ OECD (2015), *Serials offenders: Why some industries seem prone to endemic collusion*, Background note of the Secretariat for the Global Competition Forum, DAF/COMP/GF(2015)4

Table 3: Ranking of industries where no cartels have yet been discovered

Ranking of industries where no cartels have yet been discovered		Prob.
1	Telecommunications	0.84
2	Manufacture of aircraft and spacecraft	0.65
3	Manufacture of grain mill products, starches and starch products	0.61
4	Legal, accounting, bookkeeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy	0.55
5	Cargo handling and storage	0.50
6	Activities of travel agencies and tour operators; tourist assistance activities	0.46
7	Publishing	0.44
8	Manufacture of railway and tramway locomotives and rolling stock	0.44
9	Other land transport	0.43
10	Recycling of metal waste and scrap	0.40
11	Manufacture of articles of paper and paperboard	0.40
12	Manufacture of weapons and ammunition	0.39
13	Radio and television activities	0.39
14	Processing and preserving of fruit and vegetables	0.38
15	Manufacture of motorcycles and bicycles	0.38
16	Quarrying of sand and clay	0.37
17	Manufacture of prepared animal feeds	0.35
18	Non-scheduled air transport	0.34
19	Manufacture of domestic appliances not elsewhere classified	0.34
20	Mining and agglomeration of hard coal	0.34
21	Manufacture of glass and glass products	0.33
22	Other computer related activities	0.32
23	Architectural and engineering activities and related technical consultancy	0.30
24	Manufacture of cutlery, tools and general hardware	0.29
25	Other recreational activities	0.28
26	Manufacture of other chemical products	0.28
27	Printing and service activities related to printing	0.27
28	Secondary education	0.27
29	Manufacture of bricks, tiles and construction products, in baked clay	0.27
30	Postal and courier activities	0.25

Source: Grout and Sonderegger (2005, p. 8)

2.3 Behavioural analysis: Markers of collusive behaviours

A structural analysis merely based on market characteristics is often not enough to determine collusion because markets susceptible to collusion may end up, depending on the firms' conjectures and strategies, with very different equilibria and outcomes, some being collusive and others not. As already explained, even in situations where

collusion is sustainable, firms may still end-up competing.⁵⁷ Thus, the structural analysis should ideally be complemented by a behavioural analysis to better understand the interactions of the firms and determine whether the market outcome can be more reasonably explained by collusion or by competition.

Harrington (2008) explains that a high cost-margin is often not sufficient to prove collusion because, on the one hand, it may be caused by other factors than collusion (such as product differentiation or high switching costs) and, on the other hand, it does not necessarily imply collusion. However Harrington recognises that “*though a high price-cost margin should not necessarily raise suspicions about collusion, a sharp increase in the price-cost margin ought to*”.⁵⁸

Analysis should therefore go further and try to determine whether the behaviour of the firms can better be explained by collusion or by competition. In order to do so, Harrington (2008) proposes four *methods*:

- (i) Is behaviour inconsistent with competition?
- (ii) Is there a structural break in behaviour?
- (iii) Does the behaviour of suspected colluding firms differ from that of competitive firms? This method consists in comparing the analysed market with other competitive markets provided a good benchmark can be found;
- (iv) Does a collusive model fit the data better than a competitive model? This method requires a good specification of the game theoretic model used to understand the firms’ behaviours.

The first two methods do not aim at proving collusion but rather market behaviours that are not generally consistent with competition. The last two methods directly contrast competition and collusion as alternative explanation of firms’ behaviours. Each method requires certain specific information and some may not be available in the case at hand. It is therefore advisable to use them in combination to determine whether firms’ behaviours can more reasonably be explained by collusion or by competition.

To assist with such a finding, Harrington (2008) also proposes some *collusive markers*, *i.e.*, behaviours that distinguish collusion from competition. Those markers are based on the insight of industrial organisation theory into how collusion affects i) the relationship between a firm’s prices and demand movements; ii) the stability of price and market share; and iii) the relationship between firms’ prices. They relate to predictions on prices and market shares.

Regarding *prices*, Harrington proposes the following three collusive markers:

⁵⁷ Harrington (2008 and 2015) underlines that the risk of type I error (false positive – finding collusion when there is none) is high with a mere structural approach.

⁵⁸ J.E. Harrington (2008), “Detecting Cartels”, in P. Buccirossi (ed), *Handbook of Antitrust Economics*, MIT Press.

- Under certain conditions, the variance of price is lower under collusion;
- Under certain conditions, firms' prices are more strongly positively correlated under collusion;
- Under certain conditions, price and quantity are negatively correlated, price leads a demand cycle, and the stochastic process on price is subject to regime switches under collusion; while price and quantity are positively correlated, price follows a demand cycle, and price is not subject to regime switches under competition.

Regarding *market shares*, Harrington proposes the following two collusive markers:

- Under certain conditions, market share is more stable under collusion;
- Under certain conditions, a firm's market share is more negatively correlated over time under collusion relative to competition as collusion leads to more intertemporal structure of market shares.

Harrington (2008:41) also proposes a simple test to identify which firms are part of the collusion and which firms are outside. As collusion often aims to reduce quantity in order to raise prices, collusive firms collectively lower their quantities.⁵⁹ On the other hand, firms not part of the collusion will always raise their quantity to take advantage of the collusive firm reducing their supply. Thus, if a firm reduces its quantities, it identifies itself as member of the collusion while a firm raising its quantities indicates that it is not part of the collusion.

2.4 A combined analysis in electronic communications markets

According to economic theory, the finding of tacit collusion should ideally be determined by combining structural and behavioural analysis. The structural analysis looks at the characteristics of the market to determine whether it is prone to collusion, in particular whether collusion can be stable internally and externally. The behavioural analysis tries to determine whether the observed firms' behaviours can be better explained by collusion or competition.

The application of the structural analysis to the electronic communications sector leads us to conclude that the sector presents many characteristics which make it prone to collusion: (i) barriers to entry are high, in particular because of the economies of scale due to important sunk costs, (ii) concentration is high, (iii) firms present numerous symmetries in profitability, network coverage, product portfolio and (iv) firms have various links between themselves in particular because they need to be interconnected.

⁵⁹ If the aggregate supply of colluding firms must decline, individual firms' supply need not when firms have different costs.

Grout and Sonderegger (2005) also found that the telecommunications sector is prone to collusion. Note that, as shown by the experimental studies, markets with only two main players are particularly prone to collusion. This structure can be seen in fixed broadband access markets in several Member States.

The application of the behavioural analysis to the electronic communications sector is possible when the market is not subject to regulation. In this case, price-cost margin should be investigated. As explained by Harrington, high price-cost margin alone cannot be held to be proof of collusion because it may be explained by other factors but, combined with the structural analysis, it may be an indication, among others, of collusion. Moreover, a sharp increase of price-cost margin should raise suspicion of collusion. Next, the collusive markers on price and market shares should be examined. Stability in prices and/or market shares, strong correlation between firms' prices or negative correlation over time between firms' market shares may be indicative of collusion, especially when found in electronic communications markets prone to collusion. Also firms' behaviours and market outcomes which differ from competitive markets may be indicative of collusion.

However, the application of behavioural analysis to electronic communications markets is particularly difficult when the market is regulated. In this case, which is frequent, the behaviours of the firms result from the combination of regulation and market dynamics and it is difficult to disentangle both effects. The Modified Greenfield Approach requires that the market analysis is conducted without taking into account regulation imposed on the market under review. In other words, authorities should determine whether firms would collude if regulation were removed. Therefore, regulators should not analyse and try understand the actual firms' behaviours. They should figure out the potential firms' behaviours if regulation was removed and determine whether those potential behaviours would be more reasonably explained by collusion or by competition. This is a difficult assessment prone to type I and type II errors. Hence in this case, structural analysis should carry more weight than in the case where markets are not regulated.

2.5 Conclusions from economic theory

Collusion is present when firms have mutual beliefs with regards to the use of certain strategies that result in prices which are above the competitive benchmarks. Collusion may be explicit when firms communicate about their strategies or market outcome or implicit when market structure leads the firms to adopt strategies which are collectively beneficial.

Collusion may be difficult to sustain because of the inevitable tension between the individual short term interest of each firm not to collude and the collective long term interest of the group of firms to collude. It will only be stable internally when the long term benefit of colluding is higher than the short term benefit of competing. Moreover collusion needs also be to stable externally. This will only be the case when non-collusive firms, potential entrants or consumers could not destabilise the outcome.

Finally, collusive equilibria may also be difficult to reach, especially when firms do not communicate. Indeed, it is not because collusion is sustainable internally and externally that it is achievable, and economic theory shows that markets prone to collusion may be associated with different firms' strategies, market equilibria and outcomes. Thus, there are three main conditions supporting collusion: (i) the ability and the incentives to get to a coordinated outcome: the focal point, (ii) the ability and the incentives to sustain the coordinated outcome which implies the possibility of detection and punishing any deviation from the focal point, (iii) the absence of actual or potential market constraints destabilising the coordinated outcome.

Different paths of economic research (theoretical, experimental and empirical) have identified characteristics which may make markets prone to collusion: high market concentration, high barriers to entry in terms of fixed sunk costs, transparency, mature technology, symmetry between firms, links between firms, multi-market contacts, frequent interaction between firms are regularity of orders, low demand elasticity, high demand growth, low fluctuation in demand, and lack of countervailing buying power. Many of those characteristics are present in the electronic communications sector, raising the risk of collusion, especially in the case of duopolies.

Finding collusion may also require to determine whether firms' behaviours and market outcome could be more reasonably explained by collusion or competition. In this regard, a sharp increase in price-cost margin, stability in prices and/or market shares, price parallelism or negative correlation between firms' market shares over time can be indicative of collusion, in particular when taking place in the electronic communications sector which is prone to collusion. This behavioural firm analysis usefully complements the structural market analysis.

However, when markets are regulated and should be analysed with a Modified Greenfield Approach (*i.e.* without taking into account such regulation), the behavioural analysis is particularly difficult to assess. In this case, which is frequent in the electronic communications sector, the structural approach should be given more weight.

3 An overview of case-law concerning collective dominance/joint SMP

Paragraphs 86-106 of the *SMP Guidelines* summarise the relevant case-law and administrative precedents that apply under European Union competition law principles to support a finding of collective dominance, which translates into "collective SMP" for the purposes of *ex ante* regulation. Our review of relevant competition law developments since 1992 builds on the economic principles discussed above in Chapter 2, by enabling competition authorities to intervene in relation to operators which can jointly "act independently of competitors and ultimately consumers" and abuse this jointly dominant position. Provisions also exist to enable competition

authorities investigate mergers (or “concentrations”) to prevent (whether through an outright prohibition or through a range of structural or behavioural remedies) the notified merger from creating a significant impediment to effective competition (the so-called “SIEC” test).

In this Section, we summarise the applicable case-law of the EU Courts on collective dominance and the administrative practice of the European Commission in order to identify the main legal standards for the assessment of joint SMP under the *EU Regulatory Framework*. Accordingly, wherever possible, we focus on the relevance of those cases to the telecommunications sector, and their possible implications in determining the *criteria* used by regulators and courts alike in the assessment of a standard of “joint SMP”, especially as regards the *standard of proof* used to give effect to such a concept steeped as much in economic thinking as it is in law. .

The analysis covers key cases relating to:

- (1) behavioural practices under Article 102 TFEU in situations of collective dominance; and
- (2) the merger control practice of the European Commission in applying the test of collective dominance under the *EU Merger Regulation* (EUMR);

In doing so, the Study Team will also attempt to distinguish the above applications of tacit coordination theory from:

- (A) the merger control practice of the European in applying the theory of “coordinated effects” under the SIEC (Significant Impediment to Competition) test under the EUMR; and
- (B) the application of the concept of a “concerted practice” under Article 101 TFEU under EU case-law and the administrative practice of the Commission, distinguishing between those situations which reflect the proof of coordinated practices by reference to direct and indirect evidence, as opposed to consciously parallel commercial behaviour which can be consistent with no collusion having taken place.

By contrast, the primary focus of the discussion in Section 4 is on those EU Member States which have sought to apply in an *ex ante* under the *EU Regulatory Framework* or where the existence of collective dominance and its regulation has been a topic of policy debate (e.g., **Spain, France, Belgium, Netherlands, Malta, Ireland, Slovenia and the United Kingdom**).

In closing, we draw conclusions in relation to each of the strands of research outlined above in order to explore the interactions between these different analytical exercises. To this end, we identify where these might imply a development of the existing legal standard for collective SMP as described in the *SMP Guidelines* (either as regards the

approach to relevant criteria for its establishment or the standard of proof used to support its establishment).

3.1 Relevant Cases

3.1.1 Article 102 Precedents⁶⁰

Although *ex post* actions by the European Commission taken against those firms in a collectively or jointly dominant position under Article 102 TFEU do so on the basis of existing historical evidence of an “abuse” having occurred (as opposed to the forward-looking (*ex ante*) approach of an NRA acting under the *EU Regulatory Framework* or the Commission acting under the *EUMR*), precedents developed under Article 102 TFEU continue to be instructive, especially insofar as European case-law has to date not seen fit to differentiate between the application of the concept of collective dominance under the various legal instruments that form part of the EU legal order.⁶¹

3.1.1.1 Abuse of Dominance Cases Prior to/contemporaneous with the *SMP Guidelines*

Prior to the adoption of the *SMP Guidelines* in 2002, there were a number of cases delivered by the European Courts which clarified the interpretation of collective dominance under Article 102 TFEA as well as identifying elements which could facilitate a finding of collective dominance. Important aspects included::

- (i) economic links between the oligopolists in question;
- (ii) the oligopolists being able to act to an appreciable extent independently from competitors, customers and consumers, as is required under an individual dominance assessment;
- (iii) the ability of the oligopolists to present themselves as a collective entity on the marketplace; and
- (iv) an appreciation of the significance of links between oligopolists from an economic perspective, taking into account the specifics of the industry in question.

In *Italian Flat Glass*,⁶² the Court of First Instance in 1992 confirmed that, under Article 102, market dominance can indeed emanate from “*one or more undertakings*” that are

⁶⁰ The Guidance on the Commission's enforcement priorities in applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings [2009] OJ C 45/7 is not relevant, since paragraph 4 states that the Guidance only applies to dominance held by individual undertakings.

⁶¹ Joined Cases C-395/96 and C-396/96 *Compagnie Maritime Belge Transports v Commission* [2000] I-1365, referring to C-68/94 *France v Commission* [1998] EU:C:1998:148.

⁶² Joined Cases T-68/89, 77/89 and 78/89 *Societa Italiana Vetro, Fabbrica Pisana and PPG Vernante Pennitalia v Commission* [1992]EU:T:1992:38 (*Italian Flat Glass*).

economically independent firms.⁶³ This will occur where two or more undertakings are united by such *economic links* that they confer on them, jointly, a dominant position *vis-à-vis* the other operators in the relevant market.⁶⁴ However, the legal test, because it gave as an example of such economic links the presence of “*agreements or licences granting two or more autonomous undertakings the power to behave to an appreciable extent independently of their competitors, their customers and ultimately of their consumers*”, generated certain ambiguities in its application, because it suggested to some that agreements between oligopolists might be a legal precondition to the establishment of a finding a collective dominance.⁶⁵

In *Almelo*,⁶⁶ at issue were the decisions of a trading association requiring its members to adopt potentially anti-competitive licensing clauses. Whether or not the trade association’s decision that was incompatible with Article 101(1) TFEU could also be caught under Article 102 TFEU as an abuse of a collective dominant position by its members⁶⁷ required that “*the undertakings in the group must be linked in such a way that they adopt the same conduct on the market*”.⁶⁸ This precedent offers little by way of guidance in terms of the application of a collective SMP standard in the telecommunications sector, as it relates fundamentally to firms acting formally in a unitary manner under the umbrella of a trade association.

*Irish Sugar*⁶⁹ amongst other things, stands for the principle that a position of collective dominance might be capable of existing between non-competitors in a vertical relationship⁷⁰ if the firms in question are found to share parallel interests *vis-à-vis* third parties⁷¹ and are connected by ‘special links’ which embraced common governance relationships (especially in the form of shareholdings, Board representations, *etc.*)⁷² or direct economic ties such as exclusive supply relationships.⁷³ Given that oligopoly concerns in the electronic communications sector will be most likely to present themselves in the context of an oligopolistic group of vertically integrated firms, this precedent is also of limited utility.

The *Compagnie Maritime Belge*⁷⁴ ruling was the key precedent under the Article 102 TFEU jurisprudence at the time the *SMP Guidelines* were drafted. This precedent established the proposition that: “[A] dominant position may be held by two or more economic entities legally independent of each other, provided that from an economic

⁶³ For an overview of the debate concerning abuse of dominant position “by one or more undertakings” see R. Whish, D. Bailey, *Competition Law* (8th edition, 2012, OUP), 609-610.

⁶⁴ *Italian Flat Glass*, Paragraph 358.

⁶⁵ *Supra*, at Paragraph 611.

⁶⁶ Case C-393/92 *Municipality of Almelo v NV Energiebedrijf Ijsselmij* [1994] EU:C:1994:171 (*Almelo*).

⁶⁷ *Almelo*, at Paragraph 44.

⁶⁸ *Almelo*, Paragraph 42.

⁶⁹ Case T-228/97, *Irish Sugar Plc v Commission* [1997] EU:T:1999:246 (*Irish Sugar*); affirmed by the Court of Justice in Case C-497/99 P [2001] EU:C:2001:393.

⁷⁰ *Supra*, at Paragraph 61.

⁷¹ *Supra*, at Paragraph 40.

⁷² *Supra*, Paragraph 51.

⁷³ *Ibid.*

⁷⁴ *Compagnie Maritime Belge Transports v Commission* [2000] EU:C:2000:132.

point of view they present themselves or act together on a particular market as a collective entity”.⁷⁵ The Court of Justice further specified that: “[The] existence of a collective dominant position may therefore flow from the nature and terms of an agreement, from the way in which it is implemented and, consequently, from the links or factors which give rise to a connection between undertakings which result from it; **such a finding may be based on other connecting factors and would depend on an economic assessment and, in particular, on an assessment of the structure of the market in question**”.⁷⁶ (Emphasis added)

While many of the principles set forth in *Compagnie Maritime Belge* already find their way into the *SMP Guidelines*, there arguably needs to be greater consideration given in the *SMP Guidelines* to the impact on coordination incentives presented by various formal and informal arrangements in the telecommunications sector as between network operators (whether taking the form of network sharing arrangements, co-investment agreements, assuming they are not open to the third party participation, roaming alliances, interconnection arrangements, or common arrangements with ISPs and content providers). By the same token, due account also needs to be taken of whether or not the agreements in question are designed purely for the purpose of facilitating interoperability and connectivity among all market players, as opposed to those arrangements designed more to promote certain efficiencies, manage capacity, spread loss, and so forth, on a more selective basis as between particular market players. For example, it cannot be excluded that co-investments made by competitors in next generation technology, unless they follow a model that remains open to third parties might provide greater structural links between oligopolists that are involved in such co-investments over a long timeframe. The fact that co-investment cooperation might otherwise be defensible on efficiency grounds would not preclude the finding that it could also create conditions that are conducive to tacit collusion, on the assumption, however, that the mechanism of collusion is not rendered impossible by the structure of the co-investment (if, for example such agreements are open to third parties *ab initio* and for the duration of the project, according to pro-competitive criteria).

Irrespective of the major focus on the *Compagnie Maritime Belge* precedent being on the existence of formal links between competitors, as the highlighted text above demonstrates, the case is also a strong precedent for the proposition that a case for tacit collusion can be based on an economic appraisal of a particular market structure where such contractual or other formal relations are not present.

By the same token, the particular circumstances of the legal profession in The Netherlands were such that the Court in *Wouters*⁷⁷ held that “*in the absence of sufficient structural links between them, members of the bar cannot be regarded as*

⁷⁵ *Supra*, Paragraph 36.

⁷⁶ *Supra*, Paragraph 45.

⁷⁷ Judgment of 19 February 2002, Case C-309/99 *Wouters & Algemene Raad van de Nederlandse Orde van Advocaten* [2002] ECR I-577, at Paragraph 114.

occupying a collective dominant position” for the purposes of Article 102 TFEU. This statement, however, needs to be considered in its appropriate context. The Dutch legal market was characterised by a very large number of market players (both acting as individuals and as members of law firms), a high level of competition and a high level of heterogeneity in the provision of legal services. In the particular circumstances of the Dutch legal profession, there appeared to be a complete absence of structural market factors that would facilitate tacit collusion under Article 102 TFEU. In such circumstances, it seems wholly appropriate for the Court to suggest that, where such market characteristics do exist, reliance on structural links by way of commercial arrangements will be necessary.

Recommendations:

- **A number of the key older Article 102 precedents provide limited guidance to NRAs to determine whether a collective SMP finding can be established in the context of electronic communications markets. Many of those cases deal with situations where the parties, based on an analysis of historical evidence, are clearly acting as a collectively dominant entity in the pursuit of very clear mutual interests, which are usually formalised by official multi-party arrangements. These precedents therefore do not provide clear guidance to an NRA in its determination of whether *ex ante* access regulation is appropriate to thwart the goals being pursued by firms that might be engaged in tacit collusion.**
 - **There does appear to be value, however, in revisions to the *SMP Guidelines* which explore further the types of links between operators which are particular to the telecommunications sector and which might reinforce conclusions regarding the impact of structural market characteristics on the incentives of oligopolists to engage in tacit collusion.**
 - **The precedent in *Compagnie Maritime Belge*, while contemplating that such links that occur may be contractual in nature (broadly understood), just as clearly foresees that the sorts of links that facilitate tacit collusion may be derived from the particular market structure in question. The precedent in *Wouters* should not be seen as stepping away from such a view, but merely affirming the view that contractual or other formal links might be necessary where the structural market links at issue are not sufficiently strong.**
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3.1.1.2 Abuse of Dominance Cases Subsequent to the Adoption of the *SMP Guidelines*

Post-2002, the European Courts have had limited opportunities to determine the extent to which the analytical criteria in the *Airtours* Case apply in the context of an action brought under Article 102 TFEU:

The first Article 102 cases decided after the adoption of the *SMP Guidelines* involved the behaviour of bodies representing the collective interests of most members of the relevant industry, acting pursuant to common rules, similar to the situation prevailing in the *Compagnie Maritime Belge* Case. In the *TACA* Judgment delivered in 2003, the General Court held that members of the Transatlantic Conference Agreement occupied a collectively dominant position and had abused that collective dominance through their use of collectively agreed terms in their service contracts. In doing so, the General Court rejected the argument that the clauses in question were justified because of their common commercial usage, given that the collectively dominant group had a special responsibility to prevent the adoption of practices that had been adopted by their non-dominant competitors.⁷⁸ The pursuit of common legitimate goals did not mean that all forms of competition between the members of the collectively dominant group should be eliminated. In *Laurent Piau v Commission*,⁷⁹ while the General Court overturned the Commission's finding that FIFA had not held a collectively dominant position, it did not overturn the Commission's finding that there was an absence of abusive behaviour. In doing so, the Court for the first time endorsed the three cumulative criteria established under the *Airtours* Case to establish collective dominance in the context of an action brought under Article 102. In applying those three criteria, FIFA, national football associations and the clubs forming them were all linked with each other by FIFA's Players' Agents Regulations, which were binding on football clubs and players when contracting for their provision agent services. Hence the buyers (FIFA, the national associations, football clubs and players) were adopting the same conduct on the market for players' agents' services, thereby giving rise to links that established a collective dominance. In other words, the market was structured in a way that FIFA's top-to-bottom orders to the other buyers dictated how they interact on the market with the sellers (agents).⁸⁰ Given the scope of the appeal, there was no need for the Court to apply the *Airtours* criteria in a systematic and thorough fashion. Accordingly, the precedent in *Laurent Piau* provides little guidance to NRAs in the elaboration of the collective SMP standard.

⁷⁸ See Cases T-191/198 *et al, Atlantico Container Line v. Commission 'TACA'* [2003] ECR II-3275, at paragraphs 1124-1125.

⁷⁹ Case T-193/02 *Laurent Piau v Commission* [2005] EU:T:2005:22 (*Laurent Piau*).

⁸⁰ The seller's side of the market did not reflect a collective dominant position merely because each agent had entered into the same contractual arrangements that were offered by the collectively dominant buyers. The fact that all the sellers entered into uniform buyer contracts did not in itself amount to "structural links" between sellers. Nor could it be demonstrated that the sellers were in fact adopting common market behaviour. Hence, the argument that agents were abusing a collectively dominant position failed: refer to discussion at Paragraphs 11-124.

By contrast, the *EFIM* Judgment⁸¹ of 2011 provides some insights (albeit indirectly by necessary inference) into the possible relevance of different functional levels of competition when one is engaged in a determination of collective dominance. The *EFIM* Case concerned an appeal from a Commission Decision rejecting an Article 102 TFEU infringement action, pursuant to which the Commission had been asked to undertake an evaluation of collective dominance where the activities of the relevant parties involved the interrelationship between the printer market and the aftermarket for printer cartridges, further to an allegation that OEMs held a collectively dominant position in the aftermarket in the form of an oligopoly.

EFIM (European Federation of Ink and Ink Cartridge Manufacturers) brought an appeal against a negative Commission Decision, having originally complained about practices by original equipment manufacturers (Hewlett-Packard, Lexmark, Canon and Epson) in relation to the ink cartridges' market. The Commission dismissed these accusation on the basis of a lack of Community interest.

The General Court, as affirmed by the Court of Justice, determined whether the *Airtours*-criteria had been established based on the evidence submitted in the Complaint. As regards the first criterion (market transparency), the Plaintiff raised evidence concerning: (i) the level of market concentration; (ii) the stability of market shares over time; (iii) the difficulties faced by Kodak to enter the printer market; and (iv) the adoption of the so-called "razor-and-blade" strategy.⁸² Moreover, the Plaintiff also argued that the alleged conscious parallelism (which was not accepted to be a concerted practice by Commission) also served as evidence of a collectively dominant position.⁸³

According to the Court, however, it was clear on the particular facts of the case that the market shares of the putative oligopolists were volatile, which meant that the Court did not feel obliged to investigate further developments in market shares determine the fulfilment of the market transparency criterion.⁸⁴ As regards the alleged "razor-blade" strategy, the Court took the view that evidence based only on a number of press reports, given the relatively new (and aggressive) entrant Kodak⁸⁵ (which was tantamount to a 'maverick' market entrant) and other printer cartridge manufacturers

⁸¹ T-296/09 *EFIM v Commission* [2011] EU:T:2011:693; affirmed in C-56/12 P *EFIM v Commission* [2013] EU:C:2013:575.

⁸² This concept refers to the practice whereby the equipment is offered at very low prices in the primary market to attract a critical customer base, and when profits are then actually achieved in the aftermarket.

⁸³ *Supra*, Paragraph 73.

⁸⁴ *Ibid*, Paragraphs 73, 75.

⁸⁵ *Supra*, Paragraph 75. The French text of the Judgement reads as follows: "*Au demeurant, il ressort des documents fournis à l'appui de la seconde plainte, ainsi que l'a relevé la Commission dans la décision attaquée, que les parts des OEM sur le marché des imprimantes ont varié au cours des dernières années, ce qui confirme l'existence d'une concurrence sur ce marché. De même, les documents fournis par la requérante pendant la procédure administrative, s'ils montrent effectivement que Kodak avait des parts de marché très faibles, indiquent également qu'il s'agit d'un nouvel entrant pratiquant une stratégie agressive*".

that were present in the market, was insufficient to prove that each alleged oligopolist was capable of monitoring the market conduct of the other oligopolists.⁸⁶

Moreover, the Plaintiff could also not demonstrate how the market concentration on the printer market (falling short of an oligopoly threshold) could dampen the competitive constraints witnessed in the ink cartridges aftermarket.⁸⁷ In this regard, the Plaintiff could not show how the alleged concerted practice (or at least the conscious parallelism) between two oligopoly members for the manufacturing of printer cartridges could potentially restrict competition on the printer market and overcome the competitive constraints identified in the relevant aftermarkets.⁸⁸ Given that the two other criteria set forth under *Airtours*-could also not be further substantiated by evidence,⁸⁹ the Plaintiff failed in its attempt to establish the existence of a collective dominant position on either the printer market or on the aftermarket.

Although the appeal was dismissed on the basis that the Complaint had not sufficiently proved relevant facts necessary to sustain a finding of collective dominance, the Court nevertheless entertained the lines of argumentation raised by the Plaintiff as an integral part of a collective dominance analysis, without rejecting its relevance or downplaying its potential significance.⁹⁰

Accordingly, despite the fact that the Court was being asked to adjudicate over a Decision to reject a Complaint, rather than a Prohibition Decision of the Commission, the *EFIM* Case left open the possibility that:

- i. the merger control precedent established in *Airtours* is the benchmark by which conduct shall be assessed under Article 102 TFEU to determine whether it is consistent with a position of collective dominance (while also confirming that the *Laurent Piau* precedent is consistent with the application of that standard);
- ii. certain types of evidence are likely to be more persuasive in establishing the “transparency” criterion under the *Airtours* test, and there are those which are less convincing;
- iii. disruptive (or ‘maverick’) competitors might be capable of disrupting the tacit coordination that might otherwise be in effect between the members of a tight oligopoly;⁹¹ and
- iv. complex interactions between different functional levels of the market (in this case, the relevant primary product market for printers and the ancillary market

⁸⁶ *Supra*, Paragraph 66.

⁸⁷ *Supra*, Paragraph 77.

⁸⁸ *Supra*, Paragraph 78.

⁸⁹ *Supra*, Paragraph 74.

⁹⁰ *Supra*, Paragraphs 69-70.

⁹¹ In particular, the evidence suggested that although Kodak had a very small market share, it was a recent entrant into the primary market for printers which was pursuing an aggressive market strategy (see paragraph 75). Kodak’s market entry was also regarded to exert competitive constraints in the aftermarkets for ink, which were allegedly subject to a collective dominance (see paragraph 64).

for ink cartridges) might be relevant in the determination of whether or not the alleged transparency gives rise to necessary focal points around which oligopolistic behaviour can configure (and, one assumes, where ‘retaliation’ might occur).⁹²

Recommendations:

- Cases decided since 2002 suggest that the *SMP Guidelines* should be clarified to reflect the fact that the approach undertaken in determining collective dominance under Article 102 TFEU, even though it benefits from the ability to rely on historical market evidence, nevertheless shares a common analytical basis with *ex ante* merger review through the adoption of the three criteria set forth in *Airtours* (as interpreted by the *Impala* Judgments – see below). As such, it seeks to reconcile behaviour by reference to structural market factors which will have an impact in orienting the commercial goals of oligopolists towards common (and from a consumer welfare perspective, sub-optimal) commercial outcomes. Thus, structural links in the form of contractual relationships have now given way to fundamentally similar market positioning by oligopolists due to structural market characteristics, as might occur when market characteristics give rise to the adoption of a common policy. In such circumstances, collective dominance can be established in the absence of any express agreement or structural links between the oligopoly members having been identified. However, commercial arrangements are also capable of providing additional supporting evidence consistent with a tacit collusion scenario. By contrast, the existence of structural links seems to be indispensable to support a finding of collective dominance when the market is not otherwise conducive to tacit coordination (see *Wouters*).
- The more recent Article 102 TFEU case-law has focused on the assessment of the transparency criterion from *Airtours* and, in this regard, due emphasis has been placed on sector-specific structural market factors which reflect and reinforce the sort of symmetric market behaviour associated with tacit coordination (e.g., similarity in market shares, a lack of potential competition, high barriers to entry as a result of very large sunk costs). In the context of the electronic communications sector, the types of factors which arguably convey both a structural contractual connection or link, along with a structural market effect which would facilitate tacit coordination between oligopolists, might exist in the form of infrastructure sharing arrangements or co-investment models between two operators (at least where they are not open to third parties or pro-competitive terms) in certain geographic areas,

⁹² This seems to follow implicitly from the Court's summary of the arguments about the existence of different related markets and the conclusions drawn from the arguments considered in Paragraph 68 of the Judgment.

while these operators maintain independent networks elsewhere, and participation in common roaming alliances.⁹³

- The nature of interactions between oligopolist firms on the market has also been explored in the *EFIM Case* as something which might occur between different functional levels of the market. Given the causal nexus identified in the *EU Regulatory Framework* between wholesale access regulation and likely retail market outcomes,⁹⁴ there is arguably a need for the *SMP Guidelines* to reflect this development. This is especially important since it can have a bearing on the identification of collective SMP in light of the principles set forth by the Court of Justice and the General Court in the *Impala* Judgments regarding the relationship between a key concept such as the need for a focal point to facilitate tacit collusion and the relevance of a retaliation mechanism to incentivise oligopolists from diverging from their longer term goals underpinned by such tacit collusion.
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3.1.2 Collective dominance under the EUMR

3.1.2.1 Cases prior to *Airtours*

Two key cases already cited in the *SMP Guidelines* provide further support for the view that market structure characteristics can play an important role in determining whether tacitly collusive outcomes are likely to result from narrow oligopoly structures. Thus, the *Kali & Salz Case*⁹⁵ speaks of a position of collective dominance being likely to arise where sufficient “*correlative factors*” exist as between the putative oligopolists. In *Gencor*,⁹⁶ the Court of First Instance made it clear that the existence of formal links between the putative oligopolists was not a precondition to a finding of collective dominance. In the particular circumstances of that case, the Commission was entitled to conclude the existence of a collective dominant position based on the structural impact on the market likely to occur as a result of the merger in question, particularly given the nature of the affected products.

⁹³ While the traditional criterion of identifying a contractual or other structural connection was common in the early Article 102 TFEU jurisprudence, it was already removed in the updated indicative list found in Annex II via Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services. Given that the list is non-exhaustive, however, there is no reason not to take due consideration of such contractual links if they indeed reinforce the tendency of a market to be “conductive” to tacit collusion, as is prescribed in the *EU Regulatory Framework*.

⁹⁴ The “razor-blade” strategy considered in *EFIM* related to the relationship between primary markets and aftermarkets, rather than the Court simply confining itself to an analysis of collective dominance solely within the context of a self-contained “market” defined for competition law purposes.

⁹⁵ Judgment of the Court of Justice of 31 March 1998 in Cases C-68/94 and C-30/95, *France et al. v. Commission* [1998] ECR I-1375, at Paragraph 221.

⁹⁶ Judgment of 25 March 1999 in Case T-102/96 *Gencor v. Commission* [1999] ECR II-753, at Paragraphs 273-283.

Post-2002, the standard of collective dominance under EU law has generally been seen to be reflected in the Court of Justice's ruling in *Airtours*, which was arguably not accorded due weight in the *SMP Guidelines*, given the timing of the Court's Ruling and the adoption of the *SMP Guidelines*.

3.1.2.2 The *Airtours* Test

In the context of its review of an appeal from a Commission Decision granting clearance to a 4-to-3 merger in the sector for the supply of package holidays under the *EU Merger Regulation*, the Court of Justice in *Airtours* in 2002 outlined three cumulative conditions that it considered necessary to establish that coordinated effects could flow from an oligopoly environment (*i.e.*, a situation of collective dominance),⁹⁷ namely:

- i. the operators in question must be able to monitor the behaviour of each other to ensure each adheres to the terms of the tacit coordination;
- ii. a credible deterrent mechanism must be in place to “punish” deviating oligopolists from the parallel conduct engaged in pursuant to their tacit understanding; and
- iii. there must be no effective external constraints, such as from consumers or potential competitors, that could jeopardise the tacitly coordinated conduct adopted on the market by the oligopolists in question.

Since 2002, the abstract criteria established in *Airtours* have become the preferred legal standard used across the EU for the appraisal of whether or not a situation of collective dominance exists in any given market. Although the *Airtours* Case is referred to in footnotes 101, 107 and 108 of the *SMP Guidelines*, those references do not seem to elevate the case to any special status beyond other merger case precedents dealing with concentration in oligopolistic markets. This can arguably be explained by the fact that the timing of the delivery of the Judgment in *Airtours* in 2002 (*i.e.*, roughly contemporaneously with the adoption of the *SMP Guidelines*) did not permit the draftsmen of the *SMP Guidelines* to appreciate its full significance over the course of time.

3.1.2.3 The *Impala* Judgments⁹⁸

The appeals before the European Courts brought by *Impala* over the course of 2006 (General Court) and 2008 (Court of Justice), confirm the appropriateness of the criteria set forth in the *Airtours* Case as the basis for a finding of collective dominance. but, in doing so, have sought to elaborate the abstract analytical steps of that doctrine in such

⁹⁷ Case T-342/99 *Airtours v Commission* EU:T:2002:146, at Paragraphs 62, 195.

⁹⁸ Case T-464/04 [2006] EU:T:2006:216 (General Court, then Court of First Instance), Judgment of 13 July 2006; on appeal, Case C-413/06 P, [2008] EU:C:2008:392, Judgment of 10 July 2008.

a way to render its application in specific situations arising from particular industry dynamics more straightforward. In doing so, the Court of Justice emphasised that the task of the Commission when conducting a collective dominance assessment, given the individual incentives of each member of an oligopoly to depart from the tacit coordination in order to increase their short-term profit, should be to establish the sustainability of the common policy based on an effective monitoring mechanism. The effectiveness of such a monitoring mechanism in turn presupposes the existence of sufficient market transparency (Criterion 1), a credible deterrence mechanism (Criterion 2) and the lack of external reactions which could jeopardise the results expected by the oligopolists from their tacit coordination (Criterion 3).⁹⁹

The Judgment delivered by the Court of Justice in the *Impala* appeal, while clearly confirming the importance of the criteria set forth in *Airtours*, couches the application of the *Airtours* test in a way which emphasises the interaction or interdependence of the various market indicators considered under each of the three relevant criteria used to establish the existence of a position of collective dominance, so that they form part of a cohesive narrative about the potential for market failure flowing from a particular oligopolistic situation.¹⁰⁰

The relative importance of adopting such an integrated approach which seeks to identify a convincing economic analysis of tacit coordination (refer to the doctrinal issues considered in Chapter 2 of this Study) was emphasised on a number of occasions by the Court of Justice:

- i. in applying the *Airtours* criteria more generally, it is “*necessary to avoid a mechanical approach involving the separate verification of each of those criteria taken in isolation, while taking no account of the overall economic mechanism of a hypothetical tacit coordination*” (Paragraph 125);¹⁰¹
- ii. the importance of the relevant institution conducting the analysis not to undertake its analysis of transparency “*in an isolated and abstract manner*”, but by reference to the mechanism likely to be used in relation to the hypothetical tacit coordination (Paragraph 126);¹⁰² and
- iii. an acknowledgement that “*tacit coordination is more likely to emerge if competitors can easily arrive at a common perception as to how the coordination*

⁹⁹ Court of Justice, *Supra*, conclusion at Paragraph 124, based on its *ratio* in Paragraph 123.

¹⁰⁰ In particular, refer to Paragraphs 125-126 of the Court of Justice Judgment.

¹⁰¹ It thus follows that the conduciveness of a market to tacit collusion, and particularly the conditions facilitating tacit coordination among members of an oligopoly, should not be assessed in isolation, but with regard to the adoption of a common policy and the parameters that lend themselves to being a focal point in pursuit of that common policy. This appears to be the logical conclusion arising from the Court’s statement, given that the market transparency requirement and the importance of being able to monitor deviation may differ as between different focal points.

¹⁰² A departure from an abstract approach should in principle be one that takes into account the unique features of the telecommunications sector, whether it be in terms of the huge sunk costs involved in network deployment, the transparency of retail tariffs, the importance of interconnection, and so forth.

should work, and, in particular, of the parameters that lead themselves to being a focal point of the proposed coordination". (Paragraph 122).

To this end, the General Court at first instance also explored more indirect means of establishing evidence to satisfy the various limbs of the *Airtours* test, at least where certain markets lend themselves to such an approach.¹⁰³

Of these conclusions drawn by the General Court which reflect principles of analysis that were not overturned by the Court of justice, Paragraphs 250-252 are most instructive, as it is here that the General Court explained what it means to apply the test in *Airtours* by adopting a more integrated approach in which its individual elements interact with one another:

- Paragraph 250: “ ... *the Commission is required, ex hypothesi, to carry out a delicate prognosis as regards the **probable development of the market** and of the conditions of competition on the basis of a prospective analysis, which entails **complex economic assessments in respect of which the Commission has a wide discretion...***”.(Emphasis added.)
- Paragraph 251: “*It follows that, in the context of the assessment of the existence of a collective dominant position, although **the three conditions** defined by the [General Court] in *Airtours v Commission* [...] which were inferred from a theoretical analysis of the concept of a collective dominant position, are indeed also necessary, they may, however, in the appropriate circumstances, be established indirectly on the basis of what may be a very mixed series of **indicia and items of evidence relating to the signs, manifestations and phenomena inherent in the presence of a collective dominant position.*** (Emphasis added.)
- Paragraph 252: “*Thus, in particular, close alignment of prices over a long period, especially if they are above a competitive level, together with other factors typical of a collective dominant position, might, in the absence of an alternative reasonable explanation, suffice to demonstrate the existence of a collective dominant position, **even where there is no firm direct evidence of strong market transparency, as such transparency may be presumed in such circumstances.***” (Emphasis added.)

The use of indirect evidence could thus arguably overcome the lack of direct evidence for at least one of the *Airtours* criteria (e.g., sustained price rigidity would overcome the need for more direct proof of transparency) and perhaps even another (e.g., retaliation

¹⁰³ This aspect of the General Court Judgment was not overturned on appeal. Instead, the General Court's Judgment was overturned to the extent that it had failed to adduce sufficient evidence to establish that the parties' rebates policies were sufficiently transparent to facilitate retaliation in the event that a party would diverge from a common policy. (See Paragraphs 130, 133; cf. Paragraph 145).

might not even be necessary if incentives to tacit collusion are sufficiently strong). In this way, for example, indirect economic evidence of a commercial policy sustained over a sufficiently long period of time which is consistent with the pursuit of a common policy might be sufficient to sustain a finding of collective dominance, especially if the parties in question cannot adduce evidence which explains their parallelism in a light other than that of collective dominance. The Court of Justice did not object to the General Court's approach in permitting the use of more indirect forms of evidence. It considered this approach to reflect "*a general statement which reflects the General Court's liberty of assessment of different items of evidence*" adduced before it in any particular case;¹⁰⁴ which would take account of the fact that the transparency criterion could "*in the appropriate circumstances be established indirectly on the basis of what may be a very mixed series of indicia and items of evidence relating to the signs, manifestations and phenomena inherent in the presence of a collective dominant position*" (Paragraph 127).¹⁰⁵

In conducting an analysis which accords appropriate weight to indirect items of evidence, however, the Court of Justice has emphasised that it should be "*carried out with care*" insofar as the approach should be "*based on the analysis of such plausible coordination strategies as may exist in the circumstances*".¹⁰⁶ This implies that the indirect test established by the General Court should not be misinterpreted as allowing the Commission to solely rely on the observed implementation of a certain coordination strategy without having analysed its plausibility on the basis of the *Airtours* criteria.

It should be noted that the appeals in *Impala* arose out of the Commission Decision to grant clearance to a 5-to-4 merger in the record industry on the basis of its alleged error in concluding that there existed no available evidence to suggest the existence of a situation of pre-existing collective dominance prior to a notified merger or the creation of such a position post-merger.¹⁰⁷ The General Court originally overturned the

¹⁰⁴ *Supra*, Court of Justice, Paragraphs 128. Accordingly, the Court of Justice went on to hold that "*the investigation of a pre-existing collective dominant position based on a series of elements normally considered to be indicative of the presence of the likelihood of tacit coordination between competitors cannot ... be objectionable of itself.*"- (At Paragraph 129)

¹⁰⁵ The Commission, in its pleadings, did not object to this view of the General Court, nor did the Court of Justice seek to undermine its applicability as a matter of general principle. Indeed, the Court of Justice's discussion of what constitutes an appropriate forward-looking analysis at Paragraphs 120, 121 and 123 (refer to the full text in the Annex (chapter 9), where it explores what it understands to be the adoption of a "common policy" between oligopolists, is consistent with the approach reflected in the Judgment of the General Court. Thus, the Court of Justice refers in particular to those "*correlative factors*" (*Supra*, *Kali & Salz*) which would assist the members of a tight oligopoly to "*profit from a situation of collective economic strength*", including correlative factors such as the relationship of interdependence between them on a market with the appropriate market characteristics (especially factors such as market concentration, transparency and product homogeneity). Such correlative factors would allow those parties to anticipate or align one another's conduct in order to increase their joint profits. Such coordination would be "*more likely to emerge if competitors can arrive at a common perception as to how the coordination should work and, in particular, of the parameters that lend themselves to being a focal point of the proposed coordination*".

¹⁰⁶ Court of Justice, *Supra*, Paragraph 129.

¹⁰⁷ Case Comp M.3333 *Sony/BMG*.

Commission's conclusions on the basis that the Commission had failed to conduct a prospective and a detailed appraisal of a situation of potential collective dominance.¹⁰⁸

In not objecting to the approach expressed by the General Court in its application of the transparency standard in *Airtours*, the adoption of an integrated approach to the issue of tacit coordination which draws upon some indirect evidence, might mean that a market which does not demonstrate unequivocal signs of transparency might nevertheless be consistent with common policy having been put into effect over a sufficient period of time, in a manner which suggests that such a common policy is sustainable. This may indicate that the market is sufficiently transparent to the parties in question and may be relied upon to explain how transparency in that market works at present, although it does not seem to be sufficient simply to presume that the market will continue to be transparent in the future for the purposes of an *ex ante* analysis.

With regard to the second *Airtours* criterion relating to the factors deterring an oligopolist from diverging from tacitly coordinated outcomes (ensuring sustainability of the common policy), it is important to consider the identified monitoring mechanisms which can be used by the oligopolists to observe the evolving coordinated conduct of one another and to quickly detect deviating market conduct.¹⁰⁹ This presupposes a sufficient level of market transparency, whereby firms are made sufficiently precisely and quickly aware of how the market conduct of competitors is evolving. Moreover, the existence of some form of "disciplinary" measures (in accordance with the third criterion) requires that there be some form of credible deterrent mechanism that can materialise if deviation is detected.¹¹⁰ The disciplinary measure can no doubt vary, not only depending on the focal point adopted by the parties in question but on the particular dynamics of an industry. For example, the targeting of particular customer segments might be a preferred method of retaliation, as opposed to the slashing of retail prices in another situation, or even the provision of wholesale access on more advantageous terms to a particular ISP or content provider than those provided by other members of the tight oligopoly. Retaliation might occur in principle in a different functional level of the market from where collective dominance is arguably identified.

Recommendations:

To the extent that Recital 96 of the *SMP Guidelines* already outlines the importance of establishing incentive compatibility between oligopolists to engage in tacit collusion and those market characteristics which would allow that tacit collusion to be pursued, it is arguable that the key elements of the *Airtours* legal standard are already contained in the *SMP Guidelines*. Nevertheless, it is advisable that the *SMP Guidelines* be updated to make express reference to the criteria set forth in *Airtours*, as elaborated upon by the *Impala* Judgments.

¹⁰⁸ Case T-464/04 *Impala v Commission* ('*Impala*, General Court').

¹⁰⁹ *Supra*, Paragraphs 125-126.

¹¹⁰ *Supra*, Paragraph 123.

While not departing from the legal standard set forth in *Airtours*, the *Impala* Judgments envisage that the *Airtours* criteria will be assessed pursuant to a more integrated economic analysis, supported if necessary by indirect evidence which can be adduced in appropriate circumstances, exploring the interrelationships between relevant economic indicators (the relevance of which are discussed in Chapter 2 of this Study) across the three *Airtours* criteria. This more integrated approach means that different evidentiary weight can be attributed to various economic indicia, consistent with the overall economic mechanism that has been identified as providing the incentives to oligopolists to tacitly collude over the longer run, the means by which they will achieve that tacit coordination, and the mechanisms that can sustain that tacit coordination.

Such an approach should require a departure from the “checklist” approach that appears to be endorsed by the terms of Recital 97 of the *SMP Guidelines* and especially by the items listed in Annex II of the *Framework Directive*, even allowing for the express wording of Recital 98 that “*it is necessary to examine all of the [market characteristics] and to make an overall assessment rather than mechanistically applying a ‘check list’*”. The removal of a checklist does not obviate the need for the elaboration of a sound analytical approach which requires the appropriate supporting empirical and economic evidence to support the task of the NRA, which continues to bear the burden of proof in establishing the existence of collective SMP. Nevertheless, the removal of such a check list would at the very least help to dispel the view that each and every one of the criteria listed needs to be proved in order to sustain a collective dominance finding.

Following the Judgments of the General Court and the Court of Justice in *Impala*, it is arguable that the *SMP Guidelines* should emphasise the need to assess the level of interdependence between the members of the putative tight oligopoly, taking into account factors such as: (i) structural market characteristics, including but not limited to market concentration, which render the market conducive to tacit coordination; (ii) structural and behavioural characteristics that are particular to the electronic communications sector, and which are “conducive” to those firms aligning their conduct to pursue tacitly coordinated outcomes such as the earning of supra-competitive profits (by reference to the principle framed in Recital 99 of the *SMP Guidelines*);¹¹¹ (iii) the level of transparency in the relevant markets which allows the firms in question to anticipate one another’s behaviour through the identification of a focal point by reference to which they can align their tacitly collusive behaviour (*i.e.*, thus

¹¹¹ In the case of telecommunications, unique characteristics can be identified in terms of the trade-off between very large sunk costs and small incremental costs, the interconnection of networks, external factors such as licensing conditions and symmetric regulatory obligations, the phenomenon of network effects, cooperation agreements for various functions such roaming, varied retail tariff plans but comparable ARPUs, and so forth.

providing a monitoring mechanism that allows the parties to quickly detect any deviations from the anticipated behaviour); (iv) whether the oligopolists understand that their divergent market conduct would be followed by sufficiently quick market responses (retaliation) from other members of the oligopoly; and (v) whether a common policy pursued tacitly by oligopolists is capable of being disrupted either by competitors, direct customers or end-users.

While the onus of proof remains with an NRA to prove all the relevant elements established under *Airtours* (as interpreted and applied by the *Impala* Judgments), the *SMP Guidelines* would benefit from an elaboration of three critical factors which should have an important bearing on the standard of proof used by NRAs to establish the various economic criteria that might support a finding of collective dominance:

- *First*, sector-specific factors need to be emphasised in any collective SMP assessment which take due account of many of the particular dynamics of the sector to which it is applied (e.g., the electronic communications sector). These dynamics will play an important role in determining the scope of critical analytical concepts such as ‘transparency’, ‘focal points’, ‘retaliation mechanisms’ and so forth, rather than such issues being assessed by reference to an abstract legal standard. To this end, thought should be given to introducing a discussion in the *SMP Guidelines* which describes key aspects of the dynamics of electronic communications markets, including experience gleaned by the Commission in its review of cases under the *EU Regulatory Framework*.
 - *Second*, due weight must be accorded in the *SMP Guidelines* to the fact that the relevant legal standard for intervention under the *EU Regulatory Framework* is one based on a forward-looking analysis – as is the case under a merger review – to determine whether a market is “conducive” to tacit coordination (see Recital 26 of the *Framework Directive*). Such a legal standard, on its face, requires a focus on key structural issues interpreted in light of the case-law (especially *Compagnie Maritime Belge*, *Kali& Salz*, *Gencor*, *Airtours* and *Impala*) which purports to apply sound economic principles (see Chapter 2), supported by appropriate evidence, in order to determine the incentives shared by collectively dominant firms to engage in tacit collusion.
 - *Third*, the General Court in *Impala* has made some important observations as regards the indirect nature of some elements of proof that can be relied upon to establish *inter alia* elements such as transparency and retaliation. In doing so, the Court of Justice has made it clear that the relevant evidentiary task faced by the Commission is one of determining whether tacit coordination “is more likely to emerge” if the partner can “*easily arrive at a common perception of how the[ir tacit] coordination should work*”
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(Paragraph 123, Court of Justice). Similarly, the General Court has made it clear that these types of prospective analyses entail “*complex economic assessments in respect of which the Commission has a wide discretion*” (Paragraph 250, General Court).¹¹² The deference of the European Courts to the Commission in making complex economic assessments reflects the fact that it is often very difficult to determine collusive from non-collusive outcomes, as suggested by the academic literature (see discussion in Chapter 2.) By contrast, proof of a concerted practice under Article 101 TFEU would need to be proven on the understanding that there was no other plausible explanation for the conduct, and should therefore be subject to a counterfactual analysis.

3.1.3 Other Coordinated Effects Case Precedents in Horizontal Merger Review

The assessment of collective dominance in a merger review context occurs pursuant to the doctrine of “coordinated effects”, which may arise in the context of a merger between competitors where the likelihood or the magnitude of coordination between competitors increases as a result of the merger.

Mirroring the established case law as of 2004 when they were adopted (including the *Airtours* test, but excluding *Impala*), the Commission’s *Horizontal Merger Guidelines* outline the criteria that need to be satisfied in assessing coordinated effects in order to determine whether a proposed transaction will render coordination more likely, more effective or more sustainable.¹¹³ In particular, the analysis needs to focus on: (i) the ability to reach terms of coordination; (ii) the ability to monitor deviations; (iii) the existence of a credible deterrent mechanism if deviation is detected; and (iv) the reactions of outsiders such as potential competitors and customers.

Paragraph 39 of the *Horizontal Merger Guidelines* focus on the creation or strengthening of a position of collective dominance which is conducive to the coordination of the market behaviour of firms in an oligopoly, even without entering into an agreement or resorting to a concerted practice within the meaning of Article 101 TFEU. A merger may also may also render coordination simpler, more stable and more effective for firms already tacitly coordinating within an oligopoly structure pre-merger, by making the cooperation more robust. Paragraph 41 refers to the concern that firms post-merger may be able to “*reach a common understanding on the terms of*

¹¹² Although the Decisions of NRAs taken under the *EU Regulatory Framework* are subject to *de novo* review under the terms of Article 4 of the Framework Directive, it would be unreasonable and disproportionate for them to be held to a higher standard of proof than the European Commission when applying a concept developed under EU law.

¹¹³ European Commission, “Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings” [2004] OJ C 31/5 (“*Horizontal Merger Guidelines*”), Paragraphs 39–57.

coordination", while Paragraph 43 of the *Guidelines* emphasises that account is taken of all available relevant information on the characteristics of the affected markets, including both structural features and the past behaviour of firms. In this regard, evidence of historical behaviour is important if the relevant market characteristics have not changed appreciably or are not likely to do so in the near future. Likewise, the Commission explains that evidence of coordination in similar markets may also provide useful insights into the possibilities of coordination.

Aside from these behavioural observations, an assessment of the relevant structural features of the market is also a necessary element of the analysis according to Paragraph 43, while the *Guidelines* also acknowledge at Paragraph 42 that the reduction in the number of competitors is a factor that has the potential to result in a situation of collective dominance, especially where the acquisition is that of a maverick which had hitherto been able to exert external pressure to undermine the supra-competitive outcomes of coordination.

The *Guidelines* consider each of the three *Airtours* criteria and set forth a number of appropriate economic factors with which to conduct a collective dominance assessment (including the number of firms post-merger, product homogeneity, changes in demand and supply, customer characteristics, the symmetry of cost structures, market shares and levels of vertical integration, and structural links such as cross-shareholdings or participation in joint ventures).¹¹⁴

As regards the first *Airtours* criterion (*i.e.*, transparency, which allows for the monitoring of deviations) the Commission concludes that: "*[T]ransparency is likely to be high in a market where transactions take place on a public exchange or in an open outcry auction. Conversely, transparency may be low in a market where transactions are confidentially negotiated between buyers and sellers on a bilateral basis. When evaluating the level of transparency in the market, the key element is to identify what firms can infer about the actions of other firms from the available information. Coordinating firms should be able to interpret with some certainty whether unexpected behaviour is the result of deviation from the terms of coordination. For instance, in unstable environments it may be difficult for a firm to know whether its lost sales are due to an overall low level of demand or due to a competitor offering particularly low prices. Similarly, when overall demand or cost conditions fluctuate, it may be difficult to interpret whether a competitor is lowering its price because it expects the coordinated prices to fall or because it is deviating.*"¹¹⁵ Even in the absence of conditions for general market transparency, this could still be achieved through the use of MFN clauses, public announcements and/or information exchanges via trade associations.¹¹⁶ Cross-

¹¹⁴ *Horizontal Merger Guidelines*, paragraphs 44-57.

¹¹⁵ *Supra*, Paragraph 50.

¹¹⁶ *Supra*, Paragraph 51.

directorships, participation in joint ventures and similar arrangements may also make monitoring easier.¹¹⁷

With regard to the second *Airtours* criterion (the existence of a deterrence mechanism) the Commission will evaluate the ability and incentives of the firms concerned and determine whether it is in their interests to retaliate if one of the oligopolists deviates from their anticipated behaviour. Retaliation may well occur in other markets where the operators concerned are engaged in multi-market competition. Retaliation need not only materialise in form of temporary price wars, but can include the withdrawal from joint ventures and other practices (in the telecommunications sector, for example, geographic market sharing, slow technological adaptation, allocation of customer segments, *etc.*) .

With regard to the third *Airtours* criterion (reactions of outsiders), the Commission will analyse whether the actions of non-coordinating firms and potential competitors, as well as customers, will be able to jeopardise the outcome expected from the coordination. To this end, the Commission will analyse the extent and height of entry barriers and the significance of countervailing buyer power. For example, where a large buyer is able to deter one of the suppliers with better terms and larger orders, the buyer might effectively be able to undermine the concentrated market structure of the suppliers that would otherwise be conducive to coordinated effects.¹¹⁸

3.1.3.1 Coordinated effects analysis in telecommunications sector mergers

In the Commission's decisional practice in the field of telecommunications mergers, the analysis of "coordinated effects" has played a less prominent role. Where the doctrine has been applied to telecommunications cases, the sorts of market structures that have been identified which would be particularly conducive to explicit or tacit collusion are those in which: symmetrically placed firms interact repeatedly; barriers to entry are high; market outcome (*e.g.*, prices, quantities) are transparent; and there exists a potential for retaliation in case of deviation.¹¹⁹

The principal focus of the Commission's assessment has been the application of the "unilateral effects" doctrine to so-called "gap" cases which cannot sustain a finding of either individual or joint dominance within the broader context of applying the SIEC (Significant Impediment to Effective Competition) test to determine whether the merger should be blocked because of its anti-competitive effects. It is also just as clear that the application of the SIEC test reflects a much broader legal standard than "collective

¹¹⁷ *Ibid.*

¹¹⁸ *Supra*, Paragraph 57.

¹¹⁹ Refer to European Commission Publication, "Ex-post analysis of two mobile telecom mergers: *T-Mobile/tele.ring* in Austria and *T-Mobile/Orange* in the Netherlands" page 18, available at: <http://ec.europa.eu/competition/publications/reports/kd0215836enn.pdf>.

dominance”, as it may embrace both coordinated and non-coordinated effects.¹²⁰ Thus, the revised *EU Merger Regulation* makes it clear that, in oligopolistic markets, mergers can lead to a significant impediment to effective competition even when they do not lead to dominance or coordinated effects. The legal test for these cases is whether the merger involves *“the elimination of important competitive constraints that the merging parties had exerted upon each other, as well as a reduction of competitive pressure on the remaining competitors.”*¹²¹

Despite the proliferation of merger reviews in the electronic communications sector in “gap” situations characterised by oligopolistic market structures, the Commission has also had cause to assess the likelihood of coordinated effects in a number of mergers in the sector, especially as regards mobile-only mergers where retail mobile telecommunications services *“may be prone to coordination”*.¹²² At the same time, extracting clear legal principles on collective dominance standards is further complicated by the fact that the merging parties often provide structural (rather than merely behavioural) remedies to address the Commission’s competition concerns, coupled with the fact that remedies in a merger context are technically speaking “offered” by the merging parties rather than imposed by the Commission.

It is particularly instructive to first examine those sector-specific notified mergers where the Commission has considered the application of coordinated effects but has either decided that it could not adduce sufficient evidence to establish that situation or decided to leave open the question, given the fact that the notifying parties have offered sufficiently strong remedies so as to remove *inter alia* any possible tacit coordination issues. In many instances, this has resulted in the Commission analysing cases both through the prism of tacit coordination under collective dominance and the broader SIEC standard, which incorporates elements of coordination theory.

In its assessment in *T-Mobile/Orange Netherlands*,¹²³ the Commission primarily investigated the effects of the transaction in the Netherlands on the domestic retail market for mobile telecommunications services and on the domestic wholesale market for access and call origination on public mobile telecommunications networks. On the latter market, MVNOs buy access services from MNOs. As regards the retail market, the Commission analysed *“whether the market, given the presence of only four main players, could be characterised by the presence of a collective dominant position”*. As the Commission noted, the *“only element on which a common understanding could be reached in the mobile retail telecommunications market is the price applied by MNOs to the retail customers. Pricing in this market does not present the characteristic of transparency which would be necessary to reach common understanding on terms of*

¹²⁰ For a broader discussion on this point please see A. Lindsay, “The EU Merger Regulation: Substantive Issues”, Sweet & Maxwell 2017, London, Chapter 2.

¹²¹ Competition Merger Brief No 1/2014, The Commission’s review of mobile telecoms mergers, pp 11-12.

¹²² See Competition Merger Brief, 3/2016 (Special Edition Telecoms), p 3.

¹²³ COMP/M.4748 - *T-Mobile/Orange Netherlands* (unconditional clearance).

coordination.¹²⁴ The insufficient pricing transparency in the market made it difficult for the MNOs. The Commission also examined whether the transaction would be likely to lead to the creation of a situation of collective dominance, but did not find evidence that coordination among the three remaining MNOs would be likely as a result of the merger given that, post-merger, the lack of transparency currently identified would have continued. Additionally, the remaining operators would have had asymmetric market positions (with one of them being the fixed network incumbent, KPN) and would have significant spare capacity with which to compete. Accordingly, the Commission concluded that there was no collective dominance in the retail market and that the merger would not lead to the creation of a situation of collective dominance.

In the *Hutchison 3G Austria/ Orange Austria* Decision,¹²⁵ the Commission found that some characteristics of the Austrian mobile market might have been conducive to coordination and some past parallel behaviour of the Austrian MNOs could point to coordination. However, the indications did not satisfy the requisite standard of proof required to establish that the merger would result in a significant impediment to effective competition which would lead to coordinated effects. In any event, the Commission concluded that, even if coordinated effects in the market for mobile telecommunication services to end customers could be assumed to be present, the commitments proposed by the notifying parties (namely, up-front MVNO agreements, improved conditions of wholesale access and divestiture of spectrum access) were designed to facilitate market entry (in this regard, see the *SMP Guidelines* at Paragraph 97) and thus also to address possible coordinated effects. Hence, the transaction as modified by the commitments would not lead to a SIEC situation in the form of coordinated effects on the Austrian market for mobile telecommunications services to end customers.

In the case of *Telefonica Deutschland / E-Plus*,¹²⁶ which concerned the acquisition of Dutch Telecom operator KPN's German mobile telecommunications business E-Plus by Telefónica Deutschland (Telefónica), the Commission also considered coordinated effects in its competitive assessment of the retail market. More precisely, in the Article 6(1)(c) Decision, the Commission had contemplated whether the transaction would lead to an increase in market symmetry resulting from less divergent market shares of the remaining MNOs at the network level and a possible alignment of the quality of the merged entity's mobile network with that of the two remaining MNOs. Moreover, the Commission also expressed the view that the retail market for mobile telecommunications seemed to be transparent as regards tariff setting and customer flows. Against that background, the Commission investigated coordinated effects on the retail market for mobile telecommunications services in Phase II. Ultimately, the Commission considered that the evidence did not satisfy the requirements under the case-law in order to prove a significant impediment to effective competition due to

¹²⁴ *Supra*, Paragraphs 43-46.

¹²⁵ COMP/M.6497 - *Hutchison 3G Austria/ Orange Austria* (Phase II clearance with conditions and obligations).

¹²⁶ COMP/M.7018 - *Telefonica Deutschland / E-Plus* (Phase II clearance with conditions and obligations).

coordinated effects. In any event, the Commission concluded that even if coordinated effects in the German retail market for mobile telecommunications services were assumed to occur, the remedy package offered by the notifying party to remove the concerns stemming from unilateral effects would also address such coordinated effects concerns.¹²⁷

In *Liberty/Ziggo*,¹²⁸ a case that concerned the acquisition of sole control over Ziggo, a large regional Netherlands cable operator, by Liberty Global, an international cable company with cable operations in other geographic regions of the Netherlands, the Commission also conducted a coordinated effects analysis in its overall assessment of the merger. More specifically, it considered whether the concentration increased the likelihood of coordinated effects aimed at raising prices or delaying investments on various product markets for the retail provision of: (i) pay-tv services; (ii) fixed Internet access services; (iii) fixed telephony services; and (iv) multi-play services. However, the Commission dismissed concerns about potential coordination post-merger as it found that the merger did not alter significantly any of the factors generally considered to be conducive to coordinated behaviour. The Commission also did not find additional evidence of past coordination that could support a non-coordinated theory of harm. More specifically, the transaction was found not to increase the ability to coordinate beyond what was already the case pre-merger, nor to remove any other factors that would destabilise coordination on the market. For instance, given the orientation of the industry to move towards multi-play services and, as the merging parties and their rivals were already offering bundled products, the Commission did not consider the concentration to be capable of augmenting the possibilities for the market actors to reach coordination in terms of prices for bundles.¹²⁹

The Commission arrived at this conclusion despite the fact that: (a) the notifying parties had previously not engaged in any aggressive marketing on any of the relevant Dutch markets for TV/Internet service, (b) their cost structures were quite similar, (c) the two firms already cooperated through several industry bodies and (d) there was a pre-existing cross-shareholding of 28.5%. The Commission disregarded these factors because no market failure derived from coordinated outcomes had been observed in the past, concluding that transparency within the meaning of the first *Airtours* criterion could not be shown to arise as a result of the notified merger.

In relation to the possible existence of effective deterrent mechanisms, the Commission considered that the transaction was not likely to enhance the availability and/or efficiency of deterrence mechanisms, as there was no evidence supporting such a

¹²⁷ *Supra*, at Recitals 775-777. An analysis of coordinated effects at the wholesale level reached a similar conclusion.

¹²⁸ COMP/M.7000 – *Liberty Global / Ziggo* (-Phase II clearance with conditions).

¹²⁹ Although the General Court annulled the Commission's Decision in COMP/M.7000 (see Case T-394/15 *KPN v Commission*) in relation to the Commission's failure to take due account of the competition impacts on a particular relevant product market (see paragraphs 56 – 73 of the Judgement), the Courts Judgement did not preport to extend to a re-appearance of the Commission's portion as regards the assessment of collective dominance.

conclusion. The Commission noted that, pre-merger, the parties were not asymmetrical competitors in a way that the merger could provide the merged entity with additional or enhanced retaliatory powers. For example, the parties were already active in the same markets, using similar technologies and having similar plans in terms of network rollout. The merger would not have changed this situation. As regards the establishment of transparency and monitoring mechanisms, the Commission did find that there was a sufficient degree of price transparency on retail markets, and also that there was some evidence that even “non-visible” price elements could be monitored, notwithstanding the fact that products were sold in differentiable bundles. Nevertheless, since there was *no proof that the concentration would have materially changed the existing degree of transparency on those markets*, the Commission considered that any possible impact of the proposed transaction on transparency would significantly alter firms’ existing abilities to monitor deviations. Finally, as regards the reactions of outsiders to the oligopoly, the Commission observed that the ability and incentive of alternative outside operators would not have changed as a result of the merger.

In *TeliaSonera /Telenor/JV*,¹³⁰ the notifying parties proposed to combine the number two and number three operators in the Danish mobile retail market, which would have reduced the number of Mobile Network Operators (MNOs) in Denmark from four to three. This transaction would have created the largest market player in terms of both revenues and subscriber numbers, followed by a similar-sized market player in TDC and smaller player Hi3G. The Commission took the view that the merger would result in a highly concentrated market structure with two large and symmetric operators at the retail and wholesale levels, and expressed concerns that this could lead to coordination between the remaining operators. More specifically, the Commission identified the risk that the merger could strengthen the mobile operators’ ability and incentives to coordinate their behaviour, at least with respect to certain types of retail customers, by creating a duopolistic market structure where the merged entity and the former national monopolist would together have had around 80% of the market, followed by a significantly smaller player.¹³¹ The parties ultimately abandoned their transaction in light of the concerns expressed by the Commission.

viii. In *Hutchison 3G Italy / Wind /JV*,¹³² the Commission considered that the transaction would have resulted in the three remaining MNOs having very symmetric market shares on the retail mobile market. Post-merger, therefore, the MNOs could take advantage of this new market structure as a “focal point” to slow down promotional efforts to win back lost customers, increase prices for new customers, reduce dealers’ commissions for new customers, etc. In this situation, coordination would have been possible in particular because of the existence of sufficient transparency in the retail market as regards tariffs and the presence of credible deterrent mechanisms (such as

¹³⁰ COMP/M.7419 - *TeliaSonera /Telenor / JV* (abandoned).

¹³¹ See Competition Merger Brief, 3/2016 (Special Edition Telecoms), p 3.

¹³² COMP/M.7758 - *Hutchison 3G Italy / Wind /JV* (Phase II clearance with conditions and obligations).

the threat of price wars, as had occurred in the past between Italian MNOs). According to the Commission, this investigation showed that, given the particular characteristics and features of the market and market players, mobile telecommunications markets may be prone to coordination,¹³³ at least at the retail level.¹³⁴ The Commission's concerns were addressed by comprehensive remedies proposed by the parties, which included the introduction of a new MNO on to the Italian market through the use of divested network of one of the merging parties.

In *Telefonica UK / Vodafone UK / Everything Everywhere / JV*,¹³⁵ the Commission cleared the creation of a mobile commerce joint venture by UK mobile operators Telefónica, Vodafone and Everything Everywhere. In this case, the Commission assessed whether the parties could, through the JV, coordinate their behaviour on the retail mobile market. The Commission concluded that, in the circumstances, “*the creation of the JV Co will not lead to significant changes in the conditions of competition in the retail mobile telephony market in the United Kingdom.*”¹³⁶

3.1.3.2 Non-telecommunications sector cases exploring elements of coordinated effects

A number of cases decided under the *EU Merger Regulation* since the adoption of the *SMP Guidelines* have addressed aspects of a coordinated effects analysis which provide useful guidance to a number of the analytical issues being considered in the clarification of the collective SMP standard under the *EU Regulatory Framework*.

- i. In 2007, the European Commission examined the *ABF/GBI Business merger*,¹³⁷ involving two of the largest yeast producers in Europe. After a Phase II investigation, the merger was cleared subject to divestitures in the respective Spanish and Portuguese markets, which were the two most exposed geographic markets in terms of coordinated effects. The Commission found that, in these two geographic markets, collusive price leadership was possible. Prices were easy to monitor as the demand was relatively stable and bakeries were often queried about prices charged by different suppliers and customers could serve as an effective communications channel. Distributors were also deemed to play a central role in discovering to whom the quantities had been delivered, which would have allowed the deviating firm to be identified and retaliation to be triggered. On the contrary, the French market was considered immune to this possibility as there was a significantly higher number of industrial bakers capable of exercising effective countervailing power and the presence of more

¹³³ See Competition Merger Brief, 3/2016 (Special Edition Telecoms) p 3.

¹³⁴ A coordinated effects analysis was also performed in relation to the affected wholesale market, but the evidence did not support such a finding.

¹³⁵ COMP/M.6314 – *Telefonica UK / Vodafone UK / Everything Everywhere / JV* (Phase II clearance) Section 9.5.

¹³⁶ *Supra*, at Recital 583.

¹³⁷ COMP/M.4980 - ABF/GBI BUSINESS.

parallel distribution groups, in addition to independent distributors and private networks, which rendered the market more complex (*i.e.*, less transparent).

- ii. *Anglo-American/LaFarge*¹³⁸ involved a joint venture in aggregates markets that the Commission referred to the UK's Competition Commission, which found that the JV would have restricted competition in the UK markets for cement, high purity limestone and ready-mixed concrete.¹³⁹ The Competition Commission expressed concerns about the coordinated effects arising from the concentration, which it summed up as follows: (i) the post-JV market players would have been capable of achieving and monitoring coordination, as the products involved were homogenous, the interactions among producers fairly basic and the price signalling easy to put into effect through offer letters sent to clients; (ii) there was a credible and effective mechanism to punish deviations, especially in relation to the excess capacity present in the market and the ease for customers to change supplier; and (iii) there was no external threat to the oligopolists, as imports did not provide a sufficient competitive constraint and no existing rivals would have had any incentive to behave as a 'maverick'. Eventually, the joint venture was cleared subject to commitments and major divestitures. Following this Decision, a market investigation was opened in the UK into the aggregates market.¹⁴⁰
- iii. In the case of *Holcim/Cemex*,¹⁴¹ which concerned the acquisition of Cemex West by its Swiss rival Holcim, the Commission concluded that the acquisition would not raise competition concerns since the merged entity would continue to face sufficient competition from its rivals in all the relevant markets concerned. The Commission was *inter alia* concerned that the transaction could enable 'grey' cement producers to coordinate their market behaviour, or facilitate such coordination, by potentially removing incentives for competitors to expand in regions where Holcim is strong, such as in Belgium and northern Germany.

Following an analysis on the basis of the Airtours criteria, the Commission underlined the point that "*there are certain market characteristics that make it*

¹³⁸ COMP/M.6153 – Anglo American/ Lafarge/ JV

¹³⁹ UK Competition Commission, "A report on the anticipated construction materials joint venture between Anglo American PLC and Lafarge S.A." published on 1 May 2012, available at: https://assets.digital.cabinet-office.gov.uk/media/53304a34e5274a22680003b1/Final_report__PDF__1.0_Mb_.pdf.

¹⁴⁰ UK Competition Commission, "Aggregates, cement and ready-mix concrete market investigation (Final Report)" published on 14 January 2014, available at: https://assets.digital.cabinetoffice.gov.uk/media/5329df9ae5274a226800035f/140114_aggregates_final_report.pdf. It was found that the cement markets were characterized by a high level of concentration; a significant degree of transparency in sales, production shares and wins and losses, with frequent interactions between the main cement producers and cross-sales. Additional factors included high barriers to entry and vertical integration into downstream operators. The latter was considered particularly important, since it acted as a barrier to entry and expansion by fringe players, while increasing transparency in the market by providing the opportunity and logistical justification for cross-sales of cement.

¹⁴¹ COMP/M.7009 – *Holcim/Cemex*, Paragraphs 126 et seq.

relatively simple to reach a common understanding on the terms of coordination. A stable economic environment, a small number of competitors, a homogeneous product, inelasticity of demand and a relative symmetry of competitors are factors that can make it easier for competitors to reach terms of coordination." While the Commission found that there were several factors pointing to the existence of coordination in accordance with the Airtours criteria, those factors were not considered to have fulfilled the requisite degree of merger specificity to justify the conclusion of coordination.

- iv. In *SONY/BMG*,¹⁴² the Commission confirmed the approval of the recorded music joint venture between Sony and Bertelsmann after a re-assessment made subsequent to the Court Rulings in *Impala*. The Commission concluded that, although individual pieces of evidence were available that pointed to past or possible future collusion, such evidence simply was not sufficiently conclusive or sufficient to prove that the merger would have resulted in strengthening of a collective dominant position. With respect to the relevant product market at issue – recorded music albums – the Commission accepted the parties' submission that the product was not homogeneous and this reduced transparency on the market, thus rendering tacit collusion unlikely.

3.1.3.3 The importance of differentiating between the SIEC Test and Collective Dominance

It is important that the standard used for collective dominance not be assumed to apply to all merger cases where the SIEC test is applied to address competition concerns stemming from industries that are characterised by oligopolistic structures.

The original compatibility test under the *EU Merger Regulation* adopted in 1990 prohibited mergers that "create or strengthen a dominant position as a result of which effective competition would be significantly impeded". Under that test, the establishment of dominance was a necessary requirement in determining compatibility but was not sufficient of itself to determine incompatibility.¹⁴³ The revised *EU Merger Regulation* adopted in 2004 reformulated this substantive test as follows: "*A concentration which would significantly impede effective competition, **in particular** by the creation or strengthening of a dominant position, in the common market or in a substantial part of it shall be declared incompatible with the common market.*"

The dominance test was thus replaced with the SIEC test, with the latter test being focused on the anti-competitive effects resulting from mergers instead of having the arguably legally inflexible key criterion of dominance. Although there is a clear conceptual parallelism between the two legal standards, the SIEC test departs from the idea of dominance (single or collective) insofar as it places the emphasis on rivalry

¹⁴² COMP/M. 3333 – *SONY/MBG*.

¹⁴³ Case T-2/93 *Air France v Commission* [1994] EU:T:1994:55 Paragraph 79 ('Kali und Salz'), affirmed by Case T- 290/94 *Kaysersberg v. Commission* [1997] EU:T:1997:186. Paragraph 184.

between firms, on empirical evidence and on economic analysis. This new legal standard provided the opportunity to the Commission to address the growing number of “gap” cases that were emerging in oligopolistic settings, as it shifted the analysis towards a more effects-based approach which could address mergers which could harm competition but whose anti-competitive effects could be addressed by recourse to the existing concepts of single firm and/or collective dominance. This would be the case where, post-merger, the market features are not such that coordination can take place and the merged firm’s market share is below the level required for establishing single dominance, but the merger nonetheless leads to unilateral effects (*i.e.*, to a price increase).

After the EU merger control transitioned from the dominance test to the SIEC test, the first case subsequently investigated by the Commission illustrated the greater flexibility of the new legal standard. The merger involved the merger between *T-Mobil* and *Tele.ring*, two Austrian mobile network operators in Austria (*Mobilkom*). The merger led neither to the creation or strengthening of an individual dominant position nor to a situation of collective dominance, but nevertheless “significantly reduced competition”, resulting in likely higher prices that would occur through the elimination of a competitive constraint on the oligopolist mobile network operators.

Thus, under the new merger compatibility standard, the Commission concluded that “*especially with the elimination of the maverick in the market and the simultaneous creation of a market structure with two leading, symmetrical network operators, it is likely that the planned transaction will produce non-coordinated effects and significantly impede effective competition in a substantial part of the common market*”. The Commission focussed its attention on the likely effects that the merger would have on prices at Austrian consumer level and concluded that, even if prices would not rise in the short term, the elimination of *Tele.ring* as a pricing constraint would make it unlikely for prices to continue falling significantly as had previously been the case. These concerns were addressed by the commitments offered by *T-Mobil* and the merger was therefore ultimately approved.¹⁴⁴

Although there are clear conceptual similarities between the notion of collective dominance under Article 102 TFEU and the practice of the Commission under the *EU Merger Regulation*, it is also just as clear that the current legal standard required in merger control under the SIEC test ultimately requires the satisfaction of a significantly different standard of proof than the legal criteria that need to be established for collective dominance.¹⁴⁵ Thus, while it will always be the case that that coordinated effects exist where a position of collective dominance can be established, the SIEC test may be applied to address situations where competition concerns may arise in tight

¹⁴⁴ COMP/M.3916 *T-Mobile Austria v Telekom* (Phase II clearance with conditions and obligation) Paragraphs 127-129.

¹⁴⁵ OECD Policy Roundtables, Standard for Merger Review 2009 available at: <http://www.oecd.org/competition/abuse/46503256.pdf>

oligopolies, but the facts may not be consistent with a conclusion that the merger has given rise to a situation of collective dominance (*i.e.*, such situations usually give rise to “unilateral effects” which pose competition problems because of the particular competitive dynamics identified in tight oligopolistic market structures). Given that the *SMP Guidelines* purport to interpret the standard of collective SMP, conflating the SIEC test into the concept of “collective SMP” would be an inappropriate extension of the concept of collective dominance.

Recommendations:

- There has been of wealth of precedent developed by the Commission under the *EU Merger Regulation* which can help to inform NRAs about the range of issues that should be considered by them in determining whether an oligopolistic industry structure justifies a “collective SMP” designation. Those precedents affect the interpretation of all three criteria specified under the *Airtours* test (especially in relation to issues relating to transparency, the ability to identify a focal point and the breadth of retaliatory actions available), illustrate the relative strengths or weakness of factual assessments in particular cases, and explore the sorts of market failures that could result from tacit collusion or coordination. It is appropriate that the *SMP Guidelines* be revised to reflect these in the case developments law, which have largely superseded the public policy underlying many of the cases listed in the footnotes to the *SMP Guidelines*.¹⁴⁶
 - Any revision of the *SMP Guidelines* should accord due weight to the statements of principal already found in the *Horizontal Merger Guidelines* on collective dominance issues and, more generally, observations about the incentives of oligopolists.
 - In making reference to the administrative practice of the European Commission under the *EU Merger Regulation*, care must be taken not to blur the dividing line between the application of a collective dominance or collective SMP test, on the one hand, and the application of a standard of Unilateral Market Power as part of the broader SIEC standard used under the *EU Merger Regulation*, on the other. The two legal standards are clearly different and satisfy a different public policy role. It is important that they not be conflated into one legal standard, unless that is the express wish of the EU legislator to do so.
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¹⁴⁶ OECD Policy Roundtables, Standard for Merger Review 2009 available at: <http://www.oecd.org/competition/abuse/46503256.pdf>

3.1.4 Tacit coordination and parallelism under Article 101 TFEU

3.1.4.1 Introduction

It is important that, in developing a coherent theory of tacit coordination, due care is taken to ensure that, when examining the market activities of the members of the oligopoly, it is clear that their conduct is not simply the conduct of a firm acting in its own commercial self-interest independently but which nevertheless results in market failure (an example of so-called “conscious parallelism”). At the other extreme, it is important to understand how conduct which might be consistent with conscious parallelism might also be a reflection of a concerted practice, as understood under Article 101 TFEU.

As discussed in Chapter 2 of this Study, a classic antitrust paradigm is that the structure of concentrated markets is capable of leading to conduct which might be oriented towards collusion, which in turn is likely to lead to sub-optimal market outcomes. However, it is just as clear that not all oligopolies are prone to such market failures, while it is also clear that many markets have characteristics which lend themselves to market actors coordinating their commercial behaviour explicitly, on the one hand, while simply pursuing logical self-interest, on the other (*i.e.*, a price follower engaging in parallel behaviour).

3.1.4.2 The Legal Treatment of Oligopolies

A mere finding that a market is concentrated does not necessarily mean that its structure is conducive to collective dominance in the form of tacit collusion. However, the boundaries between collusive and non-collusive oligopolies are often difficult to draw, but recourse can be made to the Commission’s administrative practice, the case-law of the European Courts and the administrative of the Commission on the direct and indirect evidence that can be used to establish a concerted practice where market actors are acting in a parallel manner in an oligopolistic market structure.

There are three key components to establish a concerted practice, namely: (i) proof of concertation (whether direct or indirect); (ii) subsequent conduct on the market which reflects the goals of that concertation; and (iii) a relationship of cause and effect between the two concepts.

(i) The legal concept of collusion

The purpose of Article 101 is to address collusion amongst firms which is designed to restrict competition. The legal concept of collusion is broad and encompasses “*agreements, decisions by associations and concerted practices*”, which may only differ in their form and manifestation of the collusion. There is little difference between tacit

and explicit collusion in terms of its effects. As *Posner* has explained, their main difference is a matter of proof.¹⁴⁷

The Court of Justice has, since 1960s, gradually declined the possibility where Article 101 TFEU being interpreted in such a way to embrace tacit collusion. The first relevant case is *Dyestuffs*.¹⁴⁸ The Court defined a concerted practice as “*a form of coordination between undertakings which, without having reached the stage where an agreement properly so-called has been concluded, knowingly substitutes practical cooperation between them for the risks of competition.*”¹⁴⁹ . While the Court did not explicitly exclude tacit collusion from the scope of Article 101, the Commission in its *Zinc Producer Group Decision*¹⁵⁰ concluded that: “*Parallel pricing behaviour in an oligopoly producing homogeneous goods will not be in itself sufficient evidence of a concerted practice.*”¹⁵¹ Instructively, the Court in the *Sugar Case*¹⁵² has held that Article 101 TFEU “*does not deprive economic operators of the right to adapt themselves intelligently to the existing and anticipated conduct of their competitors*” and has noted that “*the fact that a vendor aligns his price on the highest price charged by a competitor is not necessarily evidence of a concerted practice but may be explained by an attempt to obtain the maximum profit.*”¹⁵³

In other words, a concerted practice is established if competitors knowingly substitute the uncertainties of competition with practical cooperation. The consensus need not be in writing nor verbal, and can arise from a range of direct or in direct contacts amongst the competitors in question.

(ii) Causal connection between concertation and market behaviour

Established case-law has analysed the causal link between the phenomenon of concertation and the type of conduct ultimately adopted on the market. In the respective *Hüls*¹⁵⁴ and *T-Mobile*¹⁵⁵ cases, the causal connection between the act of concertation and subsequent collusive market conduct was presumed to have occurred. Moreover, *T-Mobile* also confirms that the presumption can apply even when the competitors have had as few contacts as one single meeting. While the Commission is obliged to establish that a concerted practice has occurred, the evidentiary burden shifts to the defendants to convince the Commission that the causal nexus has been broken, once the *Hüls* presumption has been established (*i.e.*, they need to demonstrate that there is no causal connection between the concertation and the subsequent market conduct adopted).

¹⁴⁷ R. Posner, “Oligopoly and the Antitrust Laws: A Suggested approach”, (1969) 21 *Stanford Law Review*, 1562, p 1578.

¹⁴⁸ Case 48/69 *Imperial Chemical Industries Ltd v Commission*, of 14 July 1972, ECLI:EU:C:1972:70.

¹⁴⁹ *Supra*, Paragraph 61.

¹⁵⁰ Case IV/30.350 – *Zinc Producer Group*, of 17 August 1984, OJ L 220 p. 27.

¹⁵¹ *Supra*, Paragraph 75.

¹⁵² Joined Cases 40/73 etc. *Suiker Unie v Commission* [1975], ECLI:EU:C:1975:174.

¹⁵³ *Supra*, Paragraphs 174, 285.

¹⁵⁴ C-199/92 P *Hüls v Commission* [1999] ECLI:EU:C:1999:358.

¹⁵⁵ Case C-8/08 *T-Mobile Netherlands* [2009] ECLI:EU:C:2009:343.

Importantly, the Commission is not obliged to prove that *actual* anti-competitive effects have arisen from the concertation if it is determined that the concertation had, as its object, the restriction of competition. These “by object” examples of collusion are deemed to be by their very nature injurious to the proper functioning of competition, which means that no further effects analysis of the conduct is required.

The *Eturas*¹⁵⁶ Case has recently applied the *Hüls* presumption in a modern context. The legal issue was whether it is presumed that competitors engaged in a concerted practice after receiving an automated notice on a future price restriction, *i.e.*, before it was implemented. The Court of Justice firstly held that a concerted practice could not be *conclusively* inferred from the automated notice alone. It did, however, affirm that the *Hüls* presumption did apply and that the competitors should therefore have been presumed to be aware of the price increase, unless they could adduce evidence that they in fact had not applied the price restriction after the notification, or that they had publicly distanced themselves from the collusive behaviour.

(iii) Relevant information exchange and concerted practices

Information exchanges between competitors are typically assessed as concerted practices under Article 101 TFEU. From *T-Mobile*,¹⁵⁷ it follows that a concertation exists where strategic data is shared between competitors, because this reduces the independence of a competitor’s conduct on the market and diminishes its incentives to compete.¹⁵⁸

Horizontal information exchanges can take place directly or through third parties, such as a trade association or a market consultancy company, or they may be published, for example on a website.¹⁵⁹

The Commission’s *Horizontal Co-operation Guidelines* provide an analytical framework for the most common types of information exchange but there is no *numerus clausus* list. The Commission assesses the impact of such exchange on a case-by-case basis according to the analytical framework set out in its *Guidelines*, taking into account: (i) the type of information exchanged; (ii) the age of the information being exchanged; and (iii) the particular characteristics of the market in question. Many types of information exchanges on *future* quantities and *price*, especially when *individualised*, will almost always be prohibited under Article 101 TFEU and are, as part of an horizontal *agreement*, typically analysed and fined as cartel behaviour.¹⁶⁰

¹⁵⁶ Case C-74/14 *Eturas* [2016] ECLI:EU:C:2016:42.

¹⁵⁷ Case C-8/08 *T-Mobile Netherlands* [2009] ECLI:EU:C:2009:343

¹⁵⁸ European Commission, “Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements OJ [2011] C11/1, paragraphs 65-68 (“*Horizontal Co-operation Guidelines*”).

¹⁵⁹ *Supra*, Paragraph 55. See also: Case AT.38589 – Heat Stabilisers; Case T-99/04 *AC Treuhand v Commission* [2008] ECLI:EU:T:2008:256.

¹⁶⁰ *Horizontal Co-operation Guidelines*, Paragraph 73.

The Commission treats information exchanges between competitors as cartels under two principal scenarios:¹⁶¹

Where the information exchange has the object of fixing prices or quantities. For example, where the information relates to: quotation prices;¹⁶² price forecasts and prices charged to specific customers;¹⁶³ information on sales volumes and orders received and at what price;¹⁶⁴ pricing policies, production capacities and sales to individual customers.¹⁶⁵

Where an information exchange forms part of the monitoring or the implementation mechanism for an existing cartel. Under this scenario, the Commission assesses the information exchange as being an integral part of the cartel irrespective of whether the information relates to current/past or future prices or quantities. For instance, exchanges of information intended to facilitate consistent monitoring of current deliveries in order to ensure that a price-fixing and quota allocation cartel were effective was found to themselves, in and of itself, evidence of a concerted practice.¹⁶⁶ In a different context, information on sales and export data formed part of a monitoring system allowing cartel participants to verify that the price increases decided by them in earlier meetings were in fact being implemented.¹⁶⁷

(iv) The legal distinction between concerted practices and tacit coordination

Article 101 TFEU has, over the years, shown itself to be an ineffective tool with which to address competition concerns derived from conscious parallelism, or tacit coordination, which might arise from oligopolistic market structures.

Parallel conduct from direct competitors on the market is one of the main vices of a concerted practice. When competitors concert to align their prices, they generally do so to increase them to supra-competitive levels to the detriment of customers, and ultimately of consumers. However, parallel pricing need not necessarily result from prior collusion, but can also occur due to the structure of the market. In oligopolistic market structures, competitors may align their prices by way of intelligent adaptations following the actions of their rivals. Hence, if a price leader increases its prices, it might be irrational for its rivals (*i.e.*, price factors) not to follow suit in order to realise the best possible margins.

Oligopolists might thus be indirectly raising their prices and achieving supra-competitive profits, which is to their mutual benefit without having entered into any institutional

¹⁶¹ *Supra*, Paragraph 59 and Case COMP/39188 – *Bananas*.

¹⁶² *Bananas, supra*.

¹⁶³ Case AT.39574 – *Smart Card Chips*.

¹⁶⁴ Case COMP/39406 - *Marine Hoses*.

¹⁶⁵ Case AT.38589 – *Heat Stabilisers*.

¹⁶⁶ Case T-148/89 *Tréfilunion SA v Commission* [1995] ECLI:EU:T:1995:68.

¹⁶⁷ Joined Cases T-379/10 and T-381/10 *Keramag Keramische Werke AG and Others v Commission* [2013] ECLI:EU:T:2013:457 (Appeal of Case COMP/39092 - *Bathroom fittings and fixtures*).

arrangement to achieve these purposes (e.g., a contract, a combination, an agreement, a joint venture, a trade association, etc.). In that case, in terms of effects, the market outcome might be consistent with those where collusion has actually occurred, despite no collusion having occurred, or in certain cases where tacit collusion is shown to exist.¹⁶⁸

A recent survey revealed that, whilst most domestic authorities and courts now equate only the notion of collective dominance with that of tacit collusion, some jurisdictions still assimilate concentrated market structures – including possibly non-tacitly collusive ones – with concerted practices.¹⁶⁹

The distinction between concerted practices and tacit coordination (tacit collusion) has been addressed by the Court of Justice in the *Dyestuffs* Case. In particular, the Court held that:

Mere parallel behaviour amongst competitors does not suffice to evidence a concerted practice. Parallelism, however, can provide *strong evidence* for a concerted practice.

Competitors are *in principle entitled to adapt themselves* intelligently to the existing and anticipated conduct of competitors, without infringing Article 101 TFEU (Emphasis added).

Although a concerted practice was ultimately found to have occurred in the *Dyestuffs* case due to the evidence of prior concertation, the legal principles listed above demonstrate that non-collusive parallelism does not amount to a concerted practice which falls within the prohibition under Article 101(1) TFEU.

In *Wood Pulp II*,¹⁷⁰ the Court of Justice took an economics-based approach and eventually applied the “oligopoly defence” in determining whether the parallelism noted on a market was likely to be the result of prior collusion. In particular, the announcement of prices in advance was an important issue, which resulted in subsequent price increases by wood pulp producers. However, expert evidence pointed out that the Commission had erroneously failed to characterise the market as being oligopolistic, which would have meant that parallel conduct was much more likely and did not necessarily equate to an anti-competitive concerted practice. Importantly, the price announcements were explained by the fact that buyers needed to have price certainty, and the market was highly transparent with an active trade press. Furthermore, market

¹⁶⁸ See N. Petit “The ‘oligopoly problem’ in EU competition law”, (February 5, 2012) in Research Handbook in European Competition Law, I. Liannos and D. Geradin eds., Edward Elgar, September 2013.

¹⁶⁹ See N. Petit “The “oligopoly problem” in EU competition law”, fn 397. N. Petit and N. Neyrinck, “Collective dominance: An overview of national case law”, op.cit.

¹⁷⁰ Cases C-89/85 etc *A Ahlstrom Oy v Commission* [1994] ECLI:EU:C:1993:120. The Commission initially advanced evidence of collusion, but these were held procedurally inadmissible. Hence, the only remaining evidence available to it was the parallel behaviour of wood pulp producers in making advanced quarterly announcements on the basis of identical price increases.

shares had fluctuated from time to time in the past, which would have been an unusual phenomenon if a concerted practice had already been implemented.

There were also other plausible explanations for why the parallelism occurred, but what is most relevant is the fact that the Court of Justice carried out a counterfactual analysis. The Court concluded that parallelism is not in itself sufficient to prove a concerted practice, unless it is the *only plausible explanation* for the parallel conduct.

There have been some more recent examples of the application of counterfactual analysis, as laid down in *Wood Pulp II*. For example, in *Compagnie Royale Asturienne des Mines SA and others v Commission*,¹⁷¹ the collective refusal by the alleged undertakings to supply a customer did not, as the Commission argued, result from a concerted practice to compartmentalise the German market, but could be explained by the fact that the customer had repeatedly failed to pay its bills.

In *CISAC*,¹⁷² the General Court again emphasised the point that where the Commission seeks to prove a concerted practice merely based on parallel behaviour, the Commission will only discharge its burden of proof to the requisite legal standard if it can demonstrate that the parallelism cannot be explained by any other plausible alternative than prior concertation.

The standard of proof established in *CISAC* needs to be qualified by the requirements of the *British Sugar Case*, where the General Court upheld the Commission's position that price leadership in the context of a consistent pattern of pricing parallelism can constitute valid evidence proving a concerted practice because residual competition in a market already lacking effective competition should not be restricted any further.¹⁷³

In sum, the EU case-law provides guidance on those situations when parallel conduct in oligopolistic markets might amount to a concerted practice caught under Article 101 TFEU. *First*, mere parallelism does not prove a concerted practice. *Second*, firms are entitled to adapt their prices intelligently with reference to existing or anticipated market behaviour of competitors. While this may result in pricing parallelism in practice and can ultimately harm consumers, it does not infringe Article 101(1) TFEU unless evidence of concertation can be shown. *Third*, concerted parallel behaviour might infringe Article 101(1) TFEU if concertation is the *only* plausible rationale to explain that behaviour. Beyond these general principles, however, the case-law demonstrates that non-collusive parallelism attributable to an oligopolistic market structure does not fall comfortably within the scope of the Article 101(1) TFEU prohibition. Hence, the Commission is required to rely on different analytical approaches other than Article 101 TFEU in order to counteract the harmful effects arising from tacit coordination in an oligopolistic market.

¹⁷¹ Case C-29/83 *CRAM v Commission* [1984] ECLI:EU:C:1984:130.

¹⁷² Case T-442/08 *CISAC v Commission* [2013] ECLI:EU:T:2013:188.

¹⁷³ Case T-141/94 *Thyssen Stahl v Commission* [1999] ECLI:EU:T:1999:48.

(v) Market investigation powers for oligopolistic market failure

Mindful of the enforcement gap created by the impact of non-collusive oligopolies, the UK's Competition and Markets Authority (CMA) has been granted additional powers to address structural problems arising from oligopolies. Under the market investigation power outlined in the *Enterprise Act 2002*, the CMA can identify market failures arising in oligopolies and, for instance, impose remedies to prevent practices which are capable of facilitating tacit coordination. For example, it may adopt remedies to reduce the transparency of the market and thus render coordinated effects less likely¹⁷⁴ such as an order on oligopolist firms to stop sending general price announcements to customers.¹⁷⁵ In extreme cases, the CMA may even order the divestiture of assets by an oligopolist to a new competitor to remedy tacit co-ordination.

Accordingly, the problems created by price parallelism and the possibility that oligopolists might be charging supra-competitive prices without engaging in concertation could be tackled through a market investigation procedure in the UK which aims to analyse why the markets are not functioning well and to determine what measures can be taken to improve the situation.¹⁷⁶

The comparable EC regime on sector inquiries,¹⁷⁷ while allowing the Commission to investigate and draw conclusions of markets exhibiting market failures, does not envisage the possibility of action being taken against market players, other than merely proposing that competition law investigations might be considered under the usual legal avenues available under Article 101 and 102 TFEU (*i.e.*, respectively concerted practices or collective dominance), rather than the hybrid version of a “complex oligopoly” form of regulation that is possible under the UK's market investigation mechanism.

A summary of the various available legal instruments used to address various aspects of market failure, and their respective shortcomings or differences in analytical approach and procedural steps is found in the table below.

¹⁷⁴ See for example: *Aggregates*, cement and ready-mix concrete: <https://www.gov.uk/cma-cases/aggregates-cement-and-ready-mix-concrete-market-investigation>.

¹⁷⁵ *Ibid.*

¹⁷⁶ See Whish & Bailey, *op. cit.*, at pp 483-500.

¹⁷⁷ Art 17 of Regulation 1/2003 on the implementation of the rules on competition laid down in [Articles 101 and 102 TFEU] OJ [2003] L 1/1.

Table 4: Various legal approaches to complex oligopolies

Legal Topic	Analytical Approach	Analysis of evidence	Set of Remedies	Presumption
Concerted Practice under Article 101 TFEU	<i>Ex Post</i>	Direct or indirect behavioural (past) evidence; efficiencies to be advanced by the defending parties to offset the reduction on competition	Prohibition / Cease & Desist Order / Fines	Restriction of competition is presumed in "object" infringements
Distinction between Tacit Coordination and Conscious Parallelism under Article 101	<i>Ex Post</i>	Behavioural (past conduct); parallel conduct may furnish strong evidence of collusion, but is insufficient in itself to prove collusion, unless collusion is the only plausible explanation for the parallel conduct.	No remedy available under Article 101 TFEU	The outcomes of parallel behaviour are equally consistent with collusion as with non-collusive interactions on the market
Market investigation on oligopolistic market failure (UK)	<i>Ex Ante/ Ex Post</i> (Hybrid)	Evidence of structural or behavioural "features" of the market	Structural and behavioural remedies	Potential anti-competitive outcomes
Collective Dominance under Article 102 TFEU	<i>Ex Post</i>	Structural links supported by direct or indirect evidence (now considered with <i>Airtours</i> criteria)	Prohibition / Cease & Desist Order / Fines	Potential anti-competitive outcomes
Single Network Dominance (per Relevant Market Recommendation)	<i>Ex Ante</i>	Classic SSNIP test, with an emphasis on supply-side substitution and technical switching costs	Behavioural remedies	Market outcomes in the listed markets are presumed to reflect a market failure
SIEC Test in "Gap" cases (EUMR)	<i>Ex Ante</i>	Rebuttable Presumptions based on Industry Structure	Prohibition or combination of structural and behavioural remedies	Potential anti-competitive outcomes
Joint SMP (Current EU Regulatory Framework for electronic communications)	<i>Ex Ante</i>	Structural inferences about likelihood of tacit collusion derived from market structure, (<i>i.e.</i> , conduciveness to tacit coordination) supported by direct or indirect evidence consistent with that likelihood	Behavioural Remedies – (functional separation only a last resort remedy)	Retail market outcomes presumed to originate from market failure at wholesale level

Recommendations:

- It should be made clear in the *SMP Guidelines* that the identification of SMP does not extend to non-collusive oligopolies or parallel behaviour which can otherwise be demonstrated to be rational without recourse to tacit coordination, and that the prohibition of anti-competitive coordination enshrined in Article 101 TFEU through the caselaw on concerted practices does not cover such situations, irrespective of whether they might produce less than desirable economic . Similarly, it should be made clear that the SIEC test, applied in the context of merger review, goes well beyond the legal standard for the identification of tacit collusion which would support a finding of collective dominance.
 - When determining whether or not parallel behaviour might reflect the fact that the parties in question are engaging in a concerted practice, the case-law is clear that such behaviour should be subject to a counterfactual analysis. This will be necessary in order to allow a competition regulator to determine that such behaviour can only be explained in the context of a concerted practice having taken place. That constitutes a much higher standard of proof than those situations which are characterised by the existence of tacit collusion which lead to the creation of a collective dominant position (whether under Article 102 TFEU, a merger review or under *ex ante* regulation).
-

3.2 National Competition Authority practice

Since the adoption of the *SMP Guidelines*, the practice of the European Commission has been supplemented by a number of examples of NCAs from various Member States that had cause to consider the application of collective dominance in a concentrated oligopoly situation. A number of these cases have involved the telecommunications sector.

For example, in the case of *Telefonica/Vodafone/Orange*,¹⁷⁸ Spain's CNC (Comisión Nacional de la Competencia) found three mobile operators guilty of having abused their collective dominant position in the wholesale market for Mobile Access & Call Origination (“MACO”) services, having also concluded that each of those operators held an individually dominant position over SMS and MMS termination services provided over their respective networks. The conclusion that the parties held a collectively dominant position in relation to MACO was turned on the understanding that each operator priced its wholesale MACO services based on the termination charges for

¹⁷⁸ Decision of 9 December 2012, Case *Mensajes cortos*, S/0248/10, available at: https://www.cnmc.es/sites/default/files/259674_1.pdf.

SMS and MMS, which had not been the subject of *ex ante* regulation during the reference period of the investigation. By adopting a uniform policy in one wholesale market which reflected a parallel approach in other wholesale markets which were unregulated but which followed the line adopted for voice call termination (whose terms were the subject of *ex ante* regulation), the mobile operators in question were in a position, according to the CNC, to maintain high retail prices for SMS while also erecting barriers to entry and expansion for Virtual Mobile Network Operators (“MVNOs”). This conclusion was reinforced by the observation by the CNC that prices for termination services had been high and stable over the relevant reference period, despite a considerable increase in traffic and reductions in costs. At the same time, wholesale termination prices for SMS in Spain were among the highest in Europe. The Spanish competition authority fined Telefonica EUR 46 million, Vodafone EUR 43 million and Orange EUR 29 million respectively. However, despite specific recommendations by its Investigation Division, the CNC nevertheless decided to not impose regulatory measures on the operators given that the abusive conduct was proved to have occurred only until 2009 and with the Spanish Telecommunications Market Commission being in a better position to address such regulatory issues (at the time, the CNC only exercised a competition law function). Eventually, on 5 September 2017, the Audiencia Nacional overturned the Decision of the CNC on the basis that the mobile operators in question were not individually dominant on the markets for SMS termination. While this also meant that the finding of collective dominance in relation to MACO ultimately failed (because the collective dominance was supported by the individually held dominance in SMS termination markets), the Court did not specifically consider whether the legal analysis on collective dominance was substantively flawed.

In 2006, the Polish Regulatory Authority also found that the three major mobile network operators in Poland were collectively dominant in the market for MACO, concluding that they had abused their positions by having refused to grant access to their network facilities to MVNOs.¹⁷⁹ The Polish Competition Authority took the view that the direct relationship between the wholesale and retail level meant that the downstream level reflected the wholesale market structure. In other words, the wholesale collective dominance held by the three operators for MACO implied that harmful effects would potentially occur at the retail level. The Polish NCA established wholesale collective dominance by reference to a set of non-exhaustive factors in order to determine whether the three operators were able to act independently from their competitors, customers and end-users.¹⁸⁰ Since the three operators were the only actors on the MACO market, their collective market share far exceeded general thresholds for dominance. In addition, the near-equal figures of revenues and subscriber numbers which they had also demonstrated a symmetric market structure amongst the three operators. It was also determined that there was a significant degree of transparency on

¹⁷⁹ Decision of 15 February 2006 in Case *Polska Telefonica Cyfrowa / Centertel / Polkomtel*, DOK2-073-30/05/MKK, available at: <https://uokik.gov.pl/download.php?plik=5470>.

¹⁸⁰ Art. 24(5) of the Polish Telecommunications Act 2004.

the market, thereby facilitating co-ordinated outcomes.¹⁸¹ In addition, the Polish NCA held that the retail price transparency (and product homogeneity) also had a bearing on the transparency of the MACO market, as did the cost structures of each of the oligopolists. It was also held that no external competition was expected to disrupt the collective dominant position in the near future, particularly because no tenders for frequencies were scheduled to take place in the near future. The important sunk costs incurred in entering the market also created a significant entry barrier. Moreover, countervailing buyer power was not found to exist among customers.

Given all these observations, the Polish NCA designated all three operators as being collectively dominant undertakings. Accordingly, the three collectively dominant mobile operators were obliged to offer non-discriminatory access terms to MVNOs, to disclose information on the details of access terms, and to apply a cost-based model for their termination rates.¹⁸²

In 2007, the Italian Competition Authority (ICA) opened an investigation on a potential abuse of a collective dominant position in the market for Wholesale Mobile Access & Call origination by the mobile operators Tim, Vodafone and Wind. The three operators were accused of a refusal to deal in relation to access requests by alternative Mobile Virtual Operators (MVNOs). Similarly, the denial to renegotiate domestic roaming access agreements was investigated as a collective refusal to deal. By a Decision of 3 August 2007, the ICA dismissed all allegations relating to collective dominance. The ICA based its Decision on three main elements.¹⁸³ First, it found that, notwithstanding the similarities in terms of extension and population coverage, the wholesale networks of the three respective mobile operators presented different cost structures.¹⁸⁴ The Wind network, for example, had a different spectrum band (1800 MHz) than the Tim or Vodafone networks (900 MHz), resulting in different costs. According to the ICA, these disparities might have had a negative impact on the incentive for the undertakings to tacitly collude, rendering this possibility less likely. Second, the retail market was characterised by a certain degree of lack of symmetry in relation to market shares. In particular, Wind had a much smaller presence, namely a third of the market share of Tim and 20% less than Vodafone. This factor was considered to be at odds with the

¹⁸¹ Commercial MVNO offers were widely available, meaning that the monitoring of access prices from the other oligopolists were not complicated. There was also a communication platform in form of a trade association between the oligopolists.

¹⁸² Office of Electronic Communications (Poland), *Annual Report 2006*, pages 18-19, available at: http://www.en.uke.gov.pl/files/?id_plik=61. Note that while the Polish NCA designated three MNOs as having collective dominance in the market for MACO, it did so acting in cooperation with the NRA, which later notified its notification of Market 15 to the Commission. This notification was then withdrawn prior to the end of Phase I investigation.

¹⁸³ Decision of 3 August 2007 in Case A357 - *TELE2/TIM-VODAFONE-WIND* available at <http://www.agcm.it/component/domino/open/41256297003874BD/0E38483EFCEDA4B9C125732F0052306F.html>

¹⁸⁴ *Ibid.* para. 361.

allegation that there existed a situation of collective dominance.¹⁸⁵ Finally, financial results were also central in the analysis, as Wind's EBIDTA (Earnings Before Interest Taxes Depreciation and Amortization) was much more limited than those of Tim and Vodafone. According to the NCA, the analysis of this data and its evolution over time demonstrated that the market was not sufficiently symmetric to support a situation of tacit coordination.¹⁸⁶ Nevertheless, the three undertakings were fined for individual abusive conduct.

The telecommunications sector cases all relate to the mobile sector and to the potential foreclosure of alternative mobile competitors (MVNOs) by an existing group of mobile network operators working in an oligopolistic environment. The use of common network technology, common technical standards, similar asset bases and the existence of a saturated market were all factors which supposedly reinforced a common alignment of interests to exclude market entry. However, as demonstrated by the Italian investigation, the existence of symmetric competitive conditions across a range of competitively relevant parameters will be of central importance in sustaining a competition law action for collective dominance.

In other sectors, the Finnish NCA had cause in 2009¹⁸⁷ to find local banks and the undertaking Automatia (hosting an ATM network) collectively dominant in the cash dispensing market, concluding that they had abused that position by raising obstacles to market entry through the charging of excessively high service fees. Although the parties offered remedies to alleviate these concerns, it was clear that their collectively dominant position was based on converging interests to exclude potential entrants for ATM services: the joint venture between Automatia and the banks had enabled the banks to offer cash withdrawal services to their retail customers *via* Automatia. In turn, this incentivised the banks to align and coordinate higher fees for withdrawals from ATMs outside the Automatia network.

In the case of *Bulco/Sea Malta Company*,¹⁸⁸ the Maltese NCA found two shipping firms to be collectively dominant and to have abused this position by blocking the entry of a new entrant on a profitable maritime route. They were said to have pursued this aim by discouraging their customers from diverting business towards the new entrant, including through threats of tariff increases in relation to other routes.

In both the Finnish and Maltese cases discussed above, the underlying logic adopted by the respective NCAs was to treat the defendants as acting with a common purpose to exclude potential rivals, largely driven by the links between them to act as common gatekeepers to their industry (comparable to the collective action witnessed in

¹⁸⁵ *Ibid.*, para. 362.

¹⁸⁶ *Ibid.*, para. 363.

¹⁸⁷ Decision of 18 June 2009, Case *Nordea Bank, OP Bank and Sampo Bank*, No 964/61/2007, available at:

¹⁸⁸ Decision of 10 October 2005, Case *W. J. Parnis England Ltd vs. Sea Malta Company Ltd u Gollcher Company Ltd as agents of Grimaldi (Genoa)*, Complaint no. 3/2003.

Compagnie Maritime Belge), rather than on the basis of a range of economic factors supporting a situation of tacit collusion. Going one step further, the Irish High Court in 2009¹⁸⁹ ruled that local authorities were acting in a collectively dominant manner on the household waste collection market by collaborating as regards waste management plans, even though this collaboration was foreseen in the Irish *Waste Management Act* of 1996. In addition to their collective dominance in the market for the provision of household waste collection services (excluding apartment complexes) in the greater Dublin area, each of the oligopolists was found to be individually dominant in its own geographic franchise. The actions of the collectively dominant local authorities were found to be abusive insofar as they were in a position to foreclose market entry, while also strengthening their existing dominance.

Finally, the importance of being able to discharge the evidentiary burden to support a finding of collective dominance is illustrated in two French Cases. In the case of *Lafarge Ciments-Vicat*,¹⁹⁰ the Paris Court of Appeal in 2010 quashed the Decision of the French Competition Council (FCC) that sanctioned the two cement producers for their abuse of a collective dominant position in the market for cement supply and distribution in Corsica. The FCC found that the undertakings were offering retroactive exclusivity rebates to their clients in order to exclude competition.¹⁹¹ According to the Court, however, the Competition Council had failed to demonstrate the capacity of the two companies to act “independently” of competitors, customers and consumers.¹⁹² According to the Court of Appeal, the Authority should not have limited its assessment only to the structural links between the companies, their common strategy and the market structure, but it should also have proved that the companies were collectively immune to competitive constraints.

Another Decision¹⁹³ of the Competition Commission found that Neopost France and Satas, two undertakings belonging to the Neopost group, had abused their collectively dominant position by imposing long-term contracts, the effect of which was to foreclose the market. The market was considered to be quite homogenous, transparent and stable, reinforced by the role played by regulatory requirements relating to the rental of postage machines.

The NCA case-law at EU Member State level suggest that the onus of proof on NCAs to prove that the underlying economic conditions are consistent with tacit coordination is something which is scrutinised very carefully by appellate courts, with Italy's ICA

¹⁸⁹ High Court Judgement of 21 December 2009, Case *Nurendale Limited trading as Panda Waste Services and Dublin City Council and Others* [2009] IEHC 588.

¹⁹⁰ Paris Court of Appeal, Judgment of 15 April 2010, Case 2009/14634, available at http://www.autoritedelaconurrence.fr/doc/ca2_cimentscorses_avril2010.pdf.

¹⁹¹ Decision of 12 March 2007, *Lafarge Vicat*, case 07-D-08, available at <http://www.autoritedelaconurrence.fr/pdf/avis/07d08.pdf>.

¹⁹² Paris Court of Appeal, Judgment of 15 April 2010, Case 2009/14634, page 9.

¹⁹³ Decision of 25 July 2005, *Pratiques mises en œuvre dans le secteur de la location entretien des machines d'affranchissement postal*, case 05-D-49, available at <http://www.autoritedelaconurrence.fr/pdf/avis/05d49.pdf>.

subjecting the application of the theory of tacit coordination to a very rigorous analysis.¹⁹⁴

4 Applying joint SMP in an ex ante context

In this section, we discuss the current standard for applying joint SMP in an *ex ante* context, and the specific challenges that this entails for NRAs.

- Section 4.1 describes the concept of joint SMP as currently set out in the EU Framework for electronic communications and elaborated in the SMP Guidelines;
- Section 4.2 discusses challenges specific to an *ex ante* analysis with particular focus on (i) pursuing a forward-looking approach; and (ii) analysing wholesale and retail markets in the presence of existing regulation;
- Section 4.3 describes the modified greenfield approach as a means of assessing single or joint SMP in the presence of regulation
- Section 4.4 discusses cases in which joint SMP was found or considered by NRAs in the context of an *ex ante* market analysis. The observations of the European Commission on these cases are summarised in the following section.
- Section 4.6 discusses the market developments subsequent to the proposed joint SMP findings and compares outcomes in cases where joint SMP was found and remedied with those in which it was suspected, but not confirmed.
- BEREC's position regarding joint SMP and the revision of the SMP Guidelines is discussed in section 4.7;
- Section 4.8 presents conclusions

4.1 The ex ante concept of joint SMP

The EU Framework for electronic communications provides¹⁹⁵ that “*an undertaking shall be deemed to have significant market power if, either individually or jointly with*

¹⁹⁴ Outside the EU, the issue of collective dominance has been considered by the Bosnian Competition Authority in the context of the national market for fast money transfer service. The Authority found that, out of 27 financial institutions and 3 postal companies providing this service in the country, 23 were operating as sub-agents of four companies that had stipulated agent contracts with an international money transfer firm. As a consequence, they were deemed to enjoy a collectively dominant position as they were all implementing a single commercial policy. See Competition Authority of Bosnia & Herzegovina (Konk urencijsk o vijeće BiH), Western Union, Decision 04- 26-2-03-100-II/12, 6 November 2012. This analysis was subsequently confirmed by the Court of Bosnia & Herzegovina in March 2014 (Court of Bosnia and Herzegovina, Raiffeisen Bank d.d. , No. S1 3 U 011803, 12 March 2014.

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”.

The concept of dominance is further defined in the case-law of the EU Courts. The structural and behavioural criteria for determining SMP are set out in the *SMP Guidelines*¹⁹⁶.

The SMP Guidelines state that when assessing ex-ante the likely existence or emergence of a market which is or could become conducive to collective dominance in the form of tacit coordination, NRAs should analyse:

(a) whether the characteristics of the market makes it conducive to tacit coordination; and

(b) whether such form of coordination is sustainable, that is,

(i) whether any of the oligopolists have the ability and incentive to deviate from the coordinated outcome, considering the ability and incentives of the non-deviators to retaliate; and

(ii) whether buyers/fringe competitors/potential entrants have the ability and incentive to challenge any anti-competitive coordinated outcome.¹⁹⁷

The assessment of behavioural criteria in the context of collective dominance goes back to the *Airtours-Case*¹⁹⁸ and are also mentioned in connection with the assessment of coordinated effects in the Horizontal Merger Guidelines.¹⁹⁹

4.2 Proposals to modify the process for assessing SMP in the draft European Electronic Communications Code

In its 2016 proposal to modify the framework for electronic communications, the European Commission proposes to formalise certain procedures relating to the assessment of SMP that were already established through soft law in successive

¹⁹⁵ Article 14, Directive 2002/21/EC as amended by Directive 2009/140/EC.

¹⁹⁶ Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03).

¹⁹⁷ Para 96 SMP Guidelines.

¹⁹⁸ Case T-342/99.

¹⁹⁹ Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C31/03), para 39 ff.

versions of the Recommendation on Relevant Markets Susceptible to *ex ante* regulation.²⁰⁰

The main elements are that:

- The starting point for the identification of wholesale markets susceptible to *ex ante* regulation is the analysis of the corresponding retail markets. If it is concluded that a retail market would be effectively competitive in the absence of *ex ante* wholesale regulation, this should lead the national regulatory authority to conclude that regulation is no longer needed at the relevant wholesale level.²⁰¹
- It is made clear in the proposals²⁰² that a wholesale market may be such as to justify the imposition of regulatory obligations if the following three criteria are met (i) high and non-transitory barriers to entry; (ii) market structure does not tend towards effective competition; and (iii) competition law alone is insufficient to adequately address the identified market failure(s). This is known as the “*three criteria test*”.

The Commission also proposes²⁰³ to delete Annex II of the Framework Directive, a provision which sets out a list of ‘criteria to be used by national regulatory authorities in making an assessment of joint dominance in accordance with Article 14(2).

4.3 Assessing joint SMP under the Modified Greenfield Approach

As discussed in chapter 1.1 and highlighted in article 65(2) of the draft Code, when applying an SMP or joint SMP assessment ‘*ex ante*’, the analysis of the market following the Airtours/Impala criteria, must be carried out on a forward-looking basis (over the lifetime of the market review). This means that likely developments in infrastructure competition including the potential expansion of existing operators or entry of new operators, and their expected conduct at wholesale level should be considered. Likewise exit or contraction of access-based competitors following the removal of regulated access would be factored into a forward-looking analysis.

A further challenge is that the analysis of potential competitive problems at the retail level and assessment of whether the market is conducive to tacit collusion must be conducted on the basis that SMP regulation in the wholesale market under consideration is not in place – ie a modified greenfield assumption.

²⁰⁰ The last version adopted in 2014 is available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=DA>.

²⁰¹ Recital 155 draft EECC http://eur-lex.europa.eu/resource.html?uri=cellar:c5ee8d55-7a56-11e6-b076-01aa75ed71a1.0001.02/DOC_3&format=PDF.

²⁰² Article 65 draft EECC http://eur-lex.europa.eu/resource.html?uri=cellar:c5ee8d55-7a56-11e6-b076-01aa75ed71a1.0001.02/DOC_3&format=PDF.

²⁰³ Article 61 draft EECC http://eur-lex.europa.eu/resource.html?uri=cellar:c5ee8d55-7a56-11e6-b076-01aa75ed71a1.0001.02/DOC_3&format=PDF.

As an illustration, the assumptions for applying a modified Greenfield approach to wholesale local access and wholesale central access are summarized in the following table.

Table 5: Assumptions of Modified Greenfield Approach regarding assessment of (joint) SMP in wholesale local access and wholesale central access

	Is there (joint) SMP in the market for wholesale local access?	Is there (joint) SMP in the market for wholesale central access?
Assumptions when analysing SMP in wholesale market under consideration	Assume no SMP regulation of wholesale local access	Assume no SMP regulation of wholesale central access Assume SMP regulation of wholesale local access in place
Assumptions when analysing market failure in related retail broadband market(s)	Assume service providers in the retail broadband market(s) cannot benefit from regulated wholesale local access offers	Assume service providers in the retail broadband market(s) can benefit from regulated wholesale local access offers, but cannot rely on regulated wholesale central access offers

A major challenge posed by the Modified Greenfield Approach is to conjecture how abandoning *ex ante* regulation in the wholesale market under scrutiny would impact on this particular wholesale market as well as on the related retail broadband market (s). The challenge is particularly complex if there are two or three leading operators which may have a position of joint SMP in the relevant wholesale market.

The reason why joint SMP poses additional challenges for the Modified Greenfield Approach compared with a single SMP analysis is that whereas structural factors – including, although not restricted to market share – play a significant role in the assessment of single dominance, in accordance with the case-law, joint dominance requires more elements to be considered, including evidence supporting the existence of a common policy between the players (e.g., through parallelism in retail pricing, profitability). However, such a common policy may not be immediately visible in the market in those circumstances where wholesale access has been mandated and has proven to be effective.

Joint SMP may also be applied *ex ante* in markets that are not currently regulated *ex ante*. In these cases, evidence concerning linkages should be visible. However, applying the concept *ex ante* still presents the challenge that NRAs must make a prospective analysis, which can be more complex, especially in oligopolistic markets where the outcome may vary depending on the conduct of the operators. It is also possible that even if *ex ante* SMP regulation is not applied, other sources of regulation such as licence conditions associated with spectrum or remedies resulting from merger regulation, may obscure the outcomes that would exist in the absence of intervention.

4.4 Ex ante cases relevant to joint SMP

Since the concept of joint SMP as currently defined was introduced in the 2002 EU Framework for electronic communications, there have been only a limited number of cases in which NRAs have considered the potential for joint SMP in the relevant market.

Most of these cases (five in total) concern the market for "mobile access and call origination" – included as "market 15" in the original EU Recommendation on Relevant Markets.²⁰⁴ However, only two were upheld (Spain and Malta), following scrutiny by the Commission and national courts.

There has been only one case – Malta (2006) – in which the NRA proposed a finding of joint SMP at the wholesale level in the context of fixed broadband markets (wholesale broadband access in this case). The potential for joint SMP was considered in the retail fixed broadband market in another case (Netherlands 2015). The regulatory approach to wholesale broadband access (now wholesale central access) in Belgium is also relevant, as the NRA imposed wholesale access remedies on the broadband networks of both the incumbent and non-overlapping cable operators, although these remedies were applied on the basis of single SMP.

Finally, there was a case upheld concerning joint SMP in the former market for broadcasting services in Italy (market 18 of the original Recommendation on Relevant Markets).

The main cases of interest that we examine in the context of this study are shown in the following table, and briefly summarised below. Full case studies can be found in the annex.

Table 6: Potential cases of interest

Country	Relevant market and proposed SMP designation	Status
Mobile cases		
Ireland (2004)	Joint SMP M15 (2003 Rec)	Upheld by Commission Overturned on procedural grounds by specialist administrative tribunal
Spain (2005)	Joint SMP M15 (2003 Rec)	Upheld by Commission
France (2005)	Joint SMP M15 (2003 Rec)	Challenged by Commission, collusion found in <i>ex post</i> investigation
Malta (2006)	Joint SMP M15 (2003 Rec)	Upheld by Commission
Slovenia (2008)	Joint SMP M15 (2003 Rec)	Challenged by Commission

²⁰⁴ EC Recommendation (2003) on relevant product and service markets susceptible to *ex ante* regulation in the electronic communication sector <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003H0311>.

Fixed broadband cases		
Malta (2006)	Joint SMP M5 (2007 Rec)	Challenged by Commission
Belgium (2011)	Analogue and digital broadcasting signals Imposition of remedies (incl BB resale) based on individual SMP	Upheld by Commission
Netherlands (2015)	Joint SMP proposed Retail broadband market, but individual SMP found in M3a (2014 Rec)	Challenged by Commission
Broadcasting cases		
Italy	Joint SMP M18 (2003 Rec)	Upheld by Commission

4.4.1 Mobile joint SMP cases

In market reviews immediately following the adoption of the 2003 Recommendation on relevant markets, which included a market for mobile access and call origination, a number of NRAs proposed a finding of joint SMP with remedies to mandate MVNO access. These cases are briefly summarised below, alongside the later Slovenian (2008) proposed finding of joint SMP in this market.

- Ireland:** In its 2004 review of the market for wholesale access and call origination on public mobile networks,²⁰⁵ ComReg determined that Vodafone and O2 had joint SMP, based on a joint market share of 94% measured in terms of subscribers, high incentives to co-ordinate (high retail prices and denial of MVNO access) – while the other two mobile operators were not considered to exert a competitive constraint given their small scale and market share and their competitive disadvantages. ComReg also identified behavioural characteristics which served to reinforce the relevant structural market characteristics. In the view of ComReg, Vodafone and O2 were tacitly colluding on the basis of data on price trends, absolute price levels, profitability of the two MNOs and the existence of pent up demand as a consequence of the systematic denial of wholesale network access.²⁰⁶
- Spain:** In its 2005 review of the market for wholesale mobile access and call origination²⁰⁷, CMT (now CNMC) identified Telefónica, Vodafone and Amena as being jointly dominant. Since no mobile operator was granting access to its network, the structure of the supply at retail level was considered for the assessment of the corresponding wholesale market. CMT based its analysis of joint dominance inter alia on the fact that the three oligopolists had high incentives to coordinate in not providing access to MVNOs (focal point) since

²⁰⁵ IE/2004/0121.

²⁰⁶ BEREC, BoR (15) 195.

²⁰⁷ ES/2005/0330.

this would have threatened retail profits. The collusive outcome was stable, because deviation (granting access) would have been quickly discernible. Credible retaliation would have occurred by the other mobile operators also granting access and adopting the same strategy.

- **France:** In its draft 2005 analysis of the market for wholesale mobile access and call origination, ART (now ARCEP) proposed to find that the three mobile operators – Orange, SFR and Bouygues – had joint SMP. The proposed focal point was failure to agree MVNO access on technical, commercial and price conditions that would enable differentiation from the host and support retail competition. ART argued that, although resellers existed, they targeted niche market segments – while the restrictive conditions associated with other MVNO agreements that were in process were likely to limit the competitive effect of these offers. ART's argued that its proposed joint SMP finding was justified on the basis that – even though one of the players Bouygues was smaller in scale and had lower profit levels, there was no deviation from the restrictive MVNO strategy. ART also observed stable market shares, limited innovation, high and stable prices and increasing profit levels for the leading 2 operators. ART observed that numerous interactions amongst the operators including their participation in operator fora increased transparency and provided a means in which they could co-ordinate their behaviour. The proposed joint SMP finding was abandoned following a challenge from the Commission on the initial notification and did not proceed to a Phase II investigation.
- **Slovenia:** In its 2008 draft market review on wholesale mobile access and call origination, APEK proposed that the two largest operators Mobitel (the incumbent) and si.mobil should be found to have joint SMP. The proposed focal point was the collective refusal to supply national roaming to the third mobile operator Tasmobil. A fourth operator was present in the market, but had not gained any significant market share. APEK justified its proposal on the basis that the largest two operators had a combined market share of 89%, and had a strong incentive to co-ordinate on the basis that there were high entry barriers and a lack of countervailing buyer power. The two operators' ability to co-ordinate was, they claimed, evidenced by the collective refusal to supply national roaming. It should be noted that the market was subject to pre-existing wholesale access regulation, but this was applied to the incumbent alone (in a 2005 market analysis) on the basis of single SMP. After a challenge from the Commission, APEK withdrew its joint SMP draft finding and replaced it with a single SMP finding in 2009.

4.4.2 Broadcasting cases

The original Recommendation on Relevant Markets susceptible to *ex ante* regulation also included a market for broadcasting transmission services (former market 18).

There is one case involving this market where joint SMP was found and upheld for the two leading operators, in Italy.

- **Italy:** In 2007 AGCOM found two operators (RAI and RTI Mediaset) to be jointly dominant in the market for analogue terrestrial television broadcasting services. AGCOM was able to prove joint dominance mainly because the market for analogue terrestrial transmission services was considered as a separate relevant market from the market for digital transmission services. AGCOM was able to show that the relevant market was characterized by a high level of concentration as well as high barriers to entry. High entry barriers (e.g. due to lack of available frequencies, non-issuing of licences) enabled coordination. The ability to detect cheating was linked to the transparency in the market. AGCOM's view was that in a fully vertically integrated market, transparency derived from the absence of innovating strategies in investments and commercial offers, which was also influenced by the analogue broadcasting switch-off. As for the sustainability of the common conduct over time, AGCOM argued that the high amount of frequencies held by the two respective operators was associated with parallel conduct aimed at foreclosing the market.

4.4.3 Fixed broadband

More recently, following the removal of market 15 from the revised list of relevant markets in 2007,²⁰⁸ there have been fewer notifications by NRAs concerning potential *ex ante* joint SMP in mobile markets (although DG Competition has applied MVNO access remedies under Competition law following consolidation, and mobile access may increase in relevance if markets move towards fixed mobile converged offers). However, there has been increased attention to the potential for joint SMP in fixed markets, where incumbents and cable may collectively hold a strong market position. Relevant cases are briefly described below, although only one – Malta – concerns a proposed finding of joint SMP at the wholesale level.

- **Malta:** In a 2006 notification to the Commission, the MCA proposed a finding of joint SMP in the market for wholesale broadband access (market 12 of the original relevant market Recommendation – now market 3b). MCA rejected a finding of single SMP on the basis that both wholesale broadband access providers were vertically integrated and had stable and symmetric market shares, faced the same scale economies and barriers to entry. The proposed focal point for a potential finding of joint SMP was denial or constructive denial of access (the cable operator had refused to apply previously mandated access obligations, while the incumbent was seen to be unwilling to offer access on reasonable terms). MCA supported the case for joint SMP on the basis that

208 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:344:0065:0069:en:PDF>.

there was a high degree of concentration, a lack of innovation and technological maturity. MCA considered that although broadband wireless operators had just been licensed, they were unlikely to have a significant effect on the market. Following serious doubts from the Commission, MCA withdrew its draft measure. In its subsequent notification in 2008, it found that no operator had single or joint SMP in the wholesale broadband access market. SMP and remedies such as LLU remained however in the upstream market for physical unbundled access.

- **Netherlands:** In the context of a market analysis of retail broadband associated with the wholesale market 3a in 2015, the Dutch NRA (the ACM) concluded that KPN and the cable operator UPC/Ziggo were subject at risk of joint market dominance. In reaching this conclusion, ACM observed that the retail Internet access market was concentrated, that entry of other operators was unlikely due to economies of scale and there was no countervailing buyer power. ACM concluded that there would be a high risk of a co-ordinated outcome because KPN and UPC would have an incentive to price above the competitive level and exclude access seekers in order to maximise profits. However, the Commission expressed serious doubts as to whether a risk of joint dominance was justified at the retail level while, at the wholesale level only individual market dominance was found. The Commission observed that the ACM had not appreciated the role of cable at the wholesale level, in particular with regard to future access possibilities via the cable network. Additionally, the Commission also doubted whether the market structure would provide incentives for coordination. The ACM's revised market analysis in December 2015 took account of the Commission's comments by focusing more on the role of the cable operator at the wholesale level, while at the same time diluting its conclusions regarding the existence of a risk of joint market dominance at the retail level.
- **Belgium:** In 2011, the Belgian regulator imposed the access to cable infrastructures to remedy market power on the delivery of broadcasting signals. The regulator defined several regional markets for the delivery of analogue and digital broadcasting signals corresponding to the coverage on the cable network. In finding that the main cable operators in Belgium had significant market power on their respective relevant markets, the regulator imposed three sets of remedies: resale of analogue TV, access to digital TV platforms and, because of the increasing importance of bundled offers, resale of broadband Internet. The Commission insisted on the need to conduct a wholesale market analysis before imposing wholesale remedies and to justify the proportionality of the imposition of the resale of broadband.²⁰⁹ The Court of Appeal of Brussels upheld the regulator's decisions. The relevance of this case to this exercise comes not from any finding of joint SMP, but the fact that remedies on the two major broadband providers were applied – an approach that could also have been applied as a result of a joint SMP finding.

209 BE/2011/1229.

4.4.4 Arguments and data presented

It is notable that in all cases where joint SMP was proposed at the wholesale level, NRAs discussed the criteria outlined in the Airtours case. On the basis that *ex ante* analyses are prospective however, in line with the SMP Guidelines, their analyses centred on whether the characteristics of the market made it *conducive* to tacit co-ordination, what were the characteristics linking the leading group (if only a subset of operators were considered to have joint SMP), and whether co-ordination amongst the leading group was sustainable – ie whether any of the oligopolists had the *ability and incentive* to deviate from the co-ordinated outcome, considering the ability and incentives of non-deviators to retaliate. They also considered whether buyers, fringe competitors or potential entrants had the *ability and incentive* to challenge any anti-competitive co-ordinated outcome.

The main argumentation and evidence presented by NRAs in demonstrating the existence of joint SMP are summarised in the table below:

Table 7: Argumentation and evidence presented by NRAs

	Argumentation	Evidence
Retail market	<ul style="list-style-type: none"> - Economic (FR, NL) and regulatory (FR) barriers to entry - High concentration (NL, SI), limited competitive dynamics (FR) - Reliance on wholesale regulation to maintain competition in the retail market (MT) - Limited/no countervailing buyer power (NL) 	<ul style="list-style-type: none"> - Limited number of players - No interest in additional licence (FR) - Stable market shares - Increasing prices and ARPU - Limited churn - High market share of infrastructure operators absent wholesale access regulation (NL) - Market share and number of ISP relying on regulated wholesale access (MT)
Focal point	<ul style="list-style-type: none"> - Denial of wholesale access (IE, ES, SI (roaming)); - Failure to propose conditions for wholesale access which would significantly affect retail competition (FR) - Denial of access by cable operator, incentive for incumbent to discontinue existing regulated wholesale offer in the absence of regulation (MT) - Incentive to co-ordinate on prices and market share at retail level to support profits (NL) 	<ul style="list-style-type: none"> - Absence of MVNO access in the presence of pent-up demand (ES, IR) or limited market share (eg FR) - Lack of implementation of regulatory requirements to provide access (MT cable) - Denial of MVNO requests in general (ES, IR) or roaming (SI) - Contractual terms for access imposed technical, commercial (restricted to certain segments) and/or price limitation (FR)
Market characteristics conducive to co-ordination	<ul style="list-style-type: none"> - Limited number of players - A high degree of market concentration - Stable market shares (fixed, but not mobile cases) - Homogeneity of products (mobile or cable/DSL) - Similarity of cost structures - High entry barriers 	<ul style="list-style-type: none"> - Number of players over time - Market share trends - HHI trends showing high and/or increasing HHI - Slowing take-up (to show maturity)

	<ul style="list-style-type: none"> - Market maturity, lack of innovation - Similar products - Lack of excess capacity 	<ul style="list-style-type: none"> - Impending digital switchover, scarcity of spectrum limits entry potential (IT broadcasting)
<p>Common amongst the leading group features</p>	<ul style="list-style-type: none"> - Similar and stable market shares of leading players - High combined market share of leading players - Similar profit levels amongst leading players - Similar (parallel) pricing and/or ARPU - Similar conduct (eg (constructive) refusal to supply wholesale access) - Gap between leaders and entrants (IE, SI) 	<ul style="list-style-type: none"> - Market share trends focused on similarity of stability of market shares of leaders, in contrast with smaller players (where present) - Pricing trends showing parallel pricing (esp. IE, ES, MT mobile) - ROCE showing similar profitability (IE, FR leading two) - Similar levels of quality, limited innovation - Equivalent coverage requirements (e.g. in licence conditions) - Refusal to supply even where such refusal might not have been in commercial interests in a competitive market
<p>Ability and incentive not to deviate (incl potential for retaliation)</p>	<ul style="list-style-type: none"> - Transparency at retail level - Transparency at wholesale level (due to wholesale access negotiations) - Links between the parties - Deviation at wholesale or retail level would directly or indirectly impact prices and profits - Potential to change retail prices rapidly - Potential to negotiate MVNO arrangements which would disrupt retail market - Low elasticity of wholesale demand (MT) - Lack of countervailing buyer power 	<ul style="list-style-type: none"> - Price publication, comparison tools, public statements concerning pricing - Availability of public information concerning churn - Existence of operator fora such as trade associations at which information could be exchanged (eg FR) - High pricing and/or profit levels compared with international benchmarks - Similar pricing and profit levels of leading operators

Potential entry/mavericks

- No interest in entry (FR)
 - If entry, new entrant would not be able to offer credible MVNO access quickly (FR)
 - Later entrants struggling to enter/gain share (SI, IR, ES)
 - Fringe players have limited impact despite lower prices (IR)
 - Fringe players could not act as mavericks because they depend on network access e.g. roaming from leading group (SI)
 - Legal barriers (access to frequencies) (ES)
 - Entrants not expected to have significant market impact (MT)
- Market share differences between leaders and entrants, and sustained trends for such
 - Price gaps not linked to market share increase
 - Existence of contracts proving reliance (eg roaming)

A number of themes can be detected from the analysis conducted by NRAs.

- The analyses by NRAs included discussion of a relatively large number of factors that might contribute to a finding of joint SMP. However, the degree of evidence presented for each varied.
- Some of the argumentation and evidence could be said to apply more widely across certain telecom markets and therefore may not necessarily of itself distinguish those specific cases where joint SMP may be present. This applies particularly to the discussion on transparency at wholesale and retail level at least as regards residential markets. Retail price publication is common across the industry, the process of access negotiations by access seekers with multiple parties would normally tend to reveal the broad outlines of potential access agreements, while agreements themselves would then be made public. Moreover, the existence of industry groups as well as interconnection arrangements imply frequent interactions between the parties. Argumentation concerning the potential for retaliation – namely the ability of other providers within the leading group to reduce prices or agree competing wholesale offers – is also relatively generic, and offers insufficient to support joint SMP when described in purely qualitative terms. Market maturity could be considered a necessary requirement for a joint SMP finding, but is also now common in many European telecom markets, and therefore is not necessarily a differentiating feature. Absence of countervailing buyer power is common across residential telecom markets, although it is possible that different conclusions might be reached in the case of services provided to large businesses, if they have a high proportion of premises located in business districts.
- Concrete evidence that identifies the focal point and the three criteria associated with the potential for tacit collusion tends to centre on the following more limited subset of indicators:

Table 8: Concrete evidence presented per joint SMP criterion

Criterion	Evidence
Focal point	Denial of access despite demand No/low access-based competitor market shares
1. Market characteristics conducive to tacit collusion	Stable (and potentially symmetric) retail market shares for the leading group High individual and collective retail market shares for the leading group Slowing/stable subscriber penetration (to show maturity)
2. Ability and incentive not to deviate (incl potential for retaliation)	High and similar retail pricing amongst leading group High profit levels amongst leading group
3. Lack of potential entry or expansion of fringe players	Limited and stable retail market shares of fringe players Existence of mechanisms demonstrating reliance on e.g. roaming agreements

- Evidence for criterion 1 (market characteristics conducive to tacit collusion) has in general been available in markets in which there was no pre-existing regulation, and could be estimated on the basis of wholesale market shares, for markets in which the retail market structure may have been influenced by pre-existing regulation.
- The ability to gather evidence to support or rebut the presence of a focal point (e.g. (constructive) denial of access) and criterion 2 (e.g. excessive pricing and profits), for the two cases in which there was previous regulation which had resulted in the use of wholesale access (Malta WBA and Slovenia M15) may have been complicated by the presence of regulation, which required the NRAs concerned to pursue a modified greenfield analysis.
- As regards criterion 3 (lack of potential entry or expansion of fringe players), NRAs have used evidence of continued limited market shares of fringe players and/or their reliance on other operators to justify assessments that they are unlikely to provide a disruptive influence on the market. However, this assessment may be speculative, as it involves predicting the future behaviour of existing fringe

network operators, the likelihood that there will continue to be no interest in a further licence, or limited success for new technologies (such as FWA). The answer may also differ depending on the time horizon within which these developments might be expected to occur.

4.4.5 Application of the modified greenfield approach by NRAs in the context of joint SMP

It is notable that in the cases where a finding of joint SMP was upheld, there was no pre-existing regulation, and therefore NRAs could place greater reliance on conduct and outcomes visible in the market such as denial of access and parallel pricing.

NRAs have however applied the modified greenfield approach in various contexts when considering whether markets in which regulation was present, were characterised by joint SMP.

In particular, in the Slovenian case notified in 2008 related to ex-market 15, the Commission clarified that this approach is well suited to assess a market's conducivness to tacit collusion in the presence of existing regulation based on a single SMP, when it set out in its serious doubts letter that "what counts here is the situation which would prevail absent obligations imposed on Mobitel in this specific market (modified greenfield approach)." (emphasis addeed)

Most recently, in 2017, the Spanish NRA CNMC was obliged to rely on modified greenfield approach considerations, when it considered whether the market for mobile access and origination (former market 15 – since withdrawn from the Relevant Market Recommendation), was still susceptible to ex ante regulation or should be found to be competitive – resulting in the removal of the joint SMP regulation that had previously been applied.

Specifically, in applying the 3 criteria test, CNMC considered that the second criterion (*No tendency towards effective competition*) was not met and that the market tended towards effective competition. It reached these conclusions notwithstanding the presence of pre-existing regulation, on the basis of the following findings:

- Based on the past wholesale regulation a large number of MVNOs have been able to enter the market and taking market shares from the established operators.
- Retail prices have decreased since 2011
- Wholesale prices have decreased; prices are currently near the termination prices which are subject to BU pure-LRIC price regulation.

- MVNOs were able to switch their host MNOs, *contracts have been renegotiated and renewed without CNMC's intervention* and access to 4G networks has been obtained by MVNOs.
- Considering the high number of agreements with different expiry dates, CNMC *deems it unlikely that, absent regulation, MNOs will refuse to sign agreements with MVNOs.*

In conclusion, regarding the second criterion, CNMC stated that it could not find sufficient indications that the described market developments were not sustainable over time and that absent regulation MNOs would deny access. A situation of continued voluntary access provision was considered likely.

Although CNMC found that the 1st criterion of the 3 criteria test was met, it also concluded that the third criterion (*Insufficiency of competition law*) was not met and hence that competition law was sufficient to tackle the competition problems that might arise.

As a result of its analysis, CNMC proposed to withdraw regulation after a transitory period of six months after publication of the final measure.²¹⁰

The modified greenfield approach was also expressly referenced in the market analysis conducted by ACM in 2015 in which it concluded that there was a risk of joint dominance in the retail market associated with wholesale local access, in the event that regulation was removed.²¹¹²¹²A key aspect of ACM's analysis of the retail market situation in the absence of regulation, was that ACM excluded from the market providers which were dependent on wholesale access from KPN, because ACM considered it unlikely that KPN or UPC/Ziggo would offer a commercially attractive form of access to alternative providers on the basis of which they could exert effective and sustainable competitive pressure on KPN in the absence of regulation. It thereby concluded that, in a situation without regulation, the Dutch retail market would be served nearly exclusively by KPN and UPC/Ziggo.²¹³

ACM justified these conclusions on the basis of the absence of cable wholesale offers which would enable alternative providers to compete at the retail level,²¹⁴ statements by KPN which ACM considered implied that KPN lacked the willingness to offer voluntary

²¹⁰ Case ES/2017/1965

²¹¹ ACM (2015), Marktanalyse ontbundelde toegang, Ontwerpbesluit voor Europese notificatie, 31. Maart 2015

²¹² *ACM past bij de afbakening en het onderzoek van de relevante markten in dit besluit de zogenaamde 'modified greenfield' benadering toe. Dit betekent dat ACM in dit besluit regulering op basis van marktanalyses wegdenkt.* ACM (2015), para. 21.

²¹³ ACM (2015), para. 615.

²¹⁴ Para 620.

wholesale offers absent regulation,²¹⁵ and concerns expressed by alternative operators about their ability to compete based on KPN wholesale offers.

In turn, ACM concluded that KPN and UPC/Ziggo, in a situation without voluntary access, would be able to achieve a coordinated outcome increasing their profits.

A common theme in both cases was the *likelihood* that voluntary wholesale access would be provided by firms which were previously subject to SMP regulation (or other infrastructure-based providers) in the event that regulation was removed.

4.5 Observations of the European Commission

The European Commission provided formal comments on all the cases studied where a finding of joint SMP was proposed, apart from the French mobile access case, which was withdrawn after the initial notification. The Commission's comments place particular focus on whether sufficient evidence was provided on the key points identified above which might distinguish a 'joint SMP' case from other situations which might be typical within telecom markets – or from a more standard case of single SMP.

Specifically, the Commission:

- Asked whether prices and profits were sufficiently high to indicate consumer detriment and sustain tacit collusion (Slovenia, Malta)
- Noted that if roaming or MVNO access was being or might be commercially agreed, this would put the joint SMP finding into doubt (Slovenia, France); and
- Asked NRAs to check whether fringe players have the potential to be mavericks at the wholesale or retail level (Ireland, Slovenia), although it accepted that this may be unlikely if they are reliant on others (eg Slovenia)
- In the case of Malta WBA, the Commission also noted that there may be potential market disruption from wireless technologies or LLU and questioned whether the incumbent would have an incentive to undermine the position of access seekers on its network, in view of the risk that doing so might result in a loss of market share to the cable operator.

These points help to explain the different decisions taken by the Commission in different cases.

A key difference between Ireland and Spain, where the Commission upheld the joint SMP finding and France, where the finding was challenged, was that **in France, commercial MVNO agreements were under discussion**. Thus, there was a question over whether the wholesale behaviour – and specifically the degree to which

²¹⁵ Para. 617. KPN suggested that it would only offer voluntary wholesale products in the absence of regulation, stating that “if ACM arrives at the conclusion that regulation of KPN is called for, KPN needs to review its position [...], since the competitiveness of KPN and, ultimately, the market itself, will change fundamentally.”

agreements enabled effective differentiation and competition - (the proposed focal point in this case) supported a finding joint SMP.

In **Slovenia**, the Commission accepted that there may be unmet demand for MVNO access in the absence of regulation and that the two smaller MVNOs were unlikely to play a role as ‘mavericks’. However, they questioned whether there was sufficient incentive and ability to retaliate on the basis that for the two larger players, **prices were around the European average and the ROCE did not appear excessively high**. The Commission also considered that Si-mobil might have an incentive to provide roaming access to generate wholesale revenues. It is relevant to note in this context that by 2012 T-2, one of the smaller operators, had switched to using unregulated roaming services from Si-mobil.

The potential for voluntary wholesale provision was also one of several factors cited by the Commission in its challenge to the ACM’s proposed finding that there was a ‘risk of joint SMP’ in the Dutch broadband retail market in the absence of regulation (other comments focused on a perceived lack of consistency between the scope of the retail and wholesale markets and inclusion of cable therein). However, it is important to note that neither in this decision, nor in its ‘no comments’ response to the 2017 CNMC decision on the market for mobile access and origination,²¹⁶ did the Commission question the use of the modified greenfield approach in relation to a finding (or removal of a finding) of joint SMP.

4.6 Developments following the proposed joint SMP findings

Given that many of the questions raised in the context of joint SMP proposals concerned the direction of future developments with wholesale access and potential for entry or competitive disruption from a fringe player, it is instructive to examine what happened in later years in those markets where joint SMP was proposed, but abandoned.

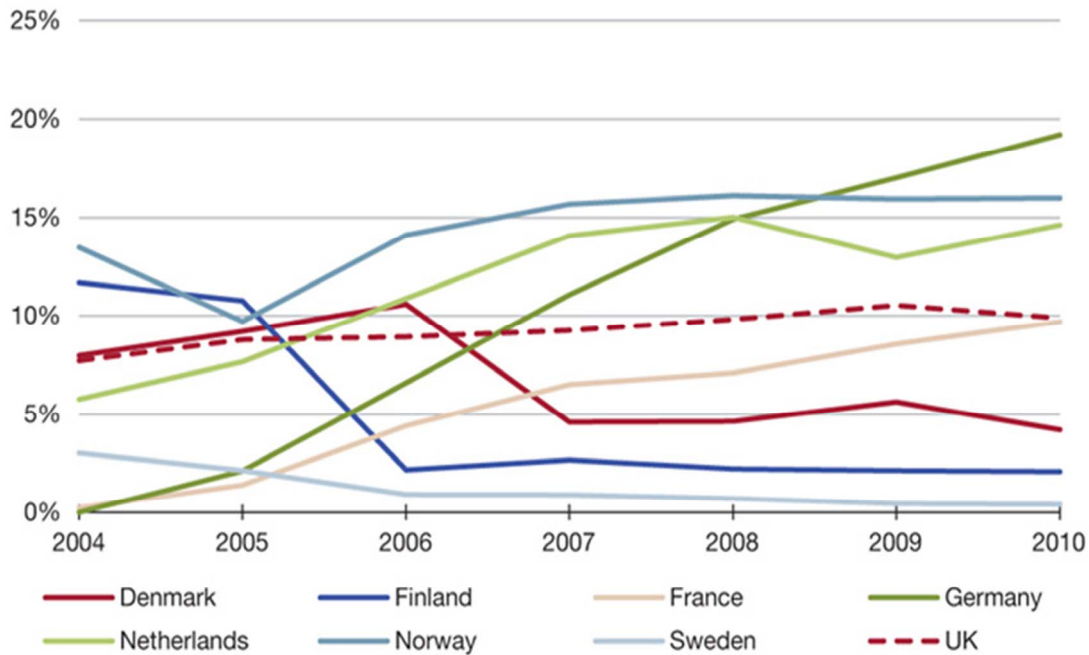
4.6.1 Mobile markets without MVNO access regulation

In mobile markets, a pattern can be seen whereby MVNO access and market entry developed even in the two cases where wholesale access regulation was not applied.

It is relevant to note in this context that despite the absence of regulation (although likely with the facilitation of the NRA), the market share of MVNOs in France increased steadily to reach 13% in 2014.

²¹⁶ Case ES/2017/1965 https://circabc.europa.eu/sd/a/b20c3832-4b10-49dd-8081-2f383828cbbd/ES-2017-1965%20ADOPTED_EN.pdf

Figure 1: MVNO market share (subscribers) by country²¹⁷

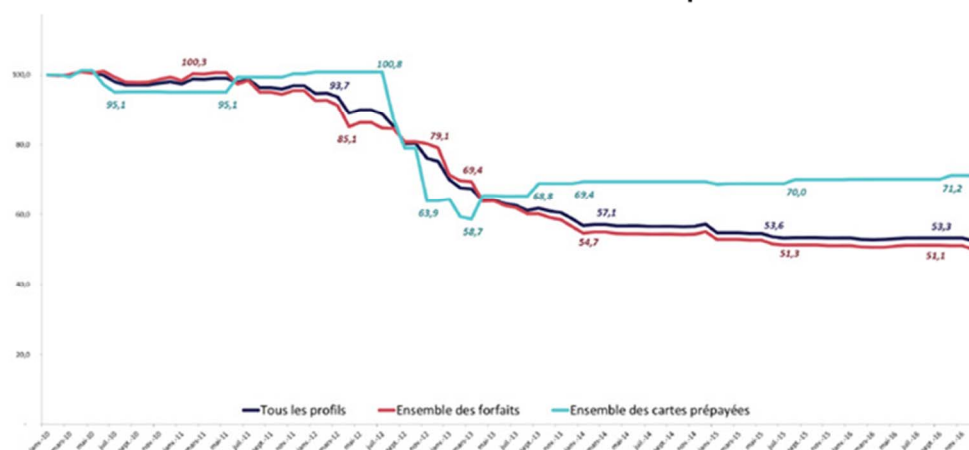


Source: Analysys Mason, Telecoms Market Matrix Q4 2010

Furthermore, although prices and profits remained stable for some years after ART's abandoned decision on MVNO access, when Iliad entered as a fourth mobile operator around 2011, this created significant disruption to the market pushing prices and profitability lower and increasing switching, as shown in the following charts.

Figure 2: France: evolution of mobile service prices 2010-2016

France: Evolution of mobile service prices 2010-2016



Source: ARCEP

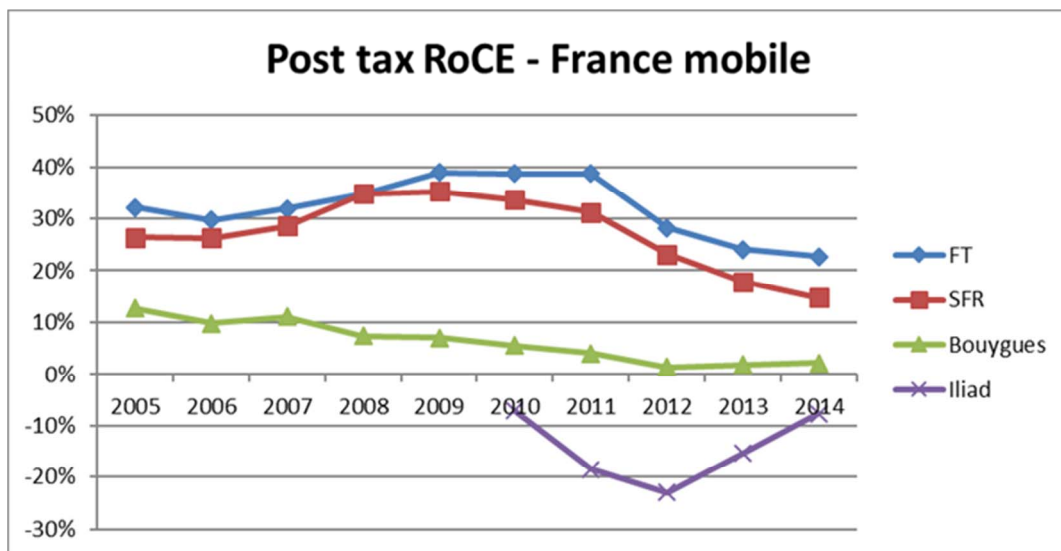
²¹⁷ It should be noted however that in some countries such as Germany the reported MVNO market share may include MVNOs created as sub-brands by the underlying MNO.

Figure 3: France: Mobile numbers ported as a % total subscribers



Source: ARCEP

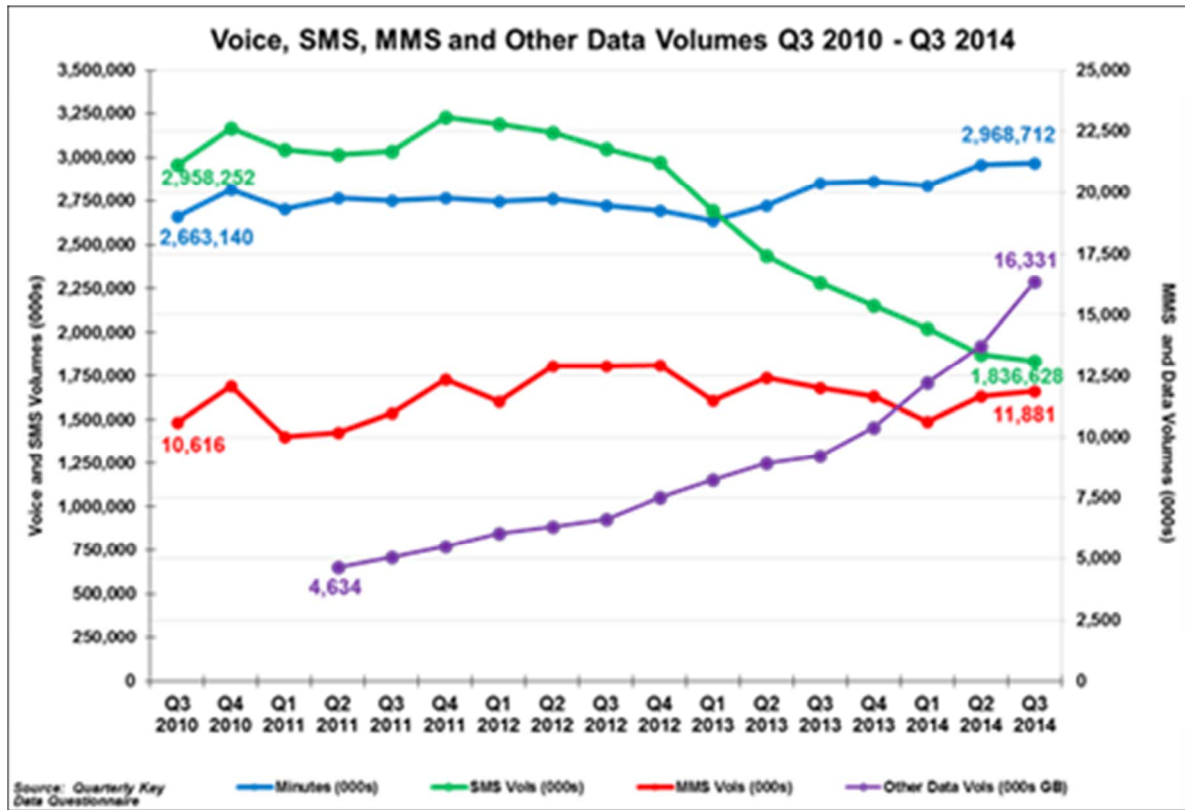
Figure 4: France mobile post tax RoCE



Source: WIK based on New Street

A similar dynamic around market disruption occurred in Ireland, where one of the operators that had been a "fringe" player at the time of the original proposal for joint SMP, introduced aggressive offers involving significant amounts of data. Although 3's market share never exceeded 10%, its flat-rate pricing strategy for mobile broadband may have triggered price reductions from competitors and led to the expansion in mobile data usage in Ireland.

Figure 5: Ireland mobile: voice, SMS and other data volumes 2010-2014



Source: Comreg – quarterly key data questionnaire

Market concentration also continued to decline from 3,372 in 2007 to 2,571 in 2013,²¹⁸ and MVNO agreements were signed on the networks of three operators.

Table 9: Overview of MNVOs present in Ireland prior to the 3/O2 merger

MVNO	Type of MVNO ²¹⁹	Market entry	Network provider
Tesco Mobile	Full	2007	O2
Postfone	Partial	2010	Vodafone
Lycamobile	Full	2012	O2
Blueface	Partial	2012	Three

Source: WIK based on European Commission (2004), Case COMP/M.6992, Hutchison 3G UK / Telefonica Ireland.

After its failure to gain significant market share and continued limited profitability, 3 merged with O2 Ireland in 2014. The European Commission (DG Competition) considered that this development might impact competitive dynamics affecting price and

²¹⁸ Based on data from IDATE.

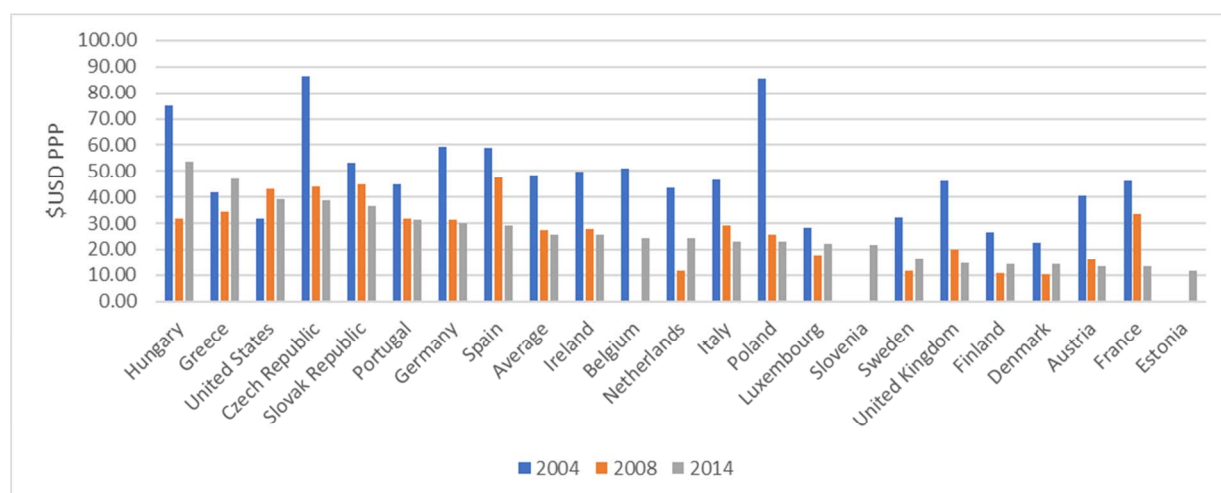
²¹⁹ Reference to full or partial refers to the degree to which the MVNO agreement enables technical and commercial differentiation by the MVNO in comparison with its host.

innovation at the retail level as well as competition for the hosting of MVNOs. However, these challenges were addressed through merger remedies under which the merged entity was required to offer long-term capacity-based MVNO access in exchange for a fixed fee. The cable operator was amongst two players to take advantage of these requirements, establishing an MVNO agreement on the enlarged 3 network in 2015. As such, competition concerns were addressed under competition law (based on the less stringent SIEC test) obviating the need for an analysis of potential joint SMP under the *ex ante* regime.

4.6.2 Mobile markets with MVNO access regulation

It could be instructive to compare developments in the unregulated mobile markets with the two markets (Slovenia and Spain) in which MVNO access regulation was applied in the years following 2005, respectively on the basis of single and joint SMP. An examination of prices against the OECD average (across all baskets) shows that retail prices in Slovenia were around the OECD average in 2010 (the first time at which it was included in the price comparison), and subsequently declined to a level which was significantly below average in 2014. Prices in Spain remained significantly above the average between 2004 and 2012 before falling to just above the OECD average in 2014.

Figure 6: Average price per month across all OECD mobile price baskets (PPP US\$)

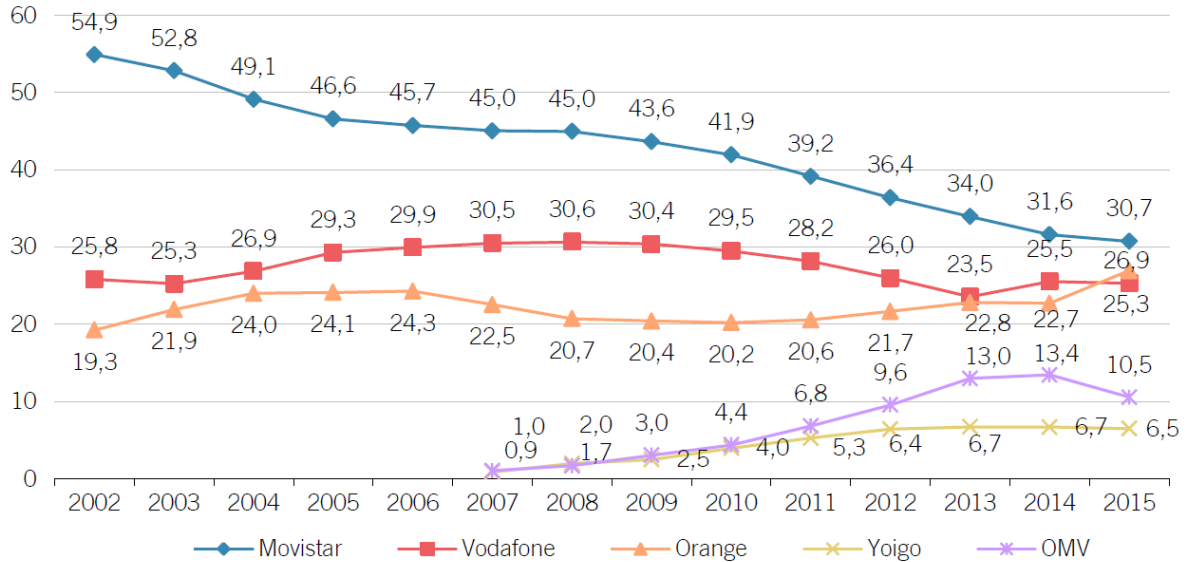


Source: WIK based on OECD

Price declines in Spain may have been supported by the entry of MVNOs, which began to gain market share from 2007 and reached a peak market share in 2014. However, they may also have been affected by the entry of Yoigo – the fourth MNO, which occurred around the same time.

Figure 7: Spain mobile operator market shares in terms of lines, 2002-2015

EVOLUCIÓN DE LA CUOTA DE MERCADO POR LÍNEAS ACTIVAS (PORCENTAJE)



Source: CNMC, Informe Annual 2016.

Price declines in Slovenia may also have been influenced not only by MVNO access (which had been mandated since 2005), but by the expansion of the third MNO Tusmobil and entry of the fixed broadband operator T2 as an MNO around 2008.

Table 10: Slovenia mobile market share trends

	2008/1	2008/2	2009/1	2009/2	2010/1	2010/2	2011/1	2011/2
Telekom Slovenije	70.7	66.7	63.3	63.0	62.4	62.0	59.4	57.4
Si.mobil	26.1	26.0	27.4	27.2	28.3	29.5	32.1	33.0
Tušmobil	3.2	7.1	8.7	8.8	8.1	7.3	7.5	8.6
T-2	0.0	0.2	0.7	1.0	1.1	1.1	1.1	1.0
WWI								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: APEK

In this context, it is not possible to say definitively what impact the MVNO access obligation had in those markets where it was mandated, as distinct from the impact of fringe MNOs, which entered or increased their market shares after the MVNO access obligations were introduced.

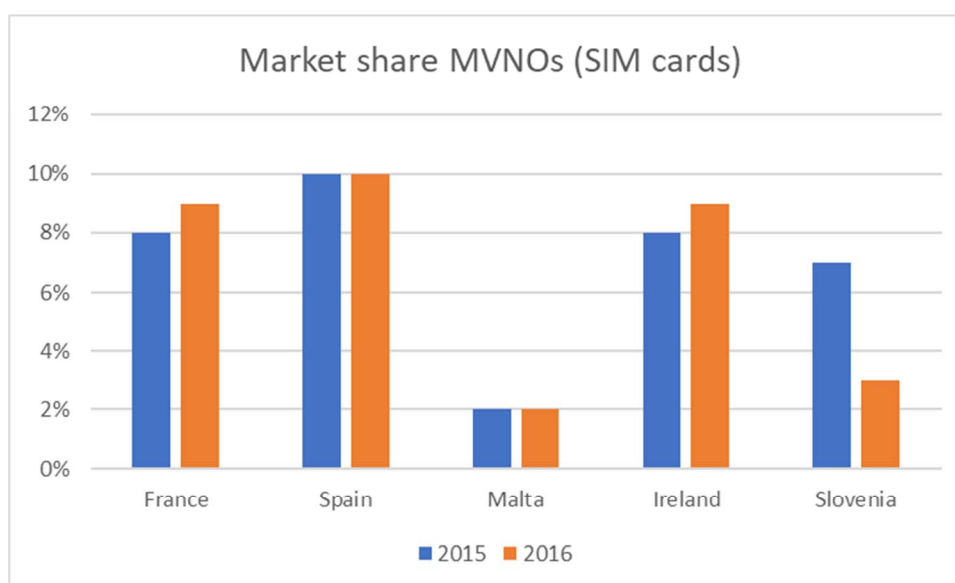
It is also not possible to gauge what might have happened in a counterfactual situation where MVNO access was not mandated in these two countries. It is possible on the one hand that the initial obligation might have underpinned the development of competition in wholesale access, encouraging unregulated providers such as si-mobil to engage in wholesaling. It is notable that in its 2012 market analysis, the Slovenian NRA APEK

observed that T-2 no longer used access services from the incumbent, but had instead concluded a commercial national roaming agreement with Si.mobil. APEK took this into account, amongst other factors, in its 2012 decision that the mobile market no longer fulfilled the three-criteria test.

On the other hand, if MVNO access did reduce retail pricing and profit levels as intended, it may have rendered the business case for smaller fringe MNOs more challenging, providing less scope for them to undercut market rates in order to win market share.

In any event, it is striking that the take-up of MVNO access in the three *ex ante* SMP regulated²²⁰ markets (SI, MT, ES) is not significantly higher than in the two markets in which joint SMP was suspected, but which were left unregulated (FR and IE). This raises questions about whether other actions taken by NRAs and competition authorities²²¹ may have delivered the same results regarding MVNO access as were achieved through *ex ante* SMP regulation, or indeed whether the barriers to entry and expansion were enduring in the medium term (including beyond the period of the market review).

Figure 8: Market share MVNOs (SIM cards)



Source: Communications Committee, data as of Oct 2015 and Oct 2016

²²⁰ Through single or joint SMP.

²²¹ In the case of France, Malta and Ireland, the entry and/or expansion of new entrants disrupted previous pricing stability in the market. Other non-SMP obligations may also have played a role in some cases. MVNO access obligations were imposed in France in the 2011 800MHz auctions, and in Spain for MNOs providing 3G/4G services which held 2x10 MHz or more refarmed 900 MHz spectrum. In Ireland, following the merger between Hutchinson 3 and O2 in 2014, DG Competition applied remedies in the context of merger control, which required the merged company to provide capacity-based MVNO access.

Overall, the analysis of developments in mobile markets would tend to support the Commission’s conclusion in the 2007 Recommendation on Relevant Markets,²²² that the market for mobile access and origination is not normally susceptible to *ex ante* regulation (because of the potential for entry, and for alternative instruments to address competition problems arising). However, this does not preclude that in specific cases, after applying the 3 criteria test, NRA’s might find the market susceptible to regulation in certain circumstances. Future developments, such as 5G networks, which involve the densification of mobile networks might also affect competitive dynamics in mobile markets.

4.6.3 Fixed broadband markets

In contrast to mobile markets, where disruptive competition through new entry and expansion materialised to a greater degree than may have been expected, in the one fixed broadband case where joint SMP was proposed at the wholesale level – Malta – there is evidence that positive expectations around disruptive competition and the maintenance of voluntary wholesale access did not ultimately materialise.

Following the withdrawal of wholesale broadband access regulation in Malta after the ‘no SMP’ finding of 2008, the market share of ISPs on the incumbent network continued to decline from the reported level of 30% of broadband lines in 2006. Data from the Communications Committee shows that at 2015, there was limited access-based competition in the Maltese broadband market. There was a small increase in the share of broadband provided via ‘other’ – mainly fixed wireless technologies. However, the total market share of retail providers other than the cable and incumbent remained below 3%.

Table 11: Fixed broadband market shares

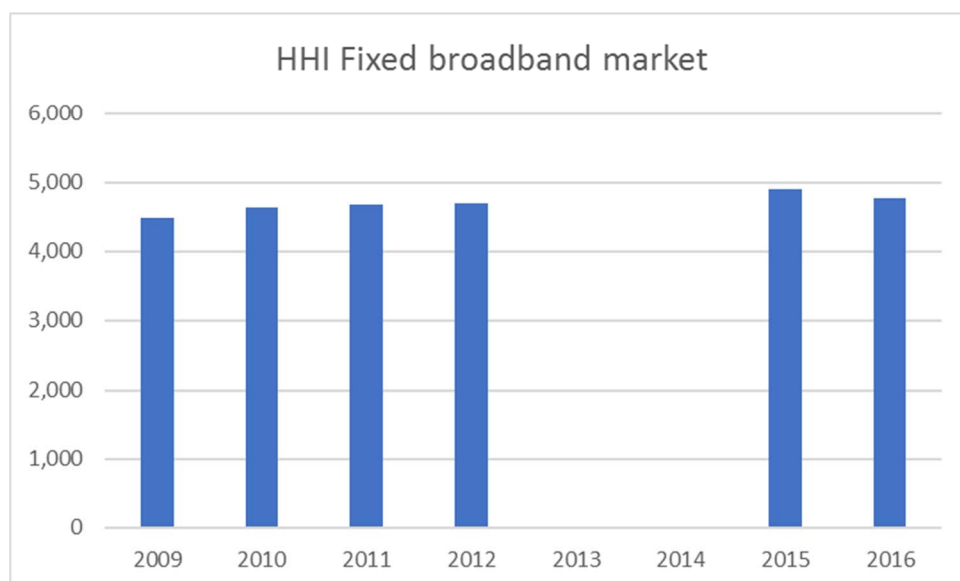
Fixed broadband market shares	MT-2015	MT-2016	EU-2016
Incumbent market share in fixed broadband	47.7%	49.6%	40.7%
Technology market shares			
DSL	47.8%	45.2%	66.8%
Cable	51.2%	48.0%	19.1%
FTTH/B	-	4.4%	10.7%
Other	1.0%	2.3%	3.4%

Source: Communications Committee. Data as of July 2015 and July 2016.

HHI in the fixed broadband access market in Malta was comparatively high in 2009 and increased gradually thereafter, with a small decline in 2016.

²²² Commission 2007 Recommendation on relevant product and service markets susceptible to *ex ante* regulation <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:344:0065:0069:en:PDF>.

Figure 9: HHI Fixed broadband market

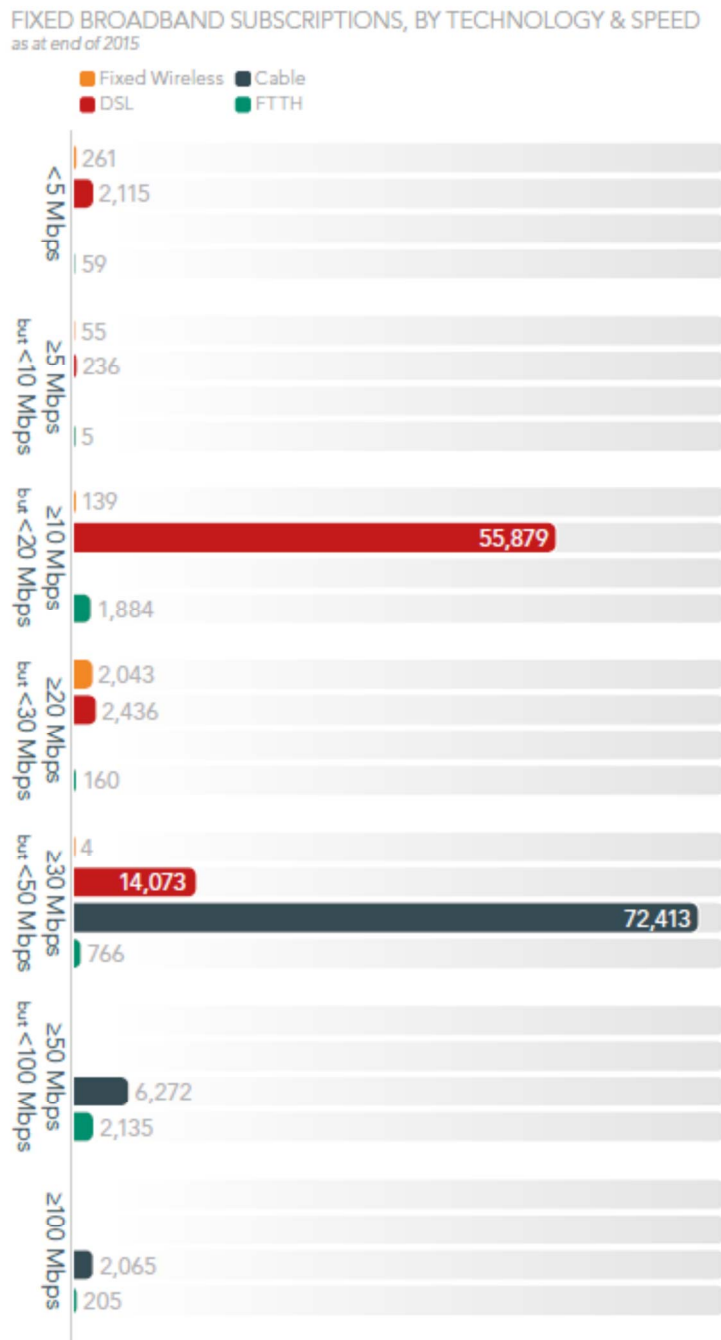


Competition from the new WIMAX platform and LLU did not materialize as expected. In May 2017, Vodafone, a mobile operator which had been the main provider of fixed wireless access services (Vodafone ceased WIMAX provision in 2015, although it is still offering fixed broadband via 3G and 4G technologies) and source of demand for regulated wholesale access (agreements were signed, but not used), announced its intention to merge with the cable operator Melita to create a fully integrated provider, and compete in the provision of bundled offers.²²³ This proposed merger would likely lead to a renewed increase in concentration in the broadband market in Malta.

As regards retail outcomes, prices for fixed broadband in Malta as assessed by the EC BIAC exercise have been high relative to the EU average, although a significant decrease is apparent in 2014. Broadband quality, both in terms of take of broadband at speeds >30Mbits and >100Mbit/s and actual download speeds as measured by Akamai has also been below the EU average. MCA data on fixed broadband subscriptions by technology and speed show that as of the end of 2015, typical cable connections were clustered around speeds of between 30-50Mbit/s – just above the standard DSL rate, despite the capabilities of cable being significantly higher – as seen in other European countries.

²²³ <http://www.vodafone.com/content/index/media/vodafone-group-releases/2017/melita-vodafone.html#>.

Figure 10: Fixed broadband subscriptions, by technology & speed, end 2015



Source: MCA

One example does not allow broad conclusions to be reached concerning whether the difficulty in proving joint SMP in fixed broadband markets related to the difficulties of proof or market features that made tacit collusion unsustainable. However, one can say that the Maltese case presented challenges for a joint SMP finding in that – unlike most of the mobile cases – it involved pre-existing regulation. This may have made it more difficult for the NRA to present factual evidence concerning wholesale and retail conduct. It also came at an early time in the evolution of broadband, at which the

potential for alternative technologies such as wireless was not yet known. Moreover, there was at that time, a valid expectation that LLU may have provided an alternative wholesale access solution – whereas in practice, subsequent upgrades by the incumbent to FTTC/VDSL undermined its usefulness.

In hindsight, it appears that expectations around disruptive competition at the time of the initial decision, may have been optimistic in view of the outcomes that later transpired.

4.7 BEREC's position as regards joint SMP and the revision of the SMP Guidelines

BEREC suggested in its latest report on oligopoly analysis and regulation that a lack of guidance for NRAs as to the important criteria to be proven when assessing joint dominance, alongside a high burden of proof, may be responsible for the limited findings of joint SMP, suggesting that a review of Guidance in this area might be warranted.

The concept of joint SMP

In general, BEREC is of opinion that all parties involved in the analysis of joint SMP cases, *i.e.* the Commission, BEREC and national courts, should have the same understanding of the concept of joint SMP. There should be no difference when it comes to the general concept of joint SMP. A different interpretation only exists between an *ex post* or *ex ante* application of the concept. In case of an *ex ante* approach there is a prospective view whereas in the case of an *ex post* approach the harm is already done.

Regarding the analysis of joint SMP in an *ex ante* context the approach is clear to BEREC in the sense of application of the Annex II criteria together with the Airtours criteria. The difficulty of proof lies in the fact that in an *ex ante* case a hypothetical market setting is needed, but that is also the case for a single SMP analysis.

Main challenges

The main challenges, in terms of evidence-gathering, that NRAs have experienced in the past when applying the joint SMP test were:

- Having a common understanding of the standard of proof for harm in the retail market
- Focal points,

- Retaliation mechanisms (according to BEREC “...*their empirical proof of retaliatory mechanisms was generally deemed as insufficient by the Commission*”²²⁴)
- Relationship between wholesale and retail levels
- Hypothetical market setting

In the case of joint SMP, the ex-ante standard based on merger decisions speaks of markets being conducive to collective dominance. In this regard BEREC notes that this is also the case for individual SMP. BEREC stresses that while in the case of individual SMP it is sufficient to show that certain structural characteristics of the market may lead to individual SMP, it is in contrast not sufficient to prove that certain market characteristics impose a risk for tacit collusion in the case of joint SMP.²²⁵

Different starting points

BEREC considers that guidance is needed to clarify the type of evidence to be used for determining joint dominance. In its response to the Commission’s consultation BEREC refers to two distinct market scenarios:²²⁶

- In scenario A the market is unregulated, and based on changes in the market structure concerns may arise about the creation of joint SMP;
- In scenario B the market is regulated and concern is that deregulation would lead to joint SMP.

While scenario A requires the Airtours criteria to be applied, a focal point to be established and a retaliation mechanism to be determined, scenario B leads to more uncertainties regarding the initial market situation of the analysis. According to BEREC “...*assessing joint dominance in a market that is still regulated may raise the level of proof required to determine a joint dominant position. Indeed, a regulated environment may not allow tacit collusion between firms, because the regulatory obligations that are in place could prevent these.*”²²⁷ In such a case NRAs either have the possibility to adopt a wait-and-see approach, namely wait to see whether after deregulation of the market a joint dominance can be assessed as in scenario A, or NRAs can instead conduct an *ex ante* analysis, which would be similar to the analysis made by Competition Authorities in the case of mergers when assessing significant impediments of effective competition. “*The Competition Authority also assesses a hypothetical situation, namely whether there is likelihood that the merger creates or enhances the possibility of coordinated effects.*”²²⁸

²²⁴ BEREC Response to the public consultation from the EC on the update of the SMP Guidelines (BoR (17) 115). 3.2.1.6.

²²⁵ Ibid.

²²⁶ Ibid.

²²⁷ Ibid.

²²⁸ Ibid.

BEREC notes that until now NRAs have often maintained individual SMP because it has always been easier to handle and therefore also easier to implement remedies. But as markets evolve and alternative operators' market shares increase oligopolistic market situations will become common. And because NRAs want to react *ex ante* by nature, a wait-and-see approach would only be a second best option according to BEREC. *"BEREC therefore calls for guidance on the type of evidence that NRAs can use in a regulated environment, particularly when these are seeking to address potential market failures emerging with joint dominance following deregulation."*²²⁹

BEREC also mentions that the cases of joint SMP that have been handled by NRAs in the past (especially the wholesale market of access and call origination on public mobile telephone networks (market 15/2003) and the market for broadcasting transmission services (market 18/2003)) reflected market situations that were much more simply structured compared to the market situations of today. The future concept of joint SMP needs to tackle new situations in new market environments. The focus according to BEREC will therefore mainly lie on fixed broadband markets with convergent market players involved both in fixed and mobile market services. In their response to the public consultation of the SMP Guidelines BEREC states that *"...as markets are evolving from single SMP market settings towards oligopolistic competition, the interactions of market participants at both a vertical and horizontal level have become more complex and this has led to a wider variety of potential market failures and competition problems."*²³⁰ In this context BEREC also expresses its concern that there might be oligopolistic structures developing that cannot be clearly addressed with current regulatory means nor by means of *ex post* competition law.

In summary BEREC is of opinion that "joint dominance has proven to be complex and difficult to address from a regulatory point of view". Nevertheless BEREC recognizes the current framework based on the Airtours criteria which are well grounded in economics. According to BEREC *"...one of the main messages of the Airtours' judgement is that what is required is a coherent explanation of how the coordination is maintained, and how any difficulties in sustaining that are overcome, rather than mechanically using a check list approach."*²³¹

²²⁹ Ibid.

²³⁰ BEREC Response to the public consultation from the EC on the update of the SMP Guidelines (BoR (17) 115) p. 1.

²³¹ BEREC Report on Oligopoly analysis and regulation BoR(15) 195, p. 43.

4.8 Conclusions on perceived challenges for NRAs

- The *ex ante* concept of joint SMP is equivalent to the concept of joint dominance under competition law; however
 - Examining joint SMP from an *ex ante* perspective raises two important challenges (i) the analysis is forward-looking; and (ii) pre-existing regulation may affect the indicators at wholesale and retail level making it difficult to prove that current outcomes are suboptimal and indicative of tacit collusion
 - Single SMP has been frequently found on an *ex ante* basis even in the presence of regulation. BEREC notes that the burden of proof is lower, because more account is taken of structural factors (predominantly high and stable market share, high barriers to entry and no countervailing bargaining power), whereas additional criteria (behavioural factors and outcome metrics) are expected to be analysed in relation to joint SMP.
 - Out of 7 cases notified which involved a proposed finding of joint SMP at the wholesale level, it was upheld following review by the Commission and national courts in only three cases – in the mobile and broadcasting markets.
 - The main challenges to a joint SMP finding in mobile markets have been the potential for disruptive competition (new MNO entry and/or expansion of newcomer MNOs) which may render the conditions for tacit collusion unstable
 - There have been no precedents for a joint SMP finding in fixed broadband. However, this is the market in which NRAs expect there to be potential oligopoly challenges going forward. The main challenges which may have prevented previous cases include (i) difficulties in citing evidence of wholesale conduct and retail outcomes in cases where there is pre-existing regulation; and (ii) the timing of the one case presented, which occurred when broadband markets were less mature and there was greater uncertainty around the potential for disruptive competition in fixed broadband.
 - In its response to the Commission consultation, BEREC highlights challenges with the standard of proof as regards the focal point, relationship between retail and wholesale and conducting market analysis in a hypothetical setting. Specifically, BEREC asks for guidance on the type of evidence that NRAs can use in a regulated environment, in which certain evidence of actual market dynamics that would normally be required may not be available.
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- **An analysis of the relevant cases to date suggests that the type of guidance that BEREC requests would be helpful especially in the case of potential oligopolies occurring fixed broadband markets. These are markets that are susceptible to *ex ante* regulation at the EU level. It could be argued that, given the mobile access and calls origination market was excluded from the list of relevant markets and it therefore not considered susceptible for *ex ante* regulation at the EU level, it could neither systematically at the EU level provide the conditions for tacit co-ordination to be sustained. This finding should be put into the context of requirements imposed by spectrum auctions as well as by merger commitments existing at the national level. However, NRAs can always establish on the basis of particular national circumstances that, first, the three criteria test is fulfilled and the market is susceptible to the *ex ante* regulation and, second, the market is characterised by joint SMP and operators are tacitly colluding.**
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5 Focal points and their relationship to market structure and outcomes

In this chapter, we analyse on the basis of cases studies in potential joint SMP alongside counter-factual cases whether structural factors and ties between players might be linked to certain wholesale behaviours and retail outcomes in fixed and mobile markets. In so doing – based on the concerns raised in the previous chapter: we explore the following questions:

- Are certain market structures associated with the presence or absence of voluntary wholesale agreements and/or the presence or absence of suboptimal retail outcomes?
- What is the impact of potential entry on wholesale and retail outcomes and in which circumstances is entry most likely to occur?
- What impact can wholesale agreements have on retail competition?
- Can the presence or absence of wholesale agreements signal that a market is competitive? How does this interact with demand for wholesale agreements?

5.1 Methodology

The methodology we use to assess the potential linkages between market structure, wholesale and retail outcomes, is based on the observation of data associated with relevant case studies. Specifically, we identify examples of cases which involve different market structures (across EU countries or within individual countries over time) and examine to which extent specific wholesale behaviours and retail outcomes might be

linked to these market structures. As wholesale and retail outcomes can be affected by the presence of *ex ante* regulation as well as remedies applied under merger control proceedings, we focus on cases where regulation has either not been applied, or has been applied, but has not had a material effect on the market as evidenced by low or declining take-up of wholesale offers.

WIK, in common with a number of other experts and academics, has conducted econometric analysis which aimed to assess whether there are statistically significant linkages between fixed broadband²³² and mobile²³³ market structures, consumer outcomes, profitability and investment. However, the results of this analysis were respectively high level²³⁴ or inconclusive. We observed at the time that due to country-specific features, analysis would best be conducted on the basis of case studies.

5.2 Mobile cases

Mobile case studies can offer an interesting perspective on the relationship between market structure, wholesale behaviours and retail outcomes, because with a few exceptions, prior to the more recent merger cases (AT, DE, IE) in which wholesale access remedies were applied, mobile markets have not been subject to access regulation. Thus, the actual effects on wholesale behaviours and retail outcomes of various market structures and linkages between operators can be directly observed.

In this context, it is possible to examine the outcomes as regards wholesale behaviours and pricing in unregulated markets with four or more players (IT, IE, UK, DE prior to merger) compared with 3 player markets (BE, ES and FR prior to entry). There is also an example of a 2 player market (MT).

The dynamic effects of entry (3-4) and exit (5-4-3) in the absence of regulation can also be observed respectively in France and the Netherlands. Effects of the mergers in Ireland and Austria are on the other hand likely to have been influenced by the competition law remedies applied.

The table below summarises key structural, wholesale and retail indicators for seven mobile markets, distinguishing them according to the number of operators that were present at a given reference date. At the reference date, our understanding is that no *ex ante* or *ex post* (*i.e.*, through remedies) MVNO access obligations had been applied. In all cases with the exception of Ireland, the number of players had been stable for some years previously.

232 See WIK (2016) SMART 2015/0002 Regulatory, in particular access, regimes for network investment in Europe.

233 See WIK (2015) competition and investment, an analysis of the drivers of investment and consumer welfare in mobile telecommunications.

234 For example in SMART 2015/0002, WIK found a negative correlation between infrastructure and access competition, a link between cable coverage and wider NGA coverage, while NGA take-up was associated with lower NGA retail prices – which in turn were associated with a higher proportion of access-based competition.

The table does not cover mobile network sharing arrangements, which could be considered to constitute a formal link between the parties. Although mobile network sharing is prevalent in Europe today – and site, mast sharing and RAN sharing are common,²³⁵ as a result of the early reference date, some of the markets listed may not have featured network sharing at the time. Furthermore, where network sharing existed such as in the UK, the nature of the sharing was subject to guidelines or rulings by the NRA and/or the European Commission,²³⁶ which aimed to ensure that the effects of such sharing were not anti-competitive.²³⁷ However, it cannot be excluded that the *contacts* which were made as a result of the network sharing arrangements (including the preparations for those arrangements) may have facilitated co-ordination.

Table 12: Key structural, wholesale and retail indicators for seven mobile markets

235 For example RAN sharing applies in Austria, Belgium, France, Poland, Sweden and the UK and for certain operators in Czech Republic, Greece, Denmark, Italy, Spain.

236 See for example Case COMP/38.369 (Germany) and COMP/38.370 (UK). More recent cases include the French NCA opinion of 2013 on sharing and roaming on mobile networks http://www.autoritedelaconurrence.fr/user/standard.php?id_rub=483&id_article=2062.

237 RAN sharing with joint spectrum and core network sharing are expressly prohibited in a number of countries and apply only rarely *e.g.*, Sweden, Hungary and Italy (between Wind Tre and Iliad).

Cases	Country & reference date	Market shares (subscribers)	Wholesale agreements	ROCE (Source: New Street Research unless otherwise indicated)	Retail pricing (OECD basket average)	Subsequent change in in-market situation
Duopoly	MT (2006)	Symmetric and converging VF 51.5% Go Mobile 48.5%	None Unmet demand – delays in negotiating MVNO access	VF 42.09%, Go 36.71% (2005) (Source MCA)	ARPU stable and similar since beginning 2004 Pricing high by EU comparisons	MVNO access mandated 2005 Entry Melita mobile (2008)
Three player markets	BE (2007)	Proximus 43%, Mobistar 31%, BASE 27% Base expanding share	MVNOs on the networks of Base and Mobistar		Prices around OECD average (2004-2006)	None
	ES (2005)	TEF 52.5%, VF 28.9%, Orange 18.6% (2005)	None Refusal to reach MVNO agreements	TEF 49%, VF 21%, Orange 9% (2005)	Prices above OECD average (2004)	MVNO access mandated 2005 Entry Xfera/Yoigo (2006)
	FR (2005)	47.5% (Orange), 35.5% (SFR), 17% (Bouygues) Stable since 1999	A number of signed MVNO agreements but ART claimed terms limited competitive effect	FT 32%, SFR 26%, Bouygues 13% (2005)	Prices stable, but around OECD average (2004)	Entry Iliad 2011
Four + player markets	IE (2004)	54% Vodafone, 40% O2, 6% Meteor, 0% 3	None	VF 39%, O2 38% (2003) (Source Comreg) – increasing ROCE since 1999	Prices around OECD average, but higher for high usage baskets (2004)	MVNOs commercially agreed from 2007 onwards
	IT (2008)	TI 38.8%, VF 33.2%, Wind 18%, 3 9%	15 MVNO agreements signed with 4 operators – share 1% 2008	VF 34%, TI 26%, Wind 28%, 3-4%	Prices above OECD average (2008)	Wind/3 merger – entry Iliad
	UK (2008)	O2 27%, VF 26%, T-mobile 17%, Orange 24%, 3 7%	Commercial MVNO agreements with significant operators incl Virgin and Tesco	O2 15%, VF 16%, T-mobile 24%, Orange 32%, 3 -6%	Prices significantly below OECD average (2006-2014)	Orange/T-mobile merger 2010 (5-4)

5.2.1 Two player markets

There is only one case, Malta, in which we could observe the outcomes present in a two player mobile market at a time when mobile markets were already relatively mature. It is interesting in this case that the market shares of the two players were similar and converging. Denial of access despite demand, was a key feature of the case brought by MCA to support a joint SMP finding in this market.²³⁸ ARPU for both players was stable and similar. The ROCE of both operators was also relatively high compared with markets which were considered to be effectively competitive.

One example does not allow conclusions to be drawn about the degree to which a symmetric duopoly might be conducive to co-ordinated outcomes at the wholesale and retail level, but it is informative, when we also take into account the outcomes experienced in fixed broadband markets with a similar market structure as discussed in section 5.3.1.

5.2.2 Three player markets

In the three player markets included in the sample, we see three different dynamics as regards wholesale access.

- The Spanish market (prior to the entry of the fourth mobile operator in 2006) was characterised by challenges in agreeing the terms of MVNO access – despite the presence of MVNO licences granted by the MNO.
- MVNOs offers were agreed in the French market around 2005, during the period when it was a three player market. However, the NRA highlighted concerns in its 2005 market analysis that the conditions of access did not facilitate effective competition by the MVNOs. The NRA also made efforts to facilitate the agreement of MVNO agreements – and it cannot be excluded that the threat of regulation (and in particular the proposed finding of joint SMP in the draft ART market 15 analysis of 2005) may have incentivised the conclusion of agreements around that time.
- MVNO access was freely offered on the networks of the second and third MNOs in Belgium.

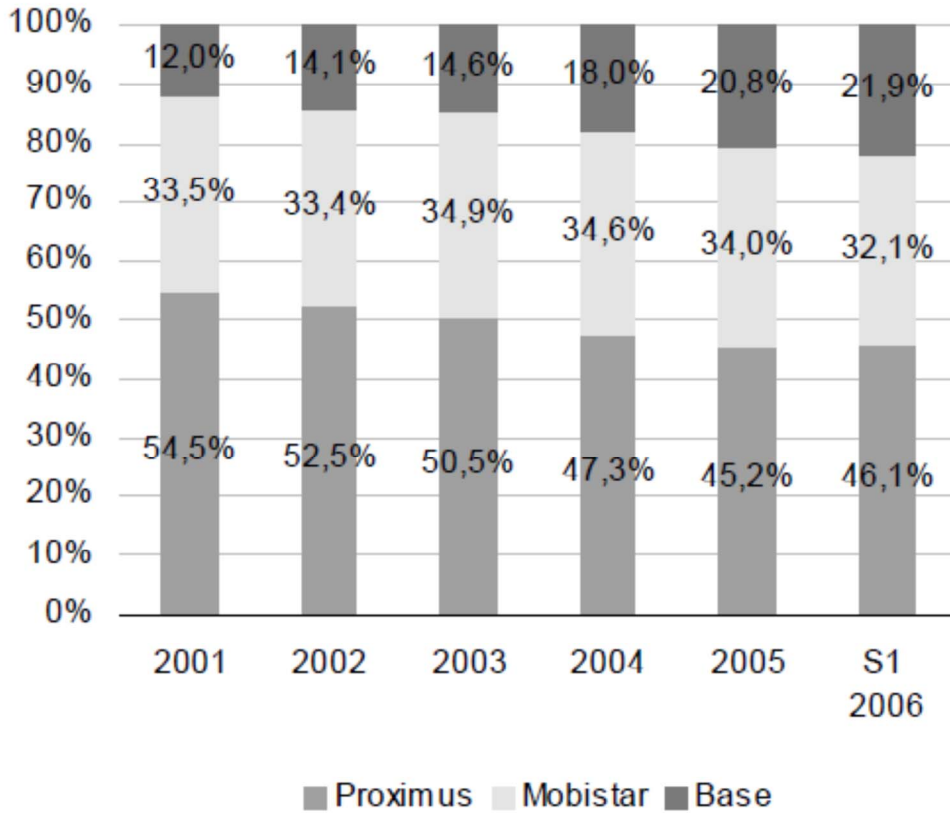
One could draw the tentative conclusion that in three player mobile markets, wholesale outcomes depend on the circumstance, and the competitive dynamics in the market concerned.

An important difference between the countries with and without a dynamic towards voluntary MVNO access is that the market shares of the three players in Spain and

²³⁸ See Case MT/2006/0443.

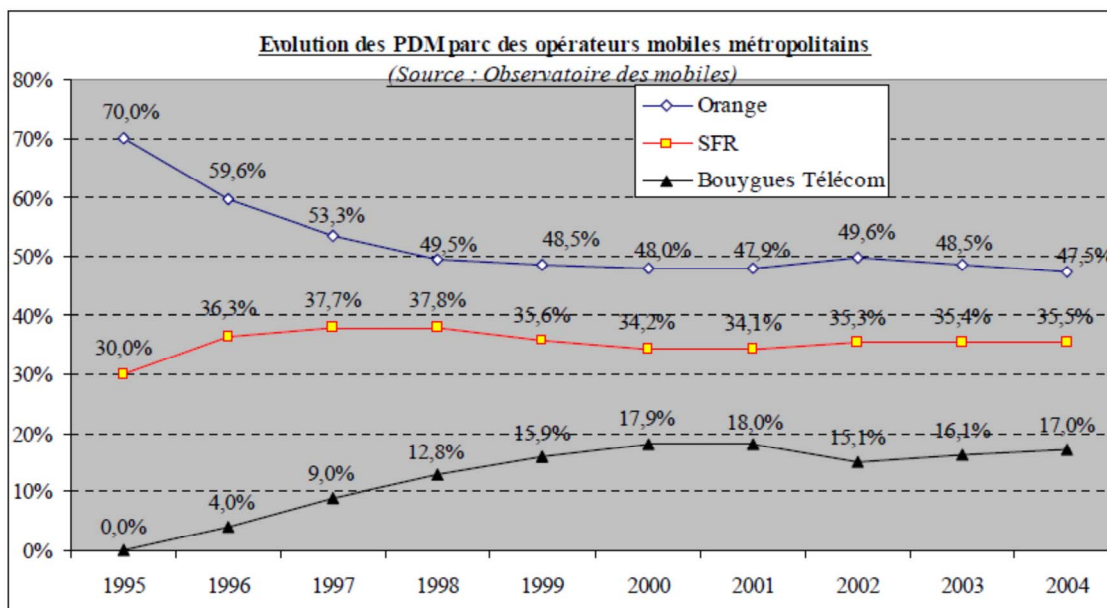
France had been *stable* (even if asymmetric), while in Belgium, the share of the third operator had been increasing relative to the leading two players.

Table 13 Evolution of market share (subscribers) Belgian mobile market



Source: BIPT Market analysis market 15 2007

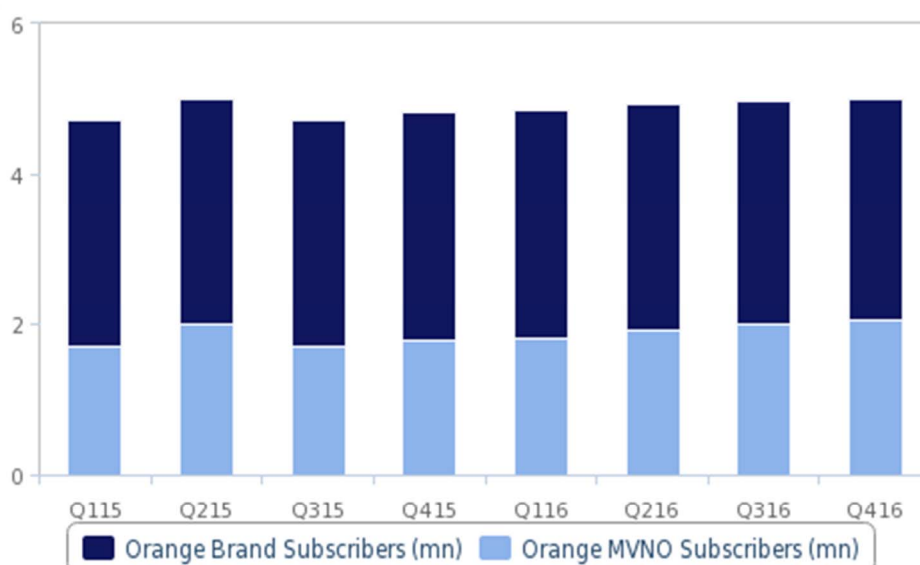
Figure 11: Evolution of market share (subscribers) French mobile market



Source: ART draft market analysis Market 15 2005

Indeed, the provision of wholesale access was presented by Base as a strategy to disrupt the status quo.²³⁹ The strategic direction of the third operator and its drive to increase market share could be seen as a key factor affecting outcomes in that case. Analysts have also suggested that sub-brands and providing MVNO access was commercially advantageous to Orange (Mobistar – the second MNO in Belgium).²⁴⁰ The respective strategies of the second and third MNOs in Belgium, and competition for MVNO hosting,²⁴¹ clearly indicates the absence of tacit collusion amongst the players in the market.

Figure 12: Orange subscribers



Source: BMI Research

Information about prices and profitability does not yield conclusive results around the potential effects of a three player market on retail outcomes. This may indeed support the hypothesis that outcomes may differ in a three player market. It is notable however that the ROCE levels of Telefonica in Spain (the only country from this selection in which joint SMP was found) were considerably higher than those in other countries.

5.2.3 Four + player markets

A first observation is that MVNO access either was at that time or later became (Ireland) widely available in the markets considered which had four or more MNOs. As discussed in section 4.6.2, commercial (unregulated) mobile access offers also became available

²³⁹ <http://corporate.kpn.com/web/file?uuid=a61b0953-b069-42cf-ba69-0acfa4681684&owner=9ec5bf96-ba39-4279-b0ea-370b7cd47698&contentid=2686>.

²⁴⁰ <http://www.telecomsinsight.com/company-trend-analysis-mvno-deals-will-help-telenet-usurp-orange-apr-2017>.

²⁴¹ See for example <https://corporate.orange.be/en/about-mobistar/partnerships>.

in Slovenia (another four player market), and were available on a commercial basis in Germany²⁴² and Austria prior to the consolidations which occurred in those countries.

One could draw the conclusion that commercially agreed MVNO offers are a common feature of mobile markets with at least four *established* operators. We refer to the need for the four operators to be established in view of the fact that commercially agreed MVNO access did not immediately emerge in some of the markets we reviewed in which there had been recent and/or unsuccessful entry by a fourth operator (such as IE, SI). This may have been due to greater reliance by entrants on roaming agreements (SI), and/or a lack of developed capacity by the entrant to support MVNOs.

Information about pricing and profitability from the limited number of players shown in the table is more mixed and does not allow us to draw definitive conclusions. This was also reflected in our 2015 econometric assessment of potential links between market structure, financial and consumer outcomes.²⁴³ However, it is notable that the only market in the sample that had five operators (the UK), featured particularly low prices and profits compared with comparators at that time, while Ireland, which did not have four fully functioning competitors, reported higher and similar levels of ROCE for the leading two operators.

5.2.4 Dynamics of entry and exit

A challenge with examining market structures and outcomes on a cross-country basis is that there are many country-specific factors, including factors around relative cost and demand for mobile services that could confound the analysis. It can also be helpful therefore to examine specific countries where the market structure changed over time.

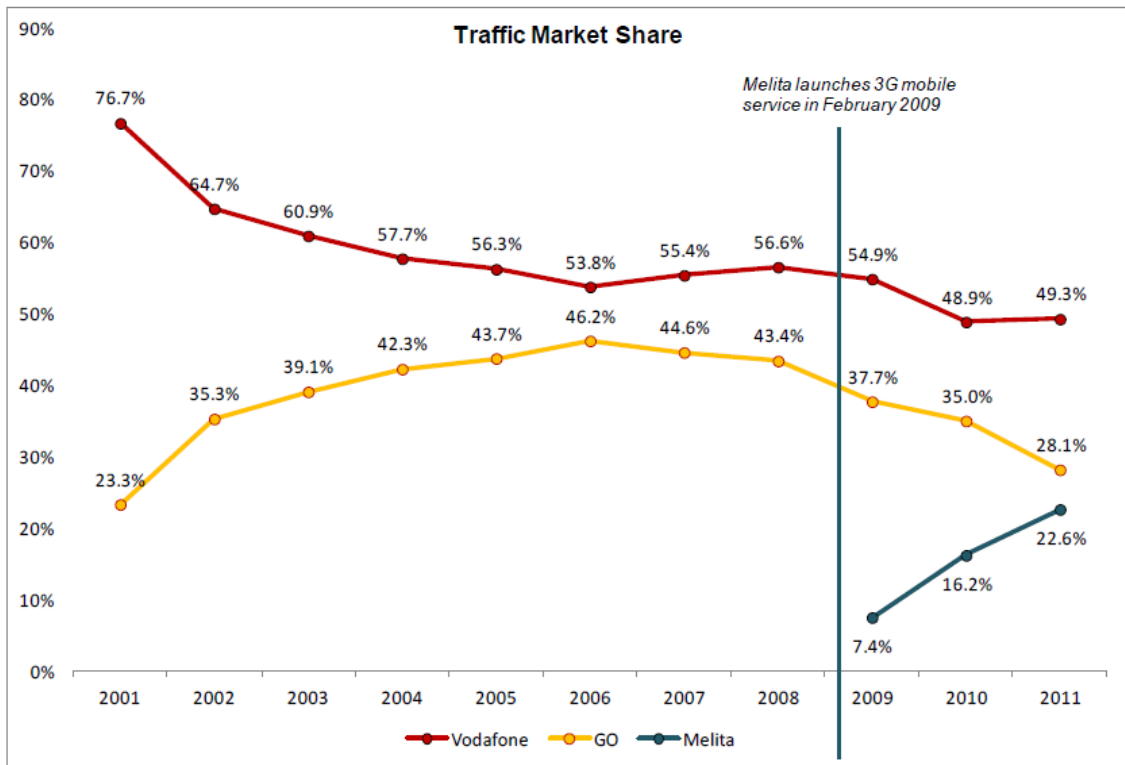
Malta 2 to 3

In 2009, three years following the joint SMP finding in the mobile market in Malta, the cable operator Melita launched 3G mobile services, increasing the number of MNOs from 2 to 3. Data from the MCA's market analysis of 2012 shows how market shares, which had previously exhibited parallel trends, began to diverge shortly before the entry of the third player.

²⁴² Although agreed on a commercial basis without the intervention of the NRA, the requirement to offer MVNO access was included within 2G licence conditions in Germany (expiring in 2016), while service provider obligations were included in 3G spectrum licences expiring in 2020.

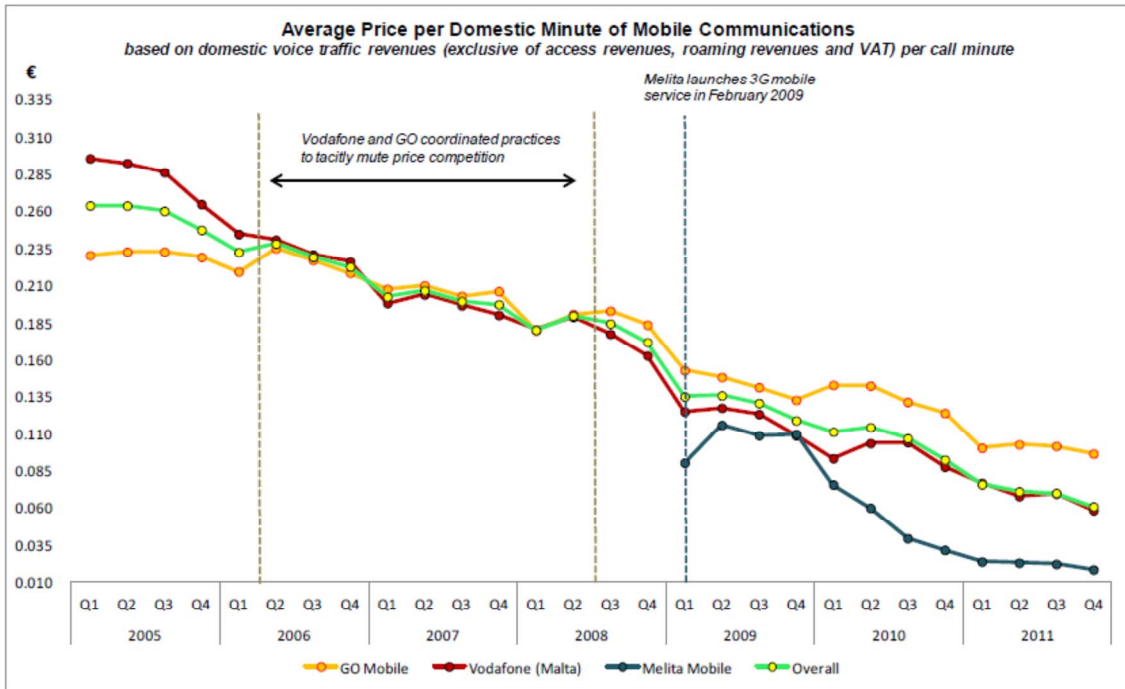
²⁴³ WIK (2015) Competition and Investment: an analysis of the drivers of investment and consumer welfare in mobile telecommunications.

Figure 13: Traffic market share



The evolution of prices is even more striking. Whereas in the period from 2006-2008, the average price per minute of the two operators was nearly identical, a pattern suggestive of tacit collusion, prices began to diverge shortly before the entry of Melita and thereafter continued on a divergent path, with clear price competition from the challenger.

Figure 14: Average price per domestic minute of mobile communications



MVNO access obligations, which had been previously imposed under the joint SMP finding of 2006, were lifted, after MCA concluded in 2012 that the market was no long susceptible to *ex ante* regulation. Despite the lifting of MVNO access obligations, MVNOs continued to be present on the market. The European Commission records²⁴⁴ that in 2016, MVNOs held 2% market share, a position which had been broadly stable since the entry of MVNOs around 2008.

Table 14: Retail market shares

Table 4– Retail Market Shares

MOBILE SUBSCRIPTIONS	2006 Q4	2007 Q4	2008 Q4	2009 Q4	2010 Q4	2011 Q4
Total number of mobile subscriptions	346,771	368,530	385,636	422,083	455,579	521,748
Vodafone	52.7%	53.1%	52.1%	49.6%	47.7%	49.8%
GO	47.3%	46.9%	45.9%	43.2%	42.1%	37.4%
Melita	-	-	-	5.6%	8.0%	10.7%
Redtouch fone	-	-	1.8%	1.7%	2.0%	1.9%
Ping	-	-	-	-	0.16%	0.14%
YOM	-	-	-	-	0.04%	0.05%

France 3 to 4

The entry of the fourth mobile operator Iliad in France, had a clear impact on consumer outcomes. As shown in section 4.6.1, it was associated with an increase in switching which disrupted previously stable market shares and led to a lower equilibrium on pricing. These effects are likely to have been due not only to the fact that there was a

²⁴⁴ Europe’s Digital Progress Report 2017 Malta telecom chapter.

new entrant, but that the entrant chose to pursue an aggressive strategy, and had an existing customer-base to leverage through its strong position in the fixed broadband market. As regards wholesaling, data from the Commission²⁴⁵ shows that there were still 50 MVNOs active in France as of 2016. The market share taken by MVNOs has declined from a high point of 13% around 2011, but this is likely due to the competitive pressure applied on all operators following the entry of Iliad.

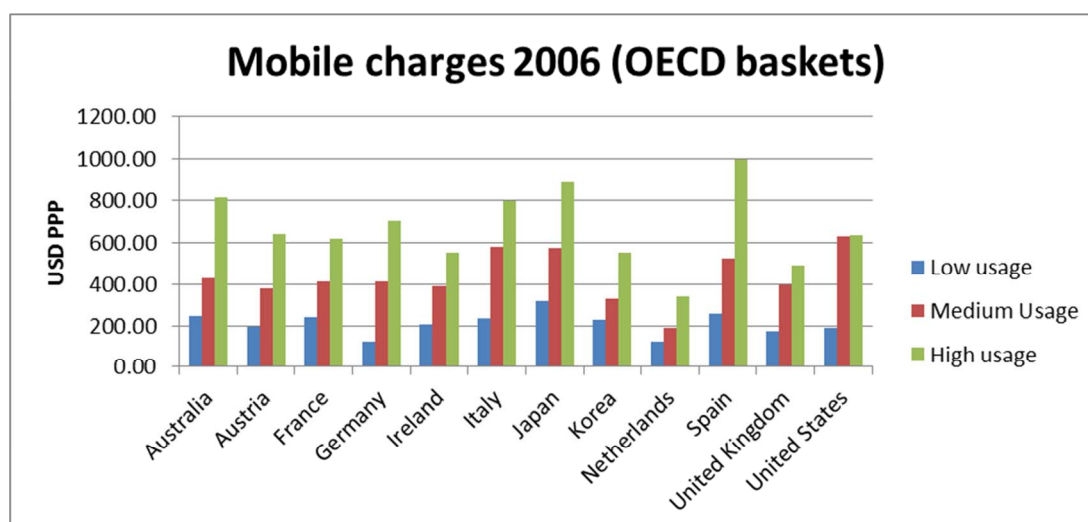
Netherlands 5-4-3

The effects of consolidation on market outcomes and wholesale behaviour should in theory be the same as those of entry, in the opposite direction. However, these effects may be more difficult to assess, as they might take more time to become apparent.

One case that is often considered in this context because it occurred some years ago, is the progressive consolidation that reduced the number of mobile operators in the Netherlands from 5 to 4 to 3. The first merger between KPN and Telfort was unconditionally cleared by the Dutch competition authority in 2005, while the second from 4 to 3 occurred between T-Mobile and Orange in 2007 – and received unconditional clearance from the EC.

The lack of a consistent time series for mobile prices in the Netherlands makes it challenging to gauge what, if any, impact consolidation had on mobile prices in the Dutch market. According to baskets defined by the OECD, prior to the merger in 2006, prices for low, medium and high user baskets in the Netherlands were cheaper than in all the other countries considered for this study. Prices remained amongst the lowest during the next OECD data gathering exercise for 2008.

Figure 15: Mobile charges 2006 (OECD baskets)



Source: WIK based on OECD Communications Outlook 2007

²⁴⁵ Europe's Digital Progress Report 2017: France telecoms chapter.

OECD basket methodologies changed for the publication of mobile pricing data from 2010 onwards.²⁴⁶ It is notable however that, according to the new methodology, the ranking of Dutch mobile charges for low, medium and high (call) baskets was between 4-6 out of the 12 considered countries as of August 2012, some years following consolidation and prior to the entry of Tele2 as a fourth mobile operator. There are various possible explanations, including the effect of the new basket methodology, as well as changing circumstances in the other markets considered. It cannot be excluded however that a reduction in competition may have contributed to higher charges.

As regards MVNO access, data from Analysys Mason suggests that commercial MVNOs were already present in the market prior to the initial merger, and that their market share continued to expand thereafter. However, the progress of MVNOs stalled in around 2008, shortly after the 5 to 4 merger. There was a subsequent uplift in the market share of MVNOs from 2012, around the time of the entry of Tele2 as a fourth MNO – and the market share of MVNOs was reported by the Commission²⁴⁷ as 19% in 2016, one of the highest levels in Europe.

5.2.5 Observations from mobile cases

Although each case would need to be assessed on an individual basis, an examination of mobile market structures and the associated wholesale behaviours and retail outcomes allows us to draw the following provisional conclusions about factors which are relevant to a joint SMP assessment:

- Actual wholesale and retail conditions and profit levels in mobile markets can often be assessed, because they are typically free from wholesale access regulation, although this is not true in recent cases in which mergers have been addressed through *ex post* remedies. In some countries, license conditions also foresee some form of MVNO access.
- Mobile markets with four *established* players are often characterised by voluntary MVNO access provision and contested prices. Commercial MVNO access could be said in this context to be indicative (although not determinative) of competitive mobile markets. There may, however, still be instances of four player markets in which demand for MVNO access is not met, with such cases providing a possible focal point for collusive behaviour.
- The outcomes in mobile markets with 3 players or markets which involve fringe players which have not yet achieved critical mass vary. They can be, but are not

²⁴⁶ The OECD adapts the baskets every two years to the changed demand behavior of the users and the changed offers of the network operators. As a result, the number of baskets has risen significantly over the time and their contents have also changed. Between 2008 and 2010, the OECD progressed from baskets for low, medium and high use including respectively 360, 780 and 1680 minutes of calls and an allowance for SMS and MMS towards baskets for respectively 30,100, 300, and 900 minutes of mobile calls. The baskets were further adapted in 2012 to include mobile data.

²⁴⁷ EU Digital Progress Report 2017 Netherlands Telecoms chapter.

necessarily, associated with a lack of effective MVNO offers, high profits and suboptimal outcomes. The markets which appear more problematic have been characterised by relatively stable market shares (even if not symmetric) and pricing, and the absence of aggressive strategies by the challengers (including wholesale access agreements) to gain market share.

- The single symmetric duopoly case was characterised by both denial of access and high, parallel pricing and profits.
- An examination of markets in which the market structure has changed over time tend to support the theory that new entry (at least from 2-3 and 3-4) can, where effective, have a disruptive effect on market shares and pricing, destabilising pre-existing parallel conduct. Based on analysis of the Dutch case, it is possible that consolidation might have the opposite effect, although developments might play out over a longer period of time.

5.3 Fixed cases

Because nearly all mobile markets in Europe feature at least three network operators, there is limited evidence on the impact of duopolies. Moreover, lower economies of scale for the construction of mobile networks compared with end-to-end fixed networks, is an important distinguishing feature which means that barriers to entry may be lower for mobile – providing availability of suitable spectrum.

On the other hand, when we look at fixed broadband markets, a challenge is that *ex ante* regulation has been applied in most cases, thereby potentially influencing indicators at both the wholesale and retail level. There are however, some examples that allow us to gauge what might be the potential effects of typical market structures.

The table below includes markets with a nationwide incumbent cable duopoly structure which have no NGA access regulation (US), or limited take-up of such (BE and MT) and compares them with the Netherlands, a country with a similar duopoly market structure, but greater take-up of access regulation.

The developments in these duopoly cases can be contrasted with the cases of dense urban areas in France, Spain and Portugal, where – in the absence of NGA wholesale access regulation, but specific attention to duct access regulation - disruptive FTTH entry has occurred, adding a third (and in some locations fourth) network to existing incumbent and cable networks. They can therefore be seen as cases involving three significant players. These cases have also involved fixed co-investment/network sharing. Finally, we look at structures and outcomes in Romania, a market in which there is more intense infrastructure-based competition in broadband, supported by the lower costs of deployment and relative lack of development of the copper network, which reduced entry barriers for challengers in this case. Lastly, we examine the historic case of unregulated broadband markets prior to the widespread introduction of local loop unbundling in Europe.

Table 15: Key structural, wholesale and retail indicators for fixed broadband markets

Cases	Market structure (EC) 2016	Wholesale regulation and/or commercial agreements including network sharing/co-investment	Fixed number portability (EC (2016))	Retail monthly minimum pricing 30-100Mbit/s Double play (EC Oct 2015)	Retail monthly minimum pricing 30-100Mbit/s Triple play (EC Oct 2015)	Retail quality 2016 (EC/Akamai)
Duopoly (no/limited access)	BE: 46%/51%	Declining ~3% 2016 – mainly bitstream/ resale	3.7%	€40.3	€58.6	Limited deployment FTTP 15.9 Mbit/s
	MT 50%/48%	Limited <3% - down from 30% in 2006	0.5%	€47.1	€59.8	FTTP <20% 12.9 Mbit/s
	US 63% (cable)/ ~33%	Limited (fell following deregulation)	n/k	High (by OECD comparisons)	High (by OECD comparisons)	FTTP 25% 17.2 Mbit/s
Duopoly with access (NL)	NL 41%/44%	Regulated (mostly unbundling Tele2 5-10%), VULA – under threat of regulation	11.8%	€32.4	€43.5	FTTP ~30% 17.6 Mbit/s
3+ dense areas – no access regulation	FR, ES, PT Regional shares not known	Voluntary co-investment (Orange/VF, VF/PT) + wholesaling ES (Masmovil/Orange)	6.8% ES 2% PT	FR €32.8 ES €46.5 PT €42.2	FR €23.6 ES €60.8 PT €73.3	PT FTTP >80% 12.6 Mbit/s ES FTTP >60% 15.4 Mbit/s
4+ Infra competition	RO 25% (inc) 13% cable	Limited (never significant)	1%	€21.4	€30.6	FTTP 60% 16.1Mbit/s
Average				€35.4 (EU)	€43.5	FTTP 24% (EU)

Source: FTTP deployment (IHS/VVA for EC), retail broadband pricing (Van Dijk BIAC for EC), data on market shares, fixed number portability from Europe's Digital Progress report 2017, actual download speeds based on Akamai

5.3.1 Incumbent cable duopolies

Market structure

There are three cases in Europe where there is near ubiquitous cable coverage alongside the incumbent copper/FTTx network – Belgium, the Netherlands and Malta. The US provides a similar example internationally.

Other structural characteristics shared by these countries are; (i) the wholesale broadband market shares of the incumbent and cable have been relatively stable and similar (except in the US where the incumbent shares are lower relative to cable) and (ii) there has been limited sustained entry based on infrastructure competition.

In the US, the entry of Google fibre in 2010 as a challenger to the incumbents and cable has been limited to selected cities, and in 2017 Google's parent company Alphabet deployment has been scaled back – to be replaced by wireless access.²⁴⁸ The early promise of WIMAX in Malta did not ultimately materialise (see section 4.6.3), while the fibre-entrant Reggefiber in the Netherlands, was later acquired by the incumbent KPN.²⁴⁹ In Belgium and the Netherlands, the potential for additional end-to-end infrastructure competition may in general be constrained due to the absence of re-usable ducts, and relative small scale of access-based competitors.

Wholesale access regulation

The approach to wholesale broadband access regulation differs in the four countries considered. In the US, unbundling provisions in broadband markets were withdrawn by the USTA I decision in 2002²⁵⁰ and phased out by the Triennial Review Order of 2003.²⁵¹ Since 2005 the U.S. has therefore had no effective unbundling requirements for fixed telecommunications networks. This allows a view of wholesale conduct in the absence of any regulation.

In Malta regulated wholesale access has been available in principle from the incumbent on the basis of a single SMP finding in the market for wholesale local access (WLA, former M4, current M3a²⁵²). Remedies include LLU and VULA. However, regulation of

²⁴⁸ <https://www.wired.com/2017/02/google-fiber-restructure/>.

²⁴⁹ KPN gradually increased its stake in Reggefiber eventually acquiring full ownership in 2014.

²⁵⁰ United States Telecom Association vs. Federal Communications Commission, Court of Appeals for the D.C. Circuit, 24 May 2002.

²⁵¹ FCC, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking in the matters of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability; Appropriate Framework for Broadband Access to the Internet over Wireline Facilities (Triennial Review Order) (2003).

²⁵² Commission Recommendation 2014/710/EU of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 295, 11.10.2014, p. 79.

bitstream was removed following the 2009 finding by the MCA of ,no SMP' in the market for wholesale broadband access.

Similar to Malta, in the Netherlands copper and fibre LLU has been mandated on the incumbent on the basis of single SMP within the WLA market, while ,no SMP' was found in the wholesale central access (WCA) market (current M3b²⁵³).²⁵⁴ The NRA also made clear that in the absence of a commercial agreement between KPN and its competitors meeting certain conditions, it would mandate FTTC/VDSL VULA on the basis of cost-orientation.²⁵⁵

Finally, in Belgium, regulation on the incumbent on the basis of cost-orientation has been applied for both LLU and bitstream under WLA and WCA (former M4/5, current M3a/3b²⁵⁶) decisions, which since 2009 also included wholesale access to FTTC/VDSL bitstream.

Wholesale access conduct

A first noteworthy point is that cable access offers have not been made available on a voluntary basis in any of the countries concerned. In Malta, the cable operator Melita refused to implement an access obligation pre-dating Malta's accession to the EU, while cable operators in Belgium did not reach any voluntary agreement with Orange Belgium, despite its clear desire to obtain cable access. Cable wholesale access was subsequently mandated via a single SMP finding by the NRA as described in section 4.4.3.

Similar patterns that are indicative of (constructive)²⁵⁷ refusal by the incumbent to supply wholesale access can be seen in the US, Belgium and Malta. Following the deregulation of LLU in the US – there was a near complete decline in the market share of alternative operators relying on wholesale access, leaving most customers with access to only one or two broadband offers, and less choice at higher speeds (see following figure).

²⁵³ Ibid.

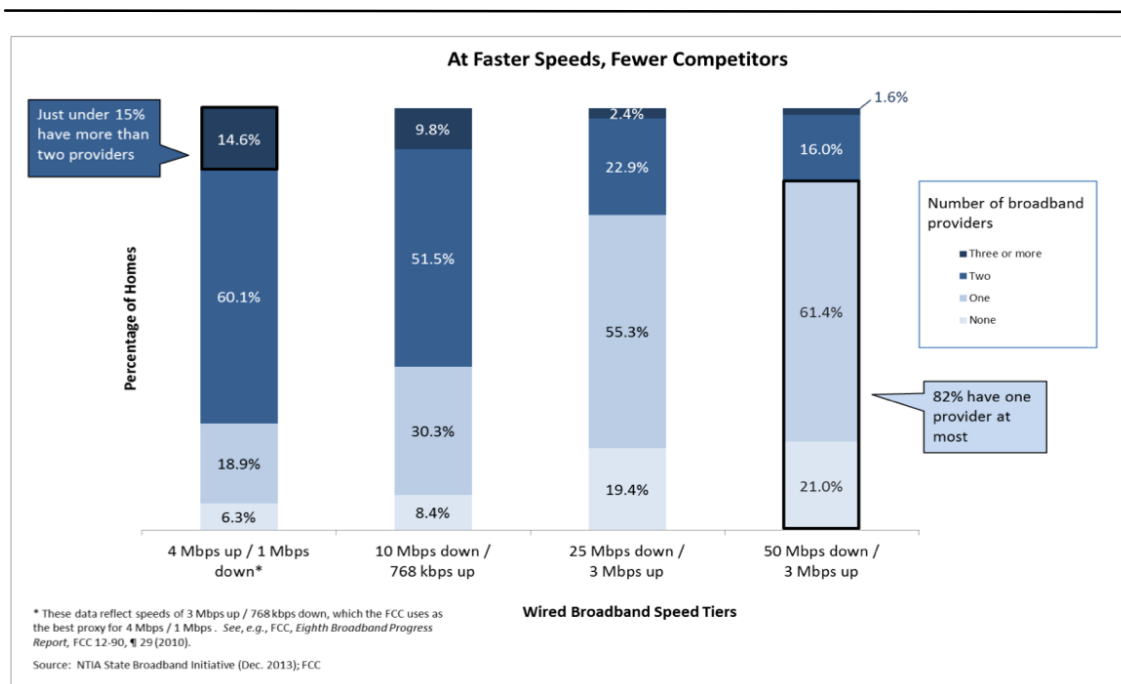
²⁵⁴ See Article 7 case NL/2012/1299. The no SMP decision applies to low-quality bitstream. Obligations for the supply of high-quality bitstream access were maintained.

²⁵⁵ In practice in the presence of these incentive mechanisms, the industry was able to commercially agree VULA charges, and on 28 July 2015 ACM acknowledged the negotiated tariffs for VULA as the regulated price caps.

²⁵⁶ Commission Recommendation 2014/710/EU of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 295, 11.10.2014, p. 79.

²⁵⁷ Refusal to supply can manifest itself through a straightforward denial of access. However, especially in cases where operators are or have been subject to regulatory obligations to supply, it can manifest itself in more subtle ways. Declining wholesale access market shares despite the existence of demand, might indicate that there are challenges with the technical aspects of the product offering (e.g., limited potential to differentiate from the host), discrimination in provisioning or quality of services and/or pricing.

Figure 16 Choice of broadband supplier in US – segmented by speed



Source: NTIA, State Broadband Initiative Data (Dec. 2013); FCC

The denial of access by the traditional US incumbents occurred despite the potential risk that customers of alternative operators might switch to cable operators. Bitstream on the Belgacom network has been in decline, and is now minimal on the network of Go in Malta despite demand for fixed wholesale access to build converged offers from the MNOs Orange (Mobistar) in Belgium, and Vodafone in Malta. LLU was never pursued to a significant extent in Belgium and Malta, amongst other reasons because the incumbents' relatively early installation of FTTC/VDSL rendered ADSL technology uncompetitive.

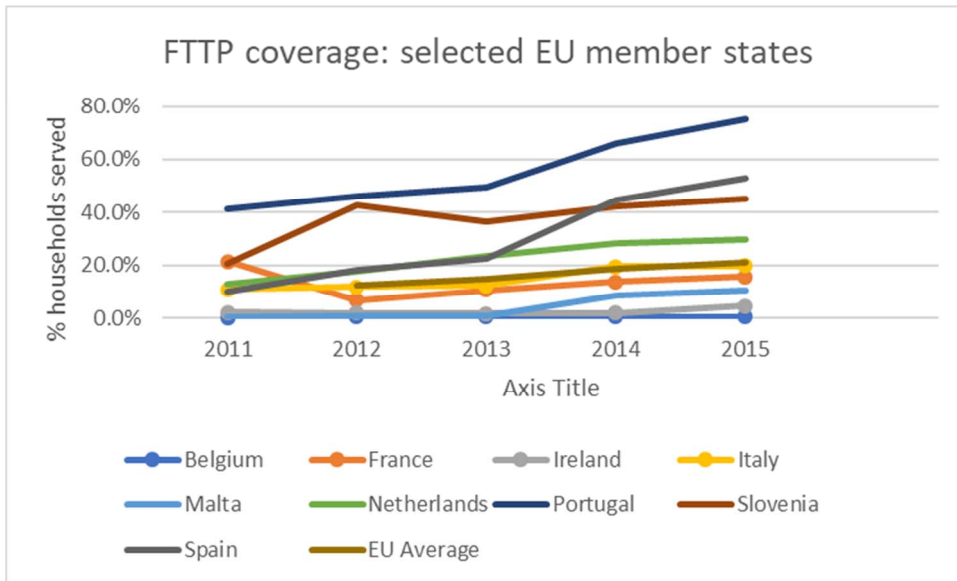
The Netherlands provides a contrasting case in which there was significant take-up of regulated copper LLU from an early stage (although take-up of fibre LLU has been more limited). It is also notable that in 2015 a commercial agreement was reached between KPN and alternative operators on terms and conditions for VULA. However, according to the NRA,²⁵⁸ agreement on the terms of VULA was made under the threat of regulation including the threat that the NRA would decline to approve KPN's proposal to deploy vectoring – undermining KPN's ability to compete with cable. Thus, the agreement could not be considered as wholly voluntary.

²⁵⁸ Interview with ACM in the context of the study by WIK (2016) Risky Bottleneck Assets https://www.ofcom.org.uk/data/assets/pdf_file/0027/82728/wik_regulatory_approaches_to_risky_bottleneck_assets.pdf.

Retail outcomes

A first noteworthy point concerning retail outcomes, is that the level of FTTH deployment in Belgium and Malta is limited and deployment plans delayed in comparison with the European average (see figure below). These are two countries in which there was no disruptive competition in the provision of FTTH by a third player which may have disturbed the duopoly dynamic.

Figure 17: FTTP coverage: selected EU member states



Source: IHS/VVA for the European Commission

FTTH deployment is higher in the US at around 20% of households,²⁵⁹ but remains around the EU average and has been selectively rather than aggressively deployed. Verizon scaled back its initial FioS plans to place more focus on wireless,²⁶⁰ while AT&T’s FTTH deployment has been relatively recent,²⁶¹ and may have been in part in response to Google’s selective deployments – which have now been scaled back.

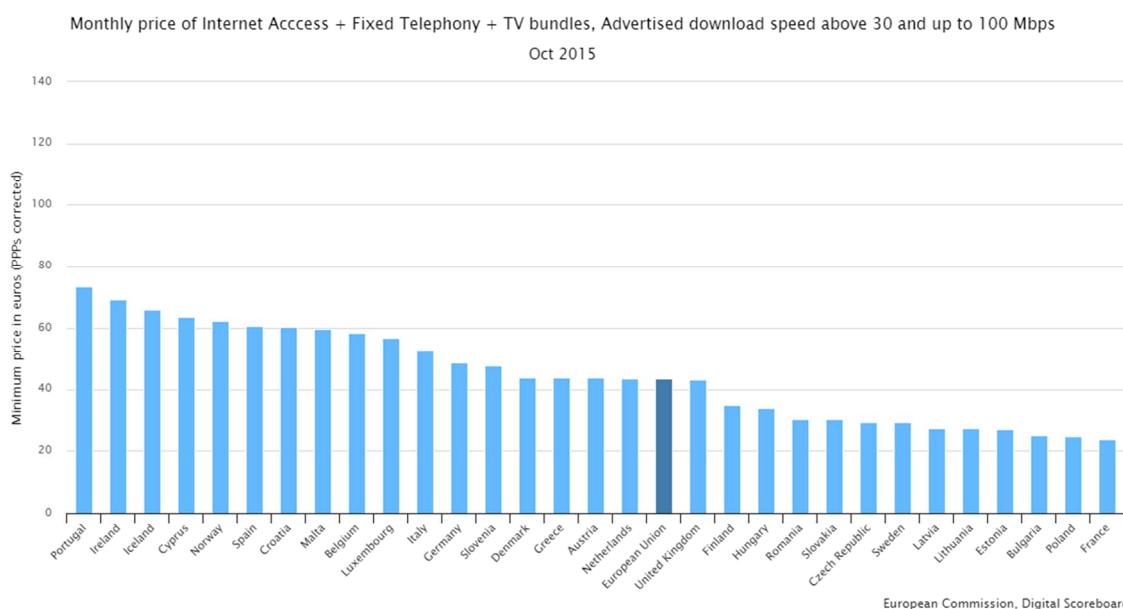
Although there were steady FTTH deployments by Reggefiber in the years following its launch, FTTH coverage in the Netherlands has now stabilised at around 30%, a strategy which may have been influenced by KPN’s decision to focus on FTTC/VDSL vectoring following its acquisition of Reggefiber in 2014.

Prices for typical broadband access bundles in Malta, Belgium and the US have remained high relative to European averages, notwithstanding periodic adjustments

²⁵⁹ IDATE.
²⁶⁰ <https://arstechnica.com/information-technology/2017/04/verizon-spends-1b-on-fiber-but-its-for-5g-wireless-not-more-fios/>.
²⁶¹ AT&T expected to reach 51 metro markets with FTTP by Feb 2017 <http://www.lightwaveonline.com/articles/2017/02/at-t-expects-to-reach-51-metro-markets-with-fttp-by-end-of-this-month.html>.

(see below data on triple play broadband at speeds of 30-100Mbit/s). Comparable prices in the Netherlands are lower, which could to some extent reflect the additional pressure on prices resulting from unbundling competition, which is only present in this market out of the four considered.

Figure 18: Monthly price of triple play bundles 30-100Mbit/s 2015

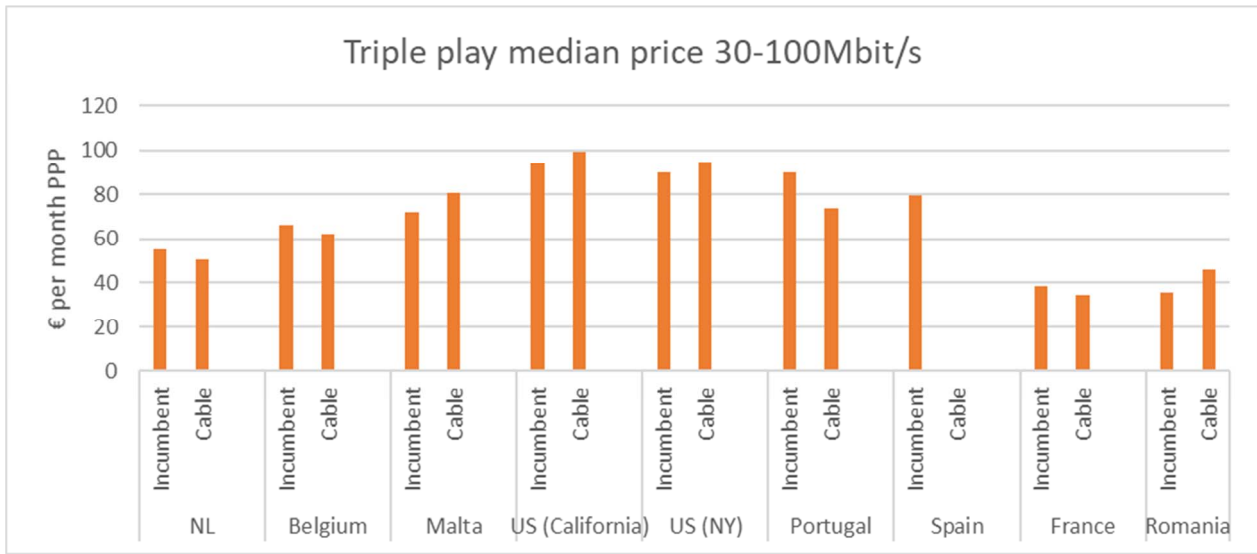


Source: European Commission Digital Scoreboard

A further interesting observation is that not only are prices in Belgium, and to a greater extent Malta and the US – higher than prices in the Netherlands – which has been subject to greater competition on the basis of wholesale access, but that prices for cable and incumbent offers are similar – despite the fact that cable can be upgraded to offer speeds of more than 30Mbit/s at lower cost than copper networks.²⁶² Similar pricing in the presence of different costs, could be viewed as an indicator of price following rather than price competition signalling the close attention paid by the two leading operators to the price charged by the other. This pattern is not however confined to duopoly countries, but may also extend to certain 3+ countries as discussed below.

²⁶² For example the EIB estimates that for the ‘minimum high speed broadband scenario’ – the average cost per household would be €330, or just €191 with cable
http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=777.

Figure 19: Monthly price of incumbent and cable triple play bundles 30-100Mbit/s 2015



Source: WIK based on BIAC for the EC

5.3.2 3+ cases: disruptive entry in urban centres

Market structure

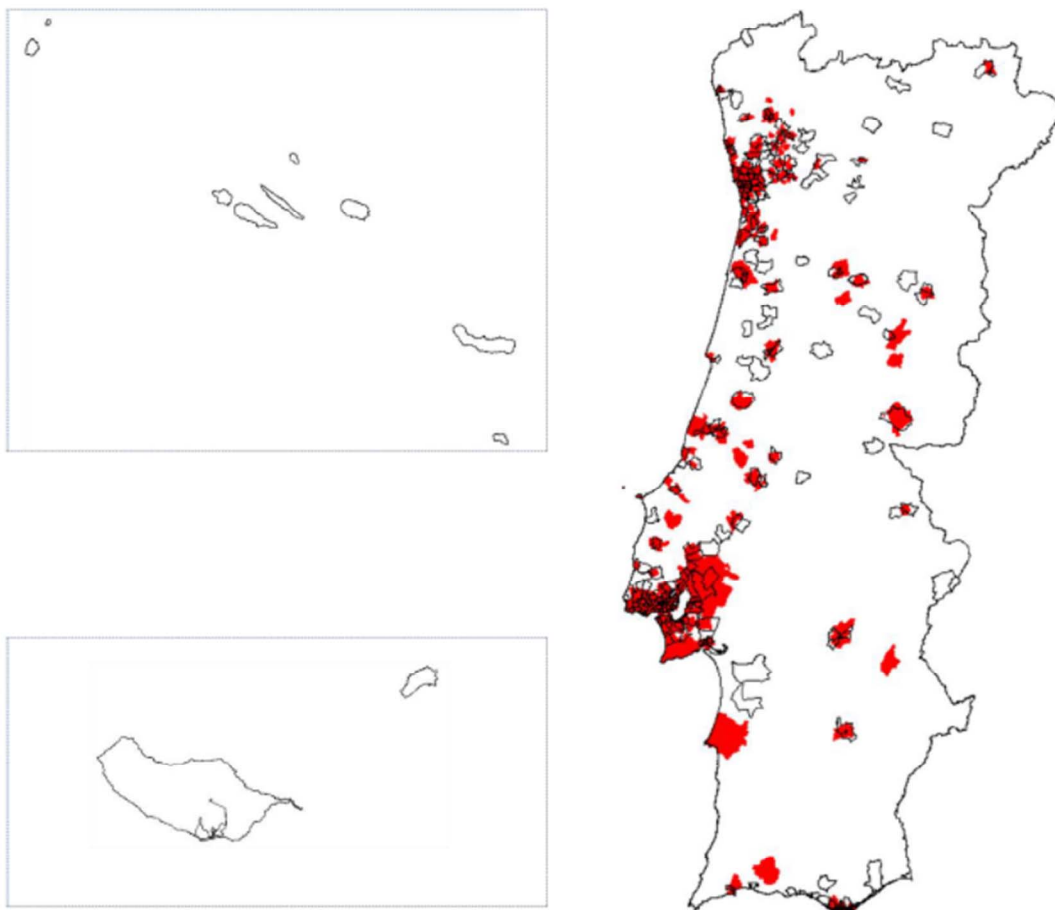
In order to examine the dynamic in fixed broadband which involve a third (and potentially smaller scale fourth) infrastructure operator in addition to the incumbent and cable operator, we turn to developments in dense urban areas as identified by NRAs in market analyses in France, Spain and Portugal.

In these areas, a third, and to a lesser extent a fourth, operator have deployed FTTH networks to a significant portion of households, while incumbents and in some cases cable operators (e.g. France) have also upgraded their networks towards FTTH/B.

For example, areas in red in the figure below show where there are at least two alternative operators to the incumbent with more than 50% coverage of very high capacity broadband. According to ANACOM, 55.5% of households were in these areas at the end of 2015..

Figure 20: Local exchanges with co-located operators (in black) and district where there are at least 2 alternative operators with a coverage >50% (in red)

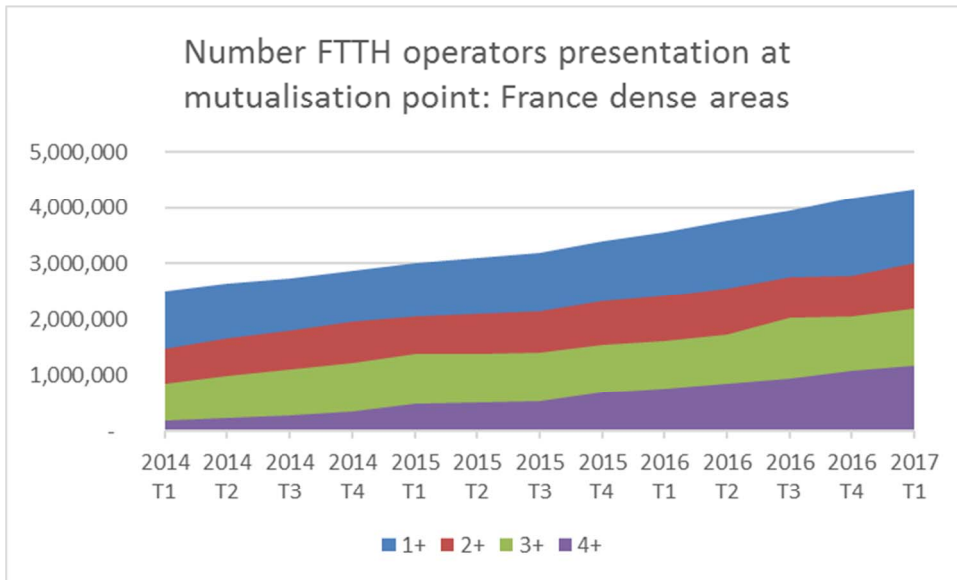
Figura 10. Áreas de central com operadores coinstalados (contorno a negro) e freguesias onde existem pelo menos dois operadores alternativos à MEO com cobertura superior a 50 por cento (áreas a cor)



Source: ANACOM

Meanwhile, as shown by the diagram below, in very dense areas of France, more than 50% of households have access to three or more FTTH providers, while 27% have access to four or more.

Figure 21: France dense areas: Number of FTTH operators present at the mutualisation point



Source: WIK based on ARCEP

Information concerning retail broadband market shares in these specific zones may not be available. However, the presence of smaller fourth infrastructure players in France (Bouygues) and Spain (Yoigo) may imply more imbalanced rather than equal shares.

Wholesale access regulation

In all three regions, wholesale regulation has been limited to access to in-building wiring²⁶³ on the basis of symmetric regulation and physical infrastructure access (including access to ducts) on the basis of SMP regulation. There is no regulated SMP access to the NGA network of the incumbent.

However, competition law remedies²⁶⁴ following the merger of Numericable and SFR in France require it to continue to offer cable bitstream services, while following the acquisition of Jazztel by Orange Spain in 2015, Orange was required to divest an independent FTTH network and to offer wholesale access to Jazztel’s national ADSL network to the purchaser of that network for 8 years.²⁶⁵

Wholesale access conduct

It is notable that in all three countries in which there are areas which have a degree of 3+ infrastructure competition in NGA, *co-investment* arrangements involving the

²⁶³ The obligation is extended in Paris to include the aggregation of households in less dense ‘pockets’ within very dense areas.
²⁶⁴ See http://www.autoritedelaconurrence.fr/user/standard.php?id_rub=592&id_article=2445.
²⁶⁵ http://europa.eu/rapid/press-release_IP-15-4997_en.htm.

agreement of reciprocal wholesale or unbundled access have been concluded between some of the parties.

Voluntary co-investment agreements have been concluded between Orange/Jazztel and Vodafone in Spain,²⁶⁶ and Vodafone and Portugal Telecom,²⁶⁷ in Portugal. On the one hand, these arrangements could be seen as representing the positive outcomes of a competitive market. However, on the other, they clearly signal that there are formal linkages between at least some of the market participants.

In France, co-investment was mandated under specific symmetric legislation.²⁶⁸ This makes it difficult to conclude which agreements under which terms would have been concluded in the absence of regulation. Given developments in Spain and Portugal, it seems possible that agreements may have occurred in the absence of regulation between some of the parties (potentially amongst competitors) in order to strengthen their network reach in an environment characterised by infrastructure competition. However, a feature of the French market that is not seen in the other countries, and which is likely due to the regulatory regime, is that co-investment arrangements involve multiple players with unequal market positions rather than focusing on reciprocal deals. The underlying regulatory basis of the co-investment and intervention of the NRA during the course of 2011 in setting the terms for co-investment between the main parties, may also indicate an absence of collusion in this case.

Another noteworthy point is that prior to its merger with SFR, the cable operator Numericable reached a voluntary arrangement to provide bitstream access to Bouygues.²⁶⁹ This is in contrast with the conduct of cable operators in the duopoly markets discussed in the previous section, which had denied access. It is possible that the environment of intense infrastructure-based competition coupled with the low retail broadband market share of Numericable prior to its merger with SFR, may have provided the conditions which incentivised Numericable to reach such an agreement. In applying its remedies on the merger, the French Competition Authority expressed

266 In 2013 Vodafone Spain initially entered into an FTTH partnership arrangement with Orange, in order to meet the competitive challenge of the incumbent Telefonica. The target was to provide Spanish consumers with a world-class FTTH network, commercially available from January 2014. However, the arrangement was modified in 2014 following Vodafone's acquisition of cable operator ONO indicating that the companies will collectively build FTTH to 2 million premises across Spain <http://www.vodafone.com/content/index/about/policy/news/public-policy-news-releases/2014/vodafone-spain-orange-spain-fibre-sharing-agreement.html>.

267 Co-investment between Vodafone and MEO/PT on 900,000 households. Each operator will have access to 450,000 new houses. Each operator has access to 50% of the capacity of the shared PON network (dark fiber). Access provided in a IRU model (indefeasible right of use). Disagreement in 2015 on whether agreement includes consultation between operators on sharing of FTTH connections after reaching 900,000 households. http://www.jornaldenegocios.pt/empresas/telecomunicacoes/detalhe/fibra_optica_desacordo_de_partil_ha_da_rede_entre_meo_e_vodafone.

268 ARCEP adopted its initial FTTH decisions in 2009-10 on the basis of a specific national law developed for this purpose. The regulatory rules concerning fibre access and co-investment apply equally to all operators installing FTTP – *i.e.* they are symmetric.

269 This arrangement is referenced in the competition authority's decision concerning the Numericable/SFR merger http://www.autoritedelaconurrence.fr/user/standard.php?id_rub=592&id_article=2445.

concerns that the reduction in competition (from 4 to 3 major infrastructure providers) and increase in the market position of Numericable/SFR might lead to a situation where it would no longer have an incentive to collaborate with Bougyes.

Retail outcomes

As observed in the study SMART 2015/0002, an important consequence of the introduction of disruptive competition from third/fourth operators in France, Spain and Portugal has been increased investment in broadband access through the deployment of FTTH. These deployments started within dense urban areas, but once begun have extended beyond – especially in the case of Spain and Portugal. A recent announcement from SFR/Numericable suggests that France too could see commercial coverage to around 80% of households.²⁷⁰ This development contrasts with the slower or more limited deployment of FTTH in those countries including Belgium and Malta in which there was no disruptive entry and a symmetric duopoly market structure.

Bundles of at least triple play, and often quadruple play have become standard in these countries. As regards the broadband quality outcomes experienced by consumers, it is interesting to note that although FTTH networks are in theory capable of speeds of up to 1Gbit/s and more, the premium broadband offers by the leading operators in Spain and Portugal until recently²⁷¹ tended to cluster around maximum speeds of 300Mbit/s symmetric in the case of Spain and 200Mbit/s in the case of Portugal. 1Gbit/s fibre is on the other hand available from a number of competing providers in France.

Similar to the pattern in quality, price benchmarks in France, Spain and Portugal suggest that broadband bundles are priced at levels that match or exceed the EU average for bundles offered at speeds of 100Mbit/s and above, while prices in France, especially those from competitors, are considerably lower.

Thus, an interesting pattern can be seen whereby the addition of at least a third challenger to incumbent and cable operators in fixed broadband may tend to increase investment incentives improving the overall quality of broadband connections. However, the bandwidths offered to consumers and associated price may vary depending on market dynamics. Market dynamics could be influenced by willingness to pay (which is notoriously low in the French market), and the degree to which any fourth operator is able to exert competitive pressure through its own fibre infrastructure. It is also theoretically possible, although by no means proven that the 'links' between the operators associated with the voluntary co-investment arrangements might affect retail outcomes.

²⁷⁰ <http://www.linformaticien.com/actualites/id/44528/sfr-veut-fibrer-80-du-territoire-sur-fonds-propres-d-ici-2022.aspx>.

²⁷¹ 1Gbit/s offers have become available in Portugal, and have now been announced by Vodafone in Spain - see <https://www.telegeography.com/products/commsupdate/articles/2017/09/18/vodafone-spain-to-launch-gigabit-broadband-service/>.

5.3.3 Infrastructure competition in FTTH – Romania

Market structure

Romania is characterised by infrastructure competition in the provision of FTTH involving four or more competitors. Concentration levels are very low. As of 2016, the incumbent's share of fixed broadband was under 25%, while cable had a market share of 13%.²⁷² The largest market share in the broadband market was held by an alternative operator.

The Commission²⁷³ reported that there were 697 operators active in providing fixed broadband Internet access, of which 29 were cable operators, and 150 relied on fibre.

A distinguishing feature of the Romanian market, which sets it apart from most countries in Western Europe, is that the copper network was relatively under-developed, and the costs of fibre deployment are low due to the potential for aerial and façade deployment. These differences may limit the degree to which Romania can be treated as a comparable case. It is nonetheless interesting as one of few examples of effective widespread infrastructure-based competition in very high capacity broadband.

Wholesale access regulation

On the basis of such intense infrastructure competition, in 2015 ANCOM became the first regulator in the EU to fully deregulate both the WLA and WCA markets (3a and 3b).²⁷⁴ Thus there is no regulated access to LLU or bitstream (basic or NGA) in Romania.

Wholesale access conduct

As competition in fixed broadband markets is largely infrastructure-based, there was limited demand for wholesale access, even when access to unbundled local loops was subject to regulation. Following deregulation, the use of wholesale access continues to be limited in comparison with other EU member states.

Nonetheless, the Commission reports²⁷⁵ that following deregulation several access contracts were concluded between operators at wholesale level, on a commercial basis. These commercial agreements made it easier for fixed and mobile operators to provide services in areas where their own networks were not (or less) developed.

Retail outcomes

As of 2016, Romania had achieved high levels of NGA coverage (72% of households in 2016), including 60% of households covered through FTTP. 55% of retail fixed

²⁷² Europe's Digital Progress report 2017: Romania Telecoms chapter.

²⁷³ Idem.

²⁷⁴ The WCA market had already been deregulated since 2010.

²⁷⁵ Europe's Digital Progress report 2017: Romania Telecoms chapter.

broadband connections are supplied on the basis of FTTH/B technology and quality levels are high.

As of June 2016, 57% of broadband connections were at speeds of above 100Mbit/s, placing Romania in first position in the EU in this respect.

Prices for high speed connections are also significantly below the EU average.

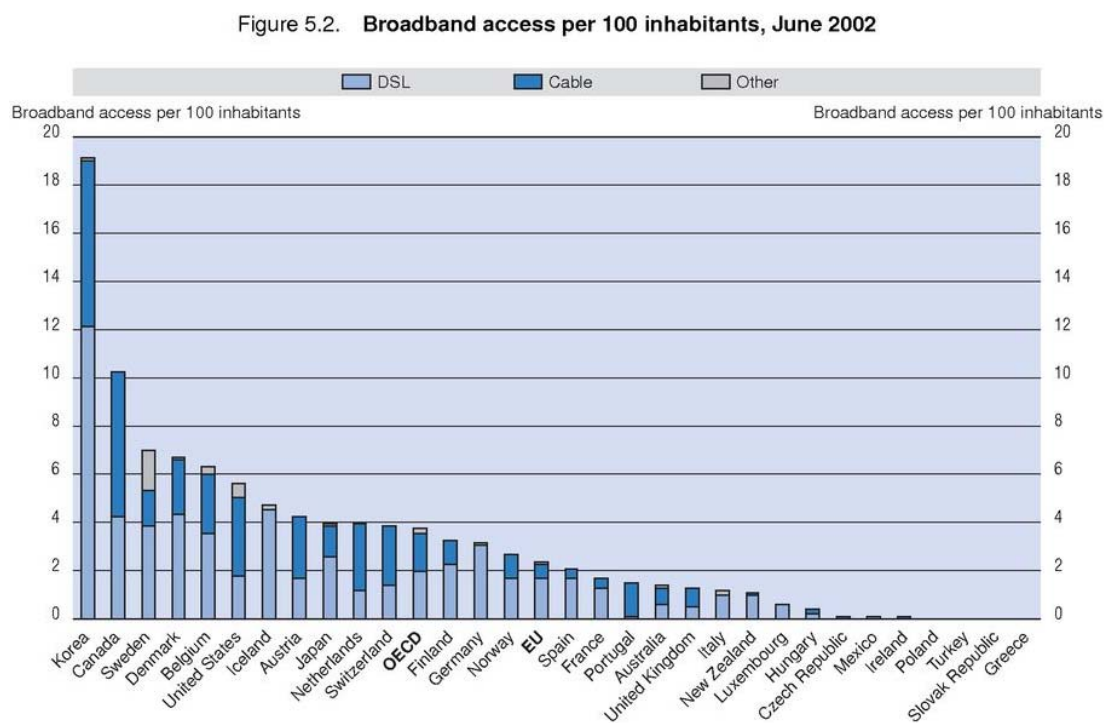
Outcomes in Romania align with economic theory, namely that in the presence of full infrastructure competition (alongside other factors, such as low deployment costs and a lack of performant legacy infrastructure), the expected outcome might be high investments translating to high quality and low prices for consumers.

5.3.4 Broadband markets in Europe prior to unbundling regulation

As a final cross-check on the implications of market structure in fixed broadband markets on wholesale conduct and retail outcomes, it is instructive to consider developments in broadband prior to the introduction of local loop unbundling in Europe.

Prior to 2000, broadband Internet access was delivered in a monopoly or duopoly market structure in most countries by the incumbent, and cable operator – where present. Broadband was in many cases stimulated by competition from the cable operator – with the incumbent responding with the installation of xDSL. Indeed, prior to the widespread adoption of Local Loop Unbundling (LLU), wholesale broadband market shares were often more similar between the incumbent and cable operator than is the case today, as can be seen by the relatively large market shares of cable operators in the graph shown below.

Figure 22: Broadband access penetration by technology, 2002



Source: OECD Communications outlook 2003

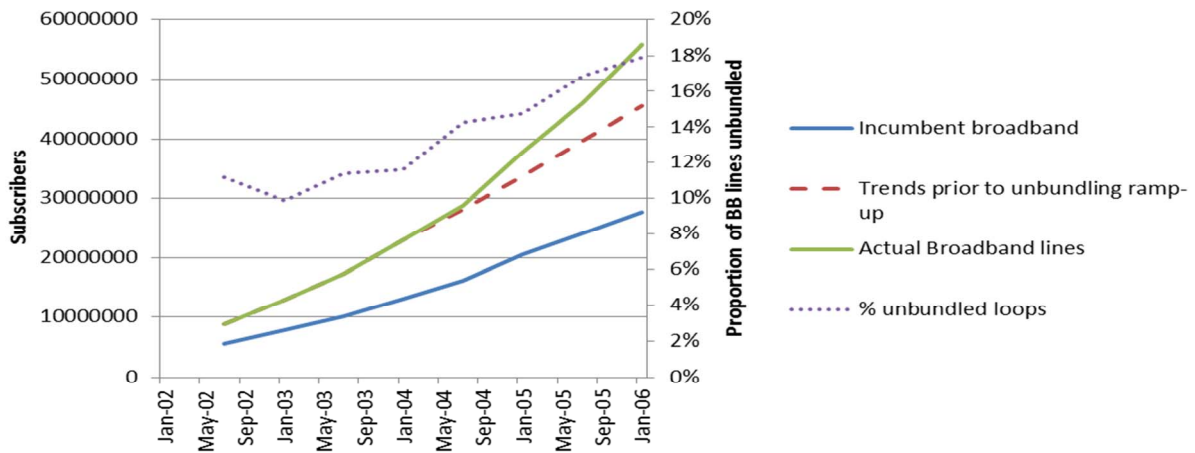
Wholesale offers were not willingly made by either cable or incumbent operators, and where made by incumbents, were entered into only under the threat of regulation and did not offer significant capability for access seekers to differentiate their offers.²⁷⁶

Broadband deployment was slow and take-up limited within this market structure. An analysis of broadband take-up and unbundling across the EU and countries such as the UK and France suggests that the injection of further competition through the implementation of Local Loop Unbundling from 2000 onwards,²⁷⁷ contributed to an increase in take-up of broadband.

²⁷⁶ For example, the UK incumbent BT made available a voluntary wholesale broadband access offer, but only in the context of the threat of intervention to mandate LLU. The WBA offer did not allow significant flexibility for access seekers, and its impact on competitive outcomes in the UK market was limited.

²⁷⁷ LLU was mandated across the EU in 2000 through Regulation (EC) No. 2887/2000 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:336:0004:0008:EN:PDF>, but only became effective in several countries in subsequent years.

Figure 23: EU broadband take-up after the implementation of Local Loop Unbundling



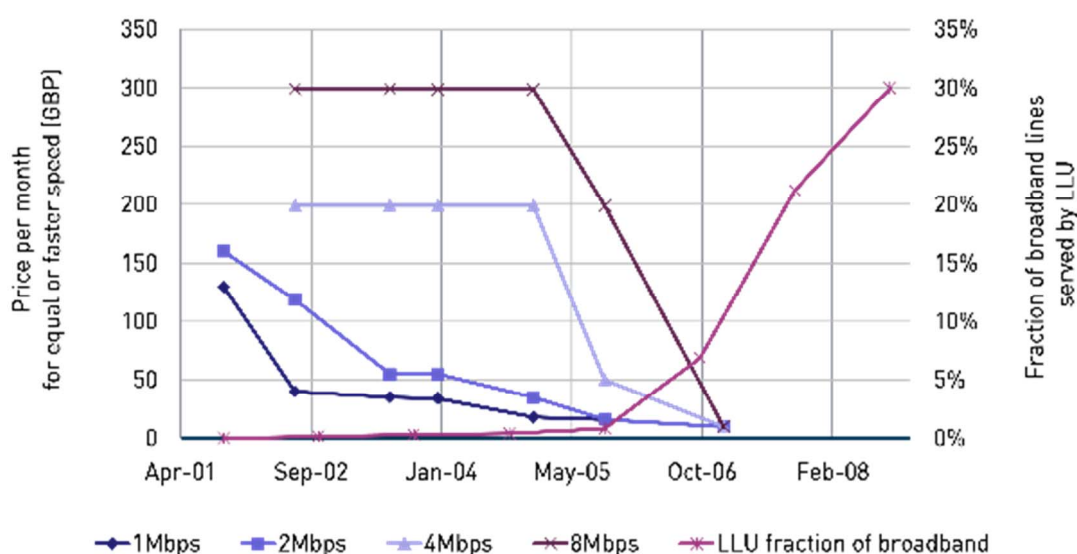
Source: WIK based on data from Cocom and OECD (earlier years)

The effects of LLU as well as cable competition on take-up in the early phase of broadband deployment are confirmed in a study by Nardotto, Valletti et al (2015)²⁷⁸ which looked at developments in the UK market. The study also highlights that while the take-up effect applied only for the initial period, there was a prolonged effect from both cable and unbundling competition on broadband quality.

This may be because, as illustrated in the diagram below for the UK, unbundling triggered competition in equipment upgrades and a price war for higher speed broadband, with the result that speeds of 8Mbit/s which had previously been marketed at £300 per month (*i.e.*, as a business-grade product) collapsed to more affordable levels of around £20 per month.

²⁷⁸ Nardotto, Valletti (2015): Unbundling the incumbent: evidence from UK broadband <http://onlinelibrary.wiley.com/doi/10.1111/jeea.12127/full>.

Figure 24: UK broadband speeds and prices before and after LLU



Source: Analysys Mason

This review of the early years of broadband deployment in Europe tends to confirm the theory that in the presence of monopoly or duopoly market structures with high entry barriers, effective wholesale offers were not willingly made and broadband deployment, quality and prices were below the optimal level. The injection of further competition on the basis of cost-oriented LLU, a wholesale product which allowed considerable flexibility over product upgrades, served to address the competitive deficit for basic broadband which existed at that time.

5.3.5 Observations from fixed cases

Looking across the limited number of cases we were able to observe where fixed broadband markets evolved in the absence of regulation, we can draw the following tentative conclusions:

- Denial or constructive denial of access (by both parties) is in general a relatively common outcome in symmetric incumbent cable duopoly markets with high barriers to entry. These markets may also be characterised by slower innovation (for example slower upgrades to basic broadband or FTTP) than markets with more dynamic competition. Prices can be high. It is also interesting to note that incumbent and cable prices are often similar, despite likely cost differences in the technologies involved.
- The entry of further infrastructure providers tends to be accompanied by an increase in investment and innovation – as can be seen in the FTTP deployments which occurred in France, Spain and Portugal. Consumer outcomes in terms of pricing and the actual speeds available on the market may however vary in this kind of oligopolistic market structure. These market

structures may also be associated with voluntary co-investment arrangements. Co-investment can support the more widespread availability of pro-competitive offers. However, it does also involve formal links between certain parties.

- Due to the scale economies involved, there are few examples of countries which benefit from widespread end-to-end infrastructure-based competition in high speed broadband. However, Romania does provide one such case. This market is characterised by high investment and innovation and low prices. Voluntary wholesale offers are present in this market, although they do not form a significant part of the market. It is possible that the ease of deploying own infrastructure may limit wholesale demand.

5.4 Conclusions

- **Joint SMP in mobile markets may be unstable due to the potential for entry. License conditions and mergers (including merger remedies) may also affect landscape.**
- **MVNO access is often seen in established 4 player markets, but there are mixed results in 3 player markets. Where it is present, denial of access may be a likely focal point for collusive behaviour. Denial of access was a feature of the only case involving a mature 2 player mobile market.**
- **The impact of MVNO access on market outcomes does not appear as significant as that from MNO access. It is possible that tightly regulated MVNO access might reduce the business case for an MNO – although it could also in theory provide a step on the ladder of investment. 4+ mobile markets could potentially experience less MVNO demand if all major fixed operators are also present as MNOs.**
- **Two player fixed markets appear to exhibit greater barriers to entry than mobile (outside very dense areas).**
- **Two player stable fixed markets are often associated with collective (constructive) denial of access or require regulatory underpinning to secure wholesale agreements. They may be associated with higher prices and slower upgrades of equipment by the incumbent as well as similar prices even though the cable operator faces lower upgrade costs. When passive infrastructure access is introduced (e.g. LLU) retail impacts can be significant, but the impacts for bitstream may be less so.**
- **When a disruptive third entrant enters, it is likely to stimulate FTTH/B deployment, which should lead to higher quality outcomes over time. However, the intensity of competition in price and quality may still vary depending on the market dynamics. Open wholesale agreements may not**

be a feature of these markets, but we can see examples of exclusive wholesaling arrangements or co-investment or swaps amongst investors. While they could signify normal competitive outcomes in this environment, if not they are not open to third-party participation, such exclusive arrangements may also strengthen links between the parties.

- The observed market in which the NRA has concluded there is effective infrastructure competition in Wholesale Local Access (Romania) experiences high quality at low prices for FTTH. Wholesaling is not a significant feature of this market, perhaps because the competition (often taking place on a regional basis) is based on own existing infrastructure.
 - Evidence from both fixed and mobile cases suggest that in concentrated markets with a low number of infrastructure competitors, absence of effective wholesaling where there is clear demand is likely to be indicative of competition problems (including joint SMP where there are links between the players). However, limited wholesaling cannot *per se* be considered as evidence of limited competition in the market where other factors such as the number of competitors, concentration and indicators on price and quality, suggest that competition is effective.
-

6 Potential criteria for joint SMP

In this chapter we draw on our previous analysis of case law developed by the European Court since 2002, consistent administrative practice adopted by the Commission under the auspices of the *EU Regulatory Framework* and the application of the *EU Merger Regulation*, the development of widely accepted economic theory, and NRAs' experience in *ex ante* joint SMP cases, to identify proposed adaptations to the application of the relevant legal and economic test contained in the *SMP Guidelines* for the application of the standard of "collective SMP".

Section 6.1 summarises the accepted principles, section 6.2 discusses the application of the Airtours and Impala tests in the context of electronic communications, while section 6.3 discusses standards of evidence.

Finally, in Section 6.3, we present recommendations for the adaptation of guidance on joint SMP to reflect lessons from *ex ante* cases and developments in case law, alongside a toolbox highlighting the kinds of evidence which may need to be presented to justify a finding of joint SMP in the respective cases where there is and is not pre-existing regulation.

An assessment of these criteria and tools against hypothetical examples involving mobile markets, fixed duopolies, as well as markets which are characterised by exclusive co-investment and local networks, is included in the Annex.

6.1 Accepted Principles

The adaptation of the standard of collective SMP, as reflected in the *SMP Guidelines*, should embrace the following principles:

Compatibility with case-law

The Guidelines should comply and be **compatible with the Court case-law** on collective dominance, in particular the *Airtours* (para. 62)²⁷⁹ and *Impala* Cases (para. 123, Court of Justice)²⁸⁰ which set out the various criteria that should be proven in order to determine the likelihood of **tacit collusion** occurring between oligopolists (*i.e.*, a system of transparency/focal point, the existence of a retaliation mechanism, and the lack of external constraints capable of destabilizing tacit collusion).

In this regard, the *Impala* Judgments do not depart from the *Airtours* Case, except insofar as they allow authorities to introduce the possibility when applying the *Airtours* criteria (notably the transparency criterion) of adducing indirect evidence of pre-existing coordination, together with other factors typical of a collective dominant position, in the absence of an alternative reasonable explanation. However, an investigation of the elements indicative of the presence or likelihood of tacit coordination needs to be "*carried out with care*", as the Court of Justice has concluded. Nevertheless, the

²⁷⁹ According to *Airtours*, *op. cit.*, at Paragraph 62: “ (...) First, 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 policy. (...), it is not enough for each member of the dominant oligopoly to be aware that interdependent market conduct is profitable for all of them but each member must also have a means of knowing whether the other operators are adopting the same strategy and whether they are maintaining it. There must, therefore, be sufficient market transparency for all members of the dominant oligopoly to be aware, sufficiently precisely and quickly, of the way in which the other members' market conduct is evolving;

- Second, the situation of tacit coordination must be sustainable over time, that is to say, there must be an incentive not to depart from the common policy on the market. (...) The notion of retaliation in respect of conduct deviating from the common policy is thus inherent in this condition. (...) for a situation of collective dominance to be viable, there must be adequate deterrents to ensure that there is a long-term incentive in not departing from the common policy, which means that each member of the dominant oligopoly must be aware that highly competitive action on its part designed to increase its market share would provoke identical action by the others, so that it would derive no benefit from its initiative;

- Third, (...) must also establish that the foreseeable reaction of current and future competitors, as well as of consumers, would not jeopardise the results expected from the common policy.”

²⁸⁰ According to *Impala*, *op. cit.*, at Paragraph 123: “Such tacit coordination is more likely to emerge [emphasis added] if competitors can easily arrive at a common perception as to how the coordination should work, and, in particular, of the parameters that lend themselves to being a focal point of the proposed coordination. Unless they can form a shared tacit understanding of the terms of the coordination, competitors might resort to practices that are prohibited by Article [101 TFEU] in order to be able to adopt a common policy on the market.

Moreover, having regard to the temptation which may exist for each participant in a tacit coordination to depart from it in order to increase its short-term profit, it is necessary to determine whether such coordination is sustainable. In that regard, the coordinating undertakings must be able to monitor to a sufficient degree whether the terms of the coordination are being adhered to. There must therefore be sufficient market transparency for each undertaking concerned to be aware, sufficiently precisely and quickly, of the way in which the market conduct of each of the other participants in the coordination is evolving. Furthermore, discipline requires that there be some form of credible deterrent mechanism that can come into play if deviation is detected.

In addition, the reactions of outsiders, such as current or future competitors, and also the reactions of customers, should not be such as to jeopardise the results expected from the coordination.”

Judgment of the Court of Justice in *Impala* does not result in the logic of the General Court at first instance in those proceedings being overruled, as the Court of Justice only overturned the specific conclusions reached by the General Court in its application of the “transparency” criterion on the facts of the Commission Decision under appeal. The Court of Justice also mandate the adoption of a more integrated analytical approach in the application of the criteria. In adopting such an approach, it should be recognised that the various elements of the criteria may be interdependent with one another in determining where such plausible coordination strategies may exist in the circumstances.

By focusing on indirect means of establishing tacit collusion (Paragraph 251, *Impala*, General Court), and by emphasising the point that tacit coordination is “*more likely*” to emerge if competitors can easily arrive at a common perception as to how the coordination should work (Paragraph 123, *Impala*, Court of Justice), it appears to be the case that, while the onus of proof to establish collective SMP continues to remain with the NRA in question, the standard of proof required of an NRA is arguably more inclined to emphasise the role and importance of structural characteristics of the market which would facilitate the identification by oligopolists of a focal point that allows them to monitor one another’s market behaviour so that, over time, tacit coordination is a likely outcome.

In this regard, the application of Modified Greenfield Approach, because it anticipates the structure of the relevant market in the absence of *ex ante* regulation, would be particularly instructive in arriving at any such conclusion and the empirical information derived by NRAs from public consultations for market analysis could be used to support such a conclusion.

As discussed in Section 3.1 of this Study, the *Impala* Judgements emphasise the importance of conducting a forward-looking analysis where a number of scenarios might be possible, but the *ex ante* exercise in a merger review context is one which envisages the identification of that scenario which is “*most likely*” to materialise. By analogy, the *ex ante* approach in the context of a market review under the *EU Regulatory Framework* would be very similar, especially given the fact that the Recital 26 of the *Framework Directive* and Paragraphs 95 and 96 of the *SMP Guidelines* call for the market to be “*conducive*” to tacit collusion. This approach corresponds with the view expressed by the General Court that the issue of collective dominance requires a “*delicate prognosis as regards the probable deployment of the market and the conditions of competition on the basis of a prospective analysis*” (*Impala*, General Court, at para. 250), even when applying the three *Airtours* criteria.

The level of discretion inherent in a prospective analysis of the likelihood of tacit collusion does not mean that the NRA’s discretion is unfettered. Indeed, the Court of Justice in *Impala* made the point that the analysis required must be made “*with care*” and must be “*based on the analysis of such plausible coordination strategies as may exist in the circumstances*” (at para. 129). To this end, the greatest challenge for an

NRA will be to determine, using an appropriate Modified Greenfield Approach,²⁸¹ how competitive conditions are affected by the existence or disappearance of *ex ante* regulation. It can be envisaged that each national market will display different characteristics in this regard, not only as regards the effectiveness of existing access regulation in the affected market in question, but also arguably as regards other regulatory policies, including access obligations across other elements of converged service offerings and the costs of entry borne by market actors as a result of an NRA's other policies (e.g., spectrum valuation).

Integrated approach

Based on those cases, the check-list approach adopted in both Paragraphs 97-98 of the *SMP Guidelines* and in Annex II of the *Framework Directive* should be discarded in favour of a more **integrated approach**, as reflected in the *Impala* Judgment and in the economic theory. Such an approach should build upon the principles already reflected in Paragraph 96 of the *SMP Guidelines*, which provides that the two key issues that need to be established are the conditions of **incentive compatibility** between oligopolists and the **external sustainability of coordination** given the impact that can be made by competitors and customers to undermine that coordination.

The application of such an approach would mean that elements which are either conducive to, or even run counter to, a collective SMP approach must be assessed in light of their *overall impact* upon a credible case, *i.e* a "plausible theory of tacit collusion,"²⁸² that the market in question is susceptible or vulnerable to tacit collusion. In that sense, individual elements of the analysis might reinforce or even dilute conclusions drawn in the context of a particular aspect of the overall analysis. Ultimately, it will be the overall effect of these elements in their interaction with one another that will determine whether or not collective SMP can be established on any given set of facts.

Relevance to the electronic communications sector

Given the abstract nature of the analytical test set forth in *Airtours*, it is critical that the **particularities of the electronic communications sector** be accorded due weight in applying the various criteria used to establish collective SMP. One could, therefore, factor *inter alia* into any collective SMP analysis the following:

- (i) the causal relationship between wholesale and retail levels of competition in the sector, which means that focal points and retaliation mechanisms can exist at different functional levels of the market, consistent with traditional leverage theory (especially where vertically integrated operators are involved);

²⁸¹ For a description of the Modified Greenfield Approach, refer back to discussion in Chapter 4.

²⁸² As set out in Paragraph 130 of the *Impala II* Judgement.

- (ii) the fact that wholesale competition was initially introduced by *ex ante* regulation rather than by independent market actions;
- (iii) the various sunk and incremental costs incurred by network operators, as opposed to service providers, and the fact that costs can differ depending on the nature of the technology deployed by a network operator, which means that market incentives might be different among oligopolists;
- (iv) the fact that, unlike the vast majority of industrial sectors, the electronic communications sector is characterised by the need for interconnection among all market actors, so that none of these market actors, even if vertically integrated, can operate in a “silo” environment, which in turn has implications for any analysis of transparency;
- (v) the fact that regulated wholesale markets have, over time, become less numerous and some regulation has consequently been removed provides greater commercial freedom for market actors, and may impact upon the way oligopolists interact;²⁸³
- (vi) the impact of network operators having equally diversified palettes of service offerings, especially where it leads to the conclusion that they have no material competitive asymmetry between one another in the eyes of retail customers;
- (vii) the fact that, unlike the IT sector, one cannot deploy disruptive technology which isolates the network from others, because of the policy imperative of ensuring interconnection; and
- (viii) the fact that a particular forward-looking standard of review for collective SMP is prescribed by legislation in the form of the *EU Framework Directive*, which speaks of the need for NRAs to establish that a particular market structure is “*conducive*” to tacit collusion (see Recital 26 and Annex II of the *Framework Directive*), but which also requires that *ex ante* intervention only occur when a market failure at the retail level has been identified (see Article 12(1) and Recital 15 of the *Access Directive* (as amended)).²⁸⁴ (See the administrative practice of the European Commission under its so-called “Article 7” case practice, and Articles 65(4) & 66(4) and Recital 163 of the draft *European Electronic Communications Code*; cf. Article 71).

283 For example, the number of recommended wholesale access markets has fallen from ten to five in the 15 years since the adoption of the EU Regulatory Framework, under the various versions of the *Relevant Markets Recommendation*.

284 For an example of the application of this principle in the context of an analysis of a collective SMP situation by the Commission, refer to Case E/2005/0330 – *Access and Call Origination on Public Mobile Telephony Networks in Spain* (Brussels, 30.1.2006).

Relevance of EU Merger Regulation assessment to analytical basis for assessment

While the analytical basis of concluding the existence of collective dominance or SMP is arguably the same across all legal instruments at EU level, it is also the case that the remedies, jurisdictional bases of intervention and the nature of the proof required to establish collective dominance or SMP differs slightly across legal instruments. Accordingly, the analytical basis for collective dominance/SMP which is most closely related to the regime applied under the *EU Regulatory Framework* is that which can be found in the application under *the EU Merger Regulation*, essentially because both legal regimes:

- (i) adopt an *ex ante* approach;
- (ii) draw conclusions based on economic evidence about likely market failure at the retail level based on the phenomenon of high market concentration and market structure; and
- (iii) are triggered by the occurrence of two disruptive events, namely, a market concentration by agreement between competitors or the potential removal of external constraints on a concentrated group of competitors if the removal of regulatory obligations to grant access means that independently negotiated access agreements might not be available in the future²⁸⁵ (this analogy holds true in a case where the market is currently subject to *ex ante* regulation), based on an individual SMP designation which is likely to be removed in the future.²⁸⁶

Relevance of structural factors, with a focus on symmetry

An approach driven by structural factors, which characterises the SMP regime of *ex ante* regulation, is also corroborated by the fact that the collective SMP test refers to markets being "conducive" to tacit collusion (see above). A crucial element of that structural approach, however, means that there need to be identified market symmetries between the oligopolists in question across various technical and commercial parameters that are consistent with a finding by an NRA that the relevant market(s) in question are conducive to tacit collusion. Those symmetries include, *inter alia*, factors such as:

(i)	market shares;
(ii)	levels of profitability;
(iii)	ARPU levels;

²⁸⁵ The use of a structural approach is supported by the empirical evidence generated in numerous Commission Decisions in "gap" cases under the *EU Merger Regulation*, which have consistently concluded that 4-to-3 merger in the telecommunications sector will lead to higher retail prices. (Refer to discussion at Section 3.1.3.3) of this Study.

²⁸⁶ In this regard, the application of the SIEC test needs to be considered only insofar as it reflects a finding of collective dominance, and should not extend to 'gap cases'.

(iv)	breadth of service offerings (retail outputs);
(v)	relative costs of essential access products (wholesale inputs);
(vi)	comparability of cost and quality of technology;
(vii)	scope of network coverage;
(viii)	symmetries either consistent over time or stabilised in a relatively mature market; and
(ix)	degree of vertical integration

These symmetries provide important (but not the only) guidance on the relevance of **market structure characteristics** which need to be interpreted in light of the standard set forth in *Airtours* and *Impala*, (see discussion in Chapter 3; *cf.* distinction on economic theory in Chapter 2).

Application of the Modified Greenfield Approach

Because the analysis that needs to undertake is forward-looking, it will be important to anticipate the likely market scenarios that may materialise in the event that a situation of individual SMP regulation is removed in the near future. This would be the equivalent in an *ex ante* context under the *EU Regulatory Framework* of the economic modelling achieved in a merger review context to identify the impact of a concentration on retail prices. Such an analysis is consistent with the economics of tacit collusion, and should be carried out as part of “integrated” approach, as described above, rather than as an additional analytical requirement. As has been explained in Section 4 in this Report, however, the application of the Modified Greenfield Approach in the context of potential joint SMP will involve additional considerations than those usually associated with the determination of individual SMP.

In order to determine whether tacit collusion is the likely market outcome, an NRA should *inter alia* consider whether :

- (i) the benefits of longer term tacit collusion in the electronic communications sector outweigh benefits of short term competition on the merits;
- (ii) the cost of acquiring an existing customer as between telecommunications sector oligopolists is higher than the short term gains attributable to the benefits of tacit collusion;
- (iii) lower pricing to attract customers is a logical market outcome which is not being pursued by the oligopolist(s) in question;
- (iv) investment in overlapping or adjacent network topography to compete for lucrative customers is not being pursued (*i.e.*, the “Yalta Syndrome”);

- (v) significant amounts of unused capacity could be harnessed in a straightforward manner to generate wholesale revenues;²⁸⁷ and
- (vi) the degree of substitutability at retail and wholesale levels, which depends on the functional characteristics and the prices of the products in question, including the level of switching costs borne by customers at either wholesale or retail levels.

6.2 Application of the *Airtours* and *Impala* Tests in an Electronic Communications Context

6.2.1 Identification of Transparency Indicators

The proper application of a structural approach in a concentrated market in the electronic communications sector means that the "transparency" issue is far less problematic than other industrial sectors, given that large network operators in the electronic communications sector have a wide range of market data at their disposal in an interconnected environment to gauge the size of the customer base of their competitors and the volumes of many of the communications services which they might acquire. A vast amount of traffic data is available to competitors, and there is no possibility of "masking" that information in a highly concentrated environment (as one would, for example, in the context of a legitimate information exchange arrangement). The information is also usually available in close to real time, which means that its competitive sensitivity is not diluted because it is historic information with limited utility.

Similarly, retail tariffs are fundamentally transparent across the electronic communications sector, being available online to all customers at relatively standardised rates. The only exception to this would be corporate packages for large corporations in response to Tender specifications or in-building services in commercial districts in metropolitan areas. As an indicator of how transparent the electronic communications sector is in practice, it is instructive that the Court of Justice in the case involving *T-Mobile Netherlands*²⁸⁸ took the view in para. 62 that a concerted practice in the sector could be based on the phenomenon of the parties in question meeting on only one occasion; it was clearly a material fact that such an issue arose in a sector characterised by such a high level of transparency.

If one focuses only on wholesale access, the market will usually be transparent as regards such relationships. This is not the sort of commercial relationship which can be the subject of a "secret" deal although, if occurring under non-regulated terms, the

²⁸⁷ A critical element of proof will therefore be whether the members of a tight oligopoly can prove that reasonable access agreements are or will be available even in the absence of SMP regulation. If such agreements are available, likely to be durable, and above all are sustainable, any comparable presumption in a joint SMP setting will be difficult to sustain.

²⁸⁸ See Case C-8/08 *T-Mobile Netherlands* [2009] ECLI:EU:C:2009:343, para 62.

specifics of such a relationship might no longer be in the public domain (nor might it be in the interests of certain privileged access seekers to divulge the terms of their access relationship).

Even at the retail level, the fact that multi-play bundles are available should not mean that the market is not sufficiently “transparent” for the purposes of applying a collective SMP standard (nor that it is too heterogeneous to prevent the emergence of a focal point). Clearly, if network operators in a concentrated, mature market are pursuing business strategies which allow them to generate similar profit levels and comparable ARPUs from their average customer base, the level of transparency which is required to sustain a focal point in order to manage the competitive equilibrium between members of the tight oligopoly is capable of being satisfied consistent with economic theory. However, as one moves away from a duopoly with fewer symmetrical qualities to a larger group of oligopolists with diversified service portfolios, the case for transparency does become weaker.

The European Court of Justice overturned the Judgment of the General Court in *Impala* only with respect to its practical application of the transparency criterion, largely because it had failed to take into account the widespread variations in discounts available in the record industry, without having cited sufficient expert evidence to justify why such variations should be ignored in the analysis of the transparency criterion.²⁸⁹ Accordingly, the general principle that a sufficient level of transparency is required in order that tacit collusion can be sustained over time remains intact. However, in the General Court’s view in *Impala*, there might even be circumstances where price parallelism is so clear over a period of time that it serves as indirect evidence that a sufficient level of transparency exists in the market under review.²⁹⁰

6.2.2 Analysis of Focal Points and Retaliation

As part of the prospective economic analysis required under the *Airtours* test, *Impala* emphasises the importance in any collective dominance analysis of the **possibility and incentives** of the oligopolists arriving at a **focal point**, as well as the possibility and the incentives they have to sustain tacit collusion at that focal point due to the tacit **threat of retaliation** from one another.²⁹¹ The second element of the *Airtours* Judgment also

²⁸⁹ *Impala*, Court of Justice, *supra*, at paras 131-133.

²⁹⁰ Refer to *Impala*, General Court, *supra*, at paras 251-252. Any *query* whether this aspect of the General Court’s Judgment can be sustained given the approach of the Court of Justice in its review of the transparency issue would have no material impact on this guiding principle given that the electronic communications sector is characterised by a (relatively) high level of transparency.

²⁹¹ The General Court in *Impala* actually suggests that recourse to a retaliation mechanism may even be unnecessary in certain circumstances where the equilibrium struck between the oligopolists in question is so mutually beneficial as to dissuade them from any divergence from its aims. Accordingly, paragraphs 465 and 466 expresses the view that “it follows from the case-law (*Airtours v Commission* paragraph 62) that in order for a situation of collective dominant position to be viable, there must be adequate deterrents to ensure that there is a long-term incentive in not departing from the common policy, which means that each member of the dominant oligopoly must be aware that highly competitive action on its part designed to increase its market share would provoke identical action by the others, so that it would derive no benefit from its initiative (see, to that effect, *Gencor v*

emphasises the need for a retaliation mechanism in order to discipline the members of the oligopoly in question. In applying these two tests in *Impala*, the need for “transparency” is in many respects subsumed into the requirement that there be a focal point which can sustain the interests of the putative oligopolists. This is arguably a more coherent approach than the one expressed in *Airtours*. Both limbs of this test are designed to determine whether the oligopolists in question would consider it economically rational to coordinate key elements of their market behaviour on the basis that their long-term losses would be greater when compared to their short-term profits in the event that their tacit coordination was disrupted.

In the electronic communications sector, it follows from the logic of the *EU Regulatory Framework* (see above) and from administrative practice²⁹² applying the principles set forth in the *Framework*, that the focal point may be at the wholesale level (e.g., taking the form of a refusal to grant access to retail competitors, pricing practices, complementary as opposed to competitive network rollout),²⁹³ while the threat of retaliation may be at either the wholesale level (less likely, as the grant of another means of wholesale access might create an irreversible disruption of the equilibrium struck tacitly between the oligopolists in question) or at the retail level (e.g., in the form of a temporary price war, targeted discounts at a customer segment or larger customers, whether in the relevant geographic market or in another geographic market in which the oligopolists are either actual or potential network competitors).²⁹⁴ The threat of retaliation can arguably be even more effective if conducted across a range of services (including in the relevant retail bundle even if no bundles of services markets have as yet been defined as the relevant underlying retail market to the wholesale local/and or wholesale central access markets), insofar as the “punishing” oligopolist can in principle sufficiently cross-subsidise across services; to the extent that the “punished” oligopolist has a fundamentally symmetric market position *vis a vis* the punishing oligopolist, that should not have an adverse impact on the issue of transparency (see above).

Commission, paragraph 276). The mere existence of effective deterrent mechanisms is sufficient, in principle, since if the members of the oligopoly conform with the common policy, there is no need to resort to the exercise of a sanction. As the applicant observes, moreover, the most effective deterrent is that which has not been used.”

292 See COMP/M.7419 - *TeliaSonera/Telenor/JV*. Also refer to Decisions adopted by the Commission pursuant to the procedure under Article 7 of the *Framework Directive*.

293 In this regard, refer to the discussion on the importance of a Modified Greenfield Approach (see above). Under the wholesale/retail paradigm established under *EU Regulatory Framework*, it is appropriate under the holistic approach of *Impala* that, in a duopoly environment, the denial of access at the wholesale level can provide the necessary focal point for tacit collusion, given the relationship of the focal point to competition at the retail level. In less concentrated oligopolies, an NRA focusing on such a narrow focal point might be less persuasive as regards the sustainability of tacit collusion in pursuit of longer term retail benefits.

294 It would also be wholly consistent under this paradigm for effective retaliation to occur at the level of retail pricing rather than at the level of wholesale access, given the relationship between the functional levels of competition. Retaliation can arguably be more effective when conducted by an operator with a diverse product portfolio because of the high levels of cross-subsidisation across its service portfolio, even if that retaliation is far less transparent to the NRA.

The **relationship between the respective wholesale and retail functional levels** of competition in the electronic communications sector, in particular has a critical bearing on how one can interpret the need for a focal point for the oligopolists and the possibility of market retaliation between them, especially when undertaking the integrated analysis prescribed under *Impala* in its application of the criteria in *Airtours*.²⁹⁵

According to the economic literature focusing on experimental oligopolies, especially where duopolies are involved which are characterised by symmetric performance and other economic criteria (see above), the existence of frequent interactions between the members of the oligopoly might mean that a collective SMP finding could be made on the basis that the market structure has rendered it conducive to tacit collusion. In the electronic communications sector, the practical implication of such a conclusion being drawn is that – absent at least one of the members of the oligopoly having entered into durable access relationships without being obliged to do so by *ex ante* regulation - an assessment under a Modified Greenfield Approach might yield the conclusion that the relevant market is conducive to collective SMP because the members of a tight oligopoly might, in furtherance of a common policy, foreclose entry to competitors who could disrupt their tacit collusion.

Clearly, the more concentrated the market and the more symmetric the key parameters of competition between the oligopolists in question, the higher the possibility of such a finding of collective dominance being sustainable.

6.2.3 Disruptive Effect of External Constraints on Tacit Collusion

As regards the fulfilment of the third criterion in *Airtours* (as embraced by *Impala*), it is clear that constraints on the ability of operators to engage in enduring tacit collusion will undermine their ability to adhere to a focal point. The realities of the electronic communications sector suggest that the impact of end users and alternative operators to exercise such constraints should be viewed quite differently.

For example, as regards the prevailing standard used to determine whether customers are likely to be able to exercise **Countervailing Buyer Power (CPB)**, it will be highly unlikely in practice that this standard is ever met in relation to the residential/mass market. This proposition can be supported by the many hundreds of cases already adopted by NRAs under the Article 7 process and approved by the Commission thereunder. Where customers are not individuals, but rather businesses which desire multiple-site connections, it is possible that this conclusion might be different, especially where such corporate customers are clustered in a particular sub-national geographic market and/or where their technical requirements and ability to pay vary significantly from what is required by the residential/mass market.

²⁹⁵ As noted above, the current *EU Regulatory Framework* and the prospective *European Electronic Communications Code* both envisage that the imposition of asymmetric regulation is premised on the understanding that competitive access alternatives at wholesale level will have an impact on prices for telecommunications services at the retail level.

The approach taken as regards the assessment whether **fringe competitors** are in a position to exercise competitive constraints on a tight oligopoly, by acting as ‘mavericks’, depends on the particular NRA's evaluation of the barriers to entry and eventually barriers to expansion in the relevant affected markets. In fact, given that the NRA in question will have already imposed *ex ante* wholesale access obligations on an individually designated SMP operator on the basis that the “three criteria” test for the imposition of *ex ante* regulation has been satisfied, as well as having performed an individual SMP analysis based on national circumstances),²⁹⁶ it will be consistent for that NRA to conclude that those conditions will have not changed as a result of the market now being characterised by collective SMP.²⁹⁷ In this regard, it should be noted that the three criteria test is only satisfied if: (i) there exist high and non-transitory barriers to entry, of a structural, legal or technological nature; (ii) a market structure does not tend towards effective competition within the relevant time horizon, having regard to the state of infrastructure-based and other competition behind the barriers of entry; and (iii) the application of *ex post* competition rules alone is not sufficient to address the market failure(s) identified.

6.3 Standards of evidence

Given the challenges related to the application of the Modified Greenfield Approach, when assessing joint SMP (see discussion in Section 4.3), NRAs need to find practical methods and criteria for its implementation. In this Section, drawing on experience from case studies, we outline possible approaches for the retail and wholesale market analysis.

(1) How to assess market failure in the related retail market?

An analysis of single or joint SMP at the wholesale level must be preceded by an assessment of retail market failures. Evidence of market failure may take the form of high retail prices, low quality of broadband services, and high economic rents. It is also possible however, that only some of these sub-optimal results may be observed. For instance, high, uncompetitive retail prices and high profit margins may also be accompanied by a higher degree of quality of service competition and product differentiation. In this latter case, an NRA may need to consider the relative value ascribed by customers to quality, choice and price, (*i.e.*, the extent to which market outcomes satisfy demand), and estimate what might be the expected outcome if the

²⁹⁶ Commission Recommendation C(2014) 7174 final of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (*‘Market Recommendation’*) Article 2 (a)-(c).

²⁹⁷ This could only be the case if the relevant market was deregulated given that the three criteria test is not met in the national circumstances. Note that this might be the case if one of the three criteria is not satisfied, such as the situation where there are no longer high and non-transitory barriers to entry to the relevant market (this will be difficult to prove where the barriers to entry relate to high sunk costs).

retail market were effectively competitive (and the extent to which the existing situation deviates from that anticipated outcome).

NRAs should also consider the competitive conditions prevailing at the retail level such as would exist in the absence of any regulation that has already been applied in the wholesale market under consideration. Such exercise however, can create a number of challenges in the process of evidence-gathering.

Retail broadband markets, for example, have become more competitive over time as a result of both SMP regulation *and* market dynamics. Relevant market dynamics include the emergence of end-to-end infrastructures, such as upgraded cable and fibre deployments (which do not rely on wholesale access), albeit usually not on a nation-wide scale. The major empirical challenge is the difficulty of determining to which degree competitive outcomes that have emerged at the retail level are due to pre-existing wholesale regulation (including the extent to which infrastructure-based competition has developed under the influence of SMP regulation) or rather a result of market dynamics which would continue to deliver positive outcomes even in the absence of SMP regulation.

When reviewing a retail market which is affected by pre-existing wholesale regulation, one can directly observe levels and trends in market shares and pricing. In those cases where convergence makes direct price comparisons difficult, NRAs could instead consider whether ARPU levels are reflective of the scope and quality of service and the investments made. Stability in (or increasing) market shares and pricing at levels which – despite pre-existing wholesale regulation - are above the competitive level may be an indicator that markets are not effectively competitive. The slow deployment of new technologies and the relative lack of innovation may also signal problems in the market.

It is important to review data over a period of time prior to the date of the market analysis. When assessing whether the data signals a lack of effective competition, NRAs could assess whether there has been a deterioration in the regulatory measures within the markets they are assessing. It is also appropriate for NRAs to compare data with similar metrics in comparable markets and EU averages.

NRAs may use the following approaches to shed light on market outcomes in the retail market in the absence of relevant SMP regulation:²⁹⁸

1. First, NRAs may analyse the *actual development of retail markets* in their own jurisdictions. There may be evidence that, despite SMP regulation of wholesale markets, the retail market continues to be characterized by signs of market failure. This may occur in situations where SMP regulation has been of limited effectiveness, e.g., where regulators have had difficulties in addressing

²⁹⁸ While at the same time noting that a finding of joint dominance at the retail level is *not* required as a pre-condition for establishing joint dominance at the wholesale level. An analogous approach has been taken by the European Commission in its prosecution of margin squeeze cases under Article 102 TFEU, at least in cases involving individual dominance.

discriminatory practices at wholesale level or margin squeeze situations. In a situation where retail markets show signs of market failure despite the existence of wholesale regulation, it is likely that such market failure is likely to persist and even be aggravated if wholesale regulation were abandoned. This sort of analysis can therefore be helpful, even though it is not carried out under Modified Greenfield assumptions. Another indicator that may be useful in this context is complaints brought by alternative operators concerning a failure to comply with existing regulatory obligations concerning wholesale access.

2. Second, NRAs could use tools and instruments from merger analysis to forecast the *impact on retail market structure and outcomes* if SMP regulation of wholesale access is abandoned. They could analyse the impact of (i) wholesale access offers being no longer provided, or (ii) wholesale access offers being provided at less favourable commercial terms and conditions than under SMP regulation. Regulators could use, e.g., Upward Pricing Pressure tests to identify the potential for retail price increases if access-based products were no longer provided, or provided at a higher price.
3. Third, NRAs could consider how present outcomes (which are affected by SMP regulation) compare with outcomes in the same market prior to the introduction of SMP regulation.
4. Finally, *evidence from deregulated markets* in other Member States, where several infrastructures are in place, can help to determine likely retail market outcomes. There is one Member State, Romania, where the NRAs found competition at the retail level between VDSL, fibre and cable likely to be effective even in the absence of any wholesale regulation. This finding allowed the NRA to refrain from regulating wholesale central access and wholesale local access. In another Member States, such as the Netherlands, the NRA found sufficient competition to exist in the market for retail broadband between VDSL and cable effective only with SMP regulation of wholesale local access remaining in place. This allowed the NRA to abandon SMP regulation of wholesale central access at national level. In other Member States (e.g., UK, Portugal, Poland, Spain, Germany), NRAs have found that retail markets in higher density areas competitive on the basis of SMP regulation in wholesale local access, and they could partially abandon SMP regulation in wholesale central access. Evidence from these EU Member States suggests that there may be no longer market failure at the retail level, even in the absence of SMP regulation of wholesale central access, albeit with SMP regulation of wholesale local access still in place. Again, it must be noted that using evidence from other Member States requires a careful analysis of whether national circumstances are similar, before conclusions regarding the potential for tacit coordination can be drawn.

(2) How to assess joint SMP in the relevant wholesale market

If retail market conditions are found to be sub-optimal and a wholesale market is included in the list of markets considered to be susceptible to *ex-ante* regulation under the Relevant Markets Recommendation, or satisfies a national application of the three criteria test, a wholesale SMP market analysis will be required. Joint SMP may be considered in cases where there is no evidence to support a single SMP finding.

After the retail market analysis occurs, when an NRA analyses whether there is joint SMP in wholesale markets, the NRA needs to: (1) assess whether the market structure is conducive to tacit collusion, and identify the parties which might tacitly collude; (2) identify what is the focal point for a co-ordinated outcome at wholesale level; (3) assess how oligopolists may retaliate in the case of deviation from the co-ordinated outcome; and (4) assess whether the collusive outcome is likely to be disrupted by a fringe or new entrant operator or by customers with sufficient countervailing buyer power.

Assessing whether the relevant market is conducive to tacit collusion requires, *inter alia*, an analysis of the similarity of network infrastructures, retail operations or links between the operators concerned. Combined high and stable market shares, parallel pricing (or ARPUs in case of bundled offers) amongst leading operators, similar profitability level, comparable retail product scope and coverage, are all relevant factors that can be considered. There may also be a significant gap between market shares and pricing behaviour between leading firms and fringe operators. The existence of co-operation agreements should also be taken into account, including those relating to co-investment (in fixed broadband markets, while taking into account the conditions according to which the co-investment offer is made and whether it is open to the participation of third parties) on responsible terms or network sharing.

The focal point for tacit collusion at the wholesale level normally concerns the denial of access, or the provision of access on conditions that do not enable the access seeker to differentiate its products and thus to effectively compete in terms of technical development, innovation, and pricing. Such behaviour may be sustained in order to protect rents at the retail level. Evidence of pent-up, but unsatisfied, demand may be of relevance, such as refusals to accept reasonable requests for wholesale access or a failure to agree terms which would permit the service provider to differentiate its services from the host. A challenge in this regard may be that – especially in a market with pre-existing entrants with scale – demand may be limited if the conditions for access are not conducive to entry. In this circumstance, NRAs would need to consider if demand would be likely in the event that access conditions improved.

Key evidence demonstrating the ability and incentive to retaliate normally focuses around evidence of the financial and technical capability to retaliate. High pricing and profit levels may provide such evidence, alongside the technical capability to increase volumes to accommodate additional wholesale or retail subscribers. The potential for switching at wholesale and retail levels is also relevant in this regard. Transparency at the wholesale and retail levels is, as previously discussed in this Report, typically met

for mass-market telecommunications services due to the publication of retail offers, announcements concerning new wholesale agreements, the existence of trade associations and the need to conclude interconnection arrangements. Another factor that should be considered is the extent to which retaliation could be targeted at the deviating operator. This is more likely in a market with limited players such as a duopoly.

As regards the possibility of mavericks causing disruption to the collusive outcomes, case studies suggest that high economic barriers to entry may be the most important factor used in predicting whether tacit collusion is sustainable over time. Other factors such as legal barriers to entry, the small scale of competitors compared to the members of the oligopoly and/or their reliance on others, are also relevant, but it should also be considered whether they could be addressed or may change over time.

The major challenge in assessing wholesale markets in which there is pre-existing SMP regulation is to conjecture whether, following the removal of SMP obligations, operators that are presently subject to such obligations would tacitly coordinate their behaviour for example in order to deny access, deteriorate access conditions and/or increase wholesale prices. The analytical problem is that, especially if access regulation is effective, many of the relevant metrics concerning the denial of access, retail pricing and profitability may be affected, thereby limiting the amount of concrete evidence that can be provided. In this situation, some alternative solutions should be considered:

1. As regards whether the **market structure is conducive to tacit collusion**, some metrics may still be visible such as similar network coverage and vertical integration, alongside market maturity and/or links between the parties such as through exclusive co-investment agreements. Other elements conducive to tacit collusion might also be visible if wholesale access is not fully effective. If one player is regulated while another potential oligopoly member is not, it may also be relevant to assess whether the unregulated member is following the pricing and quality strategy of the leader – and whether that approach would be expected in a competitive market taking into account its particular cost-base. Benchmarks set against the situation before regulation as well as assessments against other comparable markets, could provide relevant evidence as to whether credible cooperation mechanisms leading to joint dominance would likely exist after the deregulation of the market.
2. As regards the identification of a **focal point** for tacit collusion, it may be possible to determine whether the regulated party or parties were reluctant to grant access on reasonable terms. The behaviour of any unregulated potential member of the oligopoly should also be considered in this regard. To this end, it is worth investigating whether they refuse an access even though, in a competitive market, it would have been in their interests to grant access. NRAs may more generally assess the *economics of providing wholesale access in a deregulated wholesale market*, notably by establishing whether it would be

profit-enhancing for the leading operators to jointly deny access or to deteriorate access conditions or increase wholesale prices. To this end, reference may be made to relevant benchmarks to support this analysis.

3. As regards credible **retaliatory mechanisms**, some evidence on high retail pricing and profitability might be available where SMP obligations have been shown to be not wholly effective. Otherwise, the issue would need to be considered from a theoretical perspective with supporting evidence from past history or comparable benchmarks. The question would therefore be whether high prices and profits could be maintained in the absence of regulation. In this regard, the establishment of necessary excess capacity may be relevant. As noted above, transparency conditions in telecommunications markets are often met especially in relation to mass-market services.
4. Finally, as regards the **external sustainability of the collusive outcome**, as previously noted, a key issue will be whether there exist high economic barriers to entry resulting in limited viability of further duplication of infrastructure in some or all geographic areas. This can be assessed even in the presence of pre-existing SMP regulation, with reference to cost-models, as well as the history of duplication in the relevant Member State considered and others with similar characteristics (e.g., in terms of population density, proportion of MDUs, ability to re-use ducts, etc.). NRAs routinely conduct such analyses concerning the existence of barriers to entry in the context of market reviews.²⁹⁹ Proposals in the draft Electronic Communications Code for NRAs to undertake the systematic mapping of existing infrastructure and planned deployment, might further support such analyses in the future.

When looking at outcomes in deregulated markets in other countries, it is also essential that national circumstances are similar if any conclusions were to be drawn.

6.4 Recommendations on criteria and associated evidence for the application of joint SMP in an *ex ante* context

On the basis of the case-law of the European Courts and the administrative practice of the Commission, the task of an NRA in establishing whether or not a collective SMP position exists has been made clearer. The *SMP Guidelines* should accordingly be modified to reflect those developments, but also to elaborate upon the particular ways in which the electronic communications sector can be conducive to tacit collusion. In this regard, the structure and the logic of the *EU Regulatory Framework* should also serve as a necessary backdrop in the interpretation and application of the criteria set forth in

²⁹⁹ Assessing entry barriers is relevant not only to an analysis of potential joint SMP, but more widely to individual SMP. It is also a central element of the '3 criteria test' used to identify whether a relevant market may be susceptible to *ex ante* regulation.

Airtours as interpreted by *Impala*. In doing so, we should be mindful of proceeding along the following analytical steps:

1. Determine, under the type of prospective analysis set forth in *Airtours* and *Impala*, whether **tacitly collusive outcomes are likely to arise from current stable market structures**.
2. In doing so, **conduct an integrated analysis** in taking due account of the various elements which have an impact on an assessment of whether tacit collusion is sustainable and desirable from the oligopolists' point of view.
3. **Take due account of the working principles set forth in the EU Regulatory Framework** in conducting a joint SMP analysis. These include: (i) before undertaking any wholesale analysis, the need to reach the conclusion that the retail market is (absent wholesale regulation, based on SMP finding) characterised by market failure(s); (ii) the understanding that other *ex ante* measures of a symmetric nature which are already in place are insufficient to address the problem identified at the retail level; (iii) the understanding that the "three criteria" test has already been satisfied, including the conclusion of existence of high and non-transitory barriers to entry (*i.e.*, when carrying out a previous market analysis which concluded on the single SMP of the incumbent, and this conclusion is unlikely to change – even in the national circumstances – as long as the market is on the list of the markets susceptible to *ex ante* regulation); (iv) the understanding that wholesale access, if appropriately crafted, could address the problem identified and, conversely, that its effective absence in the presence of demand provides *inter alia* a possible focal point for tacit collusion; and (v) that the statutory basis upon which the issue of **collective SMP needs to be assessed by NRAs is that market structures are “conducive” to tacit collusion**. This last point is especially important when reviewing markets in which pre-existing regulation may affect wholesale behaviours and retail outcomes.
4. In the analysis, **reflect characteristics specific to the electronic communications sector** market. In particular, the dynamics of the sector are consistent with "transparency" conditions being likely to be satisfied, while countervailing buyer power is likely to be absent on the part of retail customers in residential markets.
5. Acknowledge that, while the burden of proof remains with the NRA to prove all elements of a case of collective SMP, **more emphasis can be attributed to the impact of structural elements which support tacitly collusive outcomes – especially when reviewing markets in which there is pre-existing regulation**. As regards the specific types of evidence that an NRA can call upon to establish a position of collective SMP in situations with and without pre-existing regulation, refer to Table 16 overleaf.)

6. Outcomes associated with collective dominance such as the absence of retail price competition, limitations in investment and/or innovation, may be visible in markets where there is no pre-existing wholesale regulation. In circumstances where there is pre-existing wholesale regulation, **NRAs should apply a Modified Greenfield Approach**, an analytical tool associated with the analysis of the three criteria test and SMP in the presence of regulation. It should be noted that this concept has been applied by NRAs both in relation to individual SMP assessments and (albeit more rarely to date) in the consideration of the potential or otherwise for joint SMP.³⁰⁰ When applying the Modified Greenfield Approach to assess the potential for joint SMP, NRAs should in particular determine whether the anticipated market outcomes stemming from tacit collusion would be more likely to prevail in comparison with other market outcomes in the event that regulation was removed.

Taking into account these factors alongside evidence from the practical experience of NRAs, the following table lists the main steps that could be taken by NRAs when assessing whether a market is characterised by joint SMP, and the evidence that could be presented respectively in the case where there is no pre-existing regulation and where such regulation exists and may affect wholesale and retail outcomes.

It is important to note in this context, that, while evidence is required to support conclusions for each of the five steps, it is not necessary for all aspects to be proven in relation to any given individual step. Rather, the **evidence should point towards a conclusion that the essential elements for each step have been identified. In this regard, it is possible to take into account other factors that are not herein.** This is important to ensure that an integrated rather than a check list approach is taken.

In turn, **if the indicators associated with each step are collectively satisfied, a conclusion of joint SMP is likely to be justified.**

³⁰⁰ See, for example, the 2017 CNMC Decision concluding that market for mobile access and origination was no longer susceptible to *ex ante* regulation, and the considerations of ACM (2015) concerning the 'risk' of joint dominance in the retail broadband market absent regulation, noting that while the ACM's conclusions may have been challenged by the Commission, the use of the Modified Greenfield Approach in this context was not.

Table 16: Possible steps and associated evidence for the analysis of suspected joint SMP

Step	Criterion	Indicator	Example evidence/KPIs	
			No pre-existing regulation	Pre-existing regulation
1.	Is there the prospect for retail market failure? ³⁰¹	Poor value and/or quality, limited innovation, limited choice	<p>High prices relative to European/other relevant benchmarks/underlying costs; or if bundling makes price comparisons difficult³⁰² high ARPUs relative to quality (e.g. advertised bandwidth/actual speeds/ included services/volumes) and/or investment</p> <p>Limited or delayed deployment of next generation infrastructure (e.g. FTTP) compared with European/other relevant benchmarks</p> <p>Limitations on quality of offer compared with capabilities (e.g. bandwidth limitations)</p> <p>Limitations on innovation (failure to develop innovative services/bundles) despite interest from alternative operators</p> <p>Inability for customers to unpick bundles despite demand to do so</p> <p>Limited switching</p>	<p>If access is not extensively utilised or does not enable competitors to perform network upgrades or compete on price, (some of) the same evidence might be available</p> <p>Otherwise, consider implications of removal of access regulation, from a theoretical perspective and with reference to period prior to effective access regulation and, if any, countries with comparable wholesale market structures in which regulation is not applied.</p> <p>Analysis of the links between the presence, significance and scale of regulated access-based competitors and outcomes over time may also yield insights regarding the likely outcomes if existing regulation were removed</p>
2.	(Assuming the absence of single SMP), Is the market structure conducive to tacit collusion?	Similarity of network infrastructure/vertical integration and retail operations and/or links between the operators concerned	<p>Stable (potentially similar) retail market shares for subscribers and/or revenues.³⁰³ High individual and combined market share of oligopoly members over a relevant period, high and stable HHI. Evidence of market share gap between oligopoly members and fringe competitors</p> <p>Co-operation agreements or other links³⁰⁴ between the leading players.</p>	<p>Similar retail product scope, evolution of network coverage/upgrades, vertical integration of infrastructure based competitors</p> <p>Slowing/stable penetration (market maturity)³⁰⁶</p> <p>Low price elasticity of demand³⁰⁷</p> <p>If regulated access is not extensively utilised or does not</p>

³⁰¹ This step is relevant not only to an analysis of joint SMP, but to SMP analysis more widely.

³⁰² Bundling may result in products not being homogeneous, but do not necessarily undermine the potential to engage in tacit collusion as ARPUs could be observed.

³⁰³ Differences between market shares by subscriber and revenues may have different implications. For example, an operator with fewer customers but higher ARPU might have greater reluctance to pursue its competitors' clients.

³⁰⁴ Past proven cartelisation behaviour may provide guidance on the likelihood of tacit collusion *ex ante*, where it reinforces one of the *Airtours*-criteria, and where the type of cartel behaviour corresponds to the market failures anticipated by the existence of tacit collusion. (By contrast, in markets which are not inherently conducive to coordinated effects, past

<p>If so, who are the possible oligopoly members that may tacitly collude?</p>		<p>Co-investments, if they are not open to third parties, network sharing arrangements</p> <p>Similar retail prices/ARPU (is there price parallelism?) amongst leading members even where there might be different cost structures</p> <p>Similar profitability, retail product scope, network coverage³⁰⁵ over a relevant period of time</p> <p>Slowing/stable penetration (market maturity)</p> <p>Low price elasticity of demand</p> <p>Vertical integration</p>	<p>enable competitors to perform network upgrades or compete on price, evidence regarding symmetry and stability for retail market share, pricing and/or profitability might be available. Evidence of a lower cost competitor³⁰⁸ pricing at a similar level to a higher cost regulated operator may also be relevant, as may be collective denial of access in the presence of demand.</p> <p>Otherwise or additionally consider whether there is high and stable (potentially symmetric) individual and collective wholesale (incl. self-supply) market shares for the leading group and/or links between leading players e.g. network sharing, co-investment not opened to third parties.</p> <p>If wholesale shares vs infrastructure competitors are influenced by the presence of regulation (c.f. unbundling impact on wholesale shares of incumbent vs cable), consider whether in the absence of access, market shares and pricing would be likely to converge on the basis that the gained retail share and increased prices would outweigh the lost wholesale share. Such analysis could be made with reference to correlations between market shares, pricing and access-based competition, evidence concerning situation prior to access and if any, other comparable markets without regulation or where regulation removed. Account should be taken however of any specific reasons or evidence in this market to suggest that this would not be the case (e.g., long term wholesaling or co-investment agreements).</p>
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proven cartelisation behaviour may give rise to the inference that tacit collusion is difficult to sustain absent formal agreement. Refer to CMA's Merger Assessment Guidelines, op. cit., at section 5.5.7.)

- 306** Slowing or stable penetration makes it harder for new competitors to gain scale as they would need to encourage switching rather than being able to target new customers. As there is a higher cost associated with encouraging customers to switch, it may also deter existing larger operators from making such efforts. Maturity of the market in this context does not imply that there cannot be innovation in the market through the development of faster connections or services.
- 307** It should be noted however in relation to this criterion that its effects may be ambiguous. While it may raise the incentives to collude and set prices above the competitive level, it also renders retaliation (e.g. through means of a price war) less effective.
- 305** Reference to deployment announcements, topographic maps.
- 308** Although the incumbent may benefit from scale economies, other operators such as cable operators may benefit from the ability to match the quality of the incumbent using a lower cost technology.

3.	What is the focal point for a co-ordinated outcome at wholesale level	Denial of access agreements, degraded access, excessive wholesale rates and/or margin squeeze	<p>No/low access-based competitor market shares</p> <p>Evidence of pent-up, unsatisfied demand e.g., collective refusal of requests/failure to reach reasonable negotiated settlement/agreements which do not permit the access seeker to differentiate service from host on the basis of technology/pricing/bundling and innovation.</p> <p>If there is limited demand, consider whether such demand limitations may be as a result of constructive refusal to supply, or would normally be expected to exist in the presence of effective wholesale offers</p>	<p>Consider behaviour of regulated firm(s) in the provision of access. Was it (were they) reluctant to grant access/tried to impose terms which restricted ability to innovate and compete on price and quality? Was regulation (or the threat of regulation) required to obtain agreement?</p> <p>What incentive would the operator have to provide wholesale access on fair and reasonable terms in the event that regulation was removed, with reference to experience in other markets with similar structures in which there was no regulation/regulation was removed?</p> <p>Consider behaviour of other firm(s) in leading group. Did they deny reasonable requests for access, even though they had capacity and granting it might have enabled them to expand market share? Is there an alternative reasonable explanation (than tacit collusion)?</p>
4.	How will oligopolists retaliate in case of a deviation from the co-ordinated outcome?	Evidence of financial and technical capability to retaliate, ability to identify the deviating player	<p>High (compared with benchmarks/costs) pricing amongst leading group over sustained period and/or (if pricing is complex) high or increasing ARPUs in the absence of significant additional investment and expanded service offerings³⁰⁹</p> <p>Sustained high profit levels (ROCE) amongst leading group compared with cost of capital/comparators</p> <p>Technical capacity to increase volumes (to accommodate additional wholesale or retail subscribers) – noting that retaliation might also occur in a different market</p> <p>Potential for switching at wholesale and/or retail level</p> <p>The ability to identify and target retaliation at the deviating company is especially likely in the case of a duopoly</p>	<p>If access is not extensively utilised or does not enable competitors to perform network upgrades or compete on price, (some of) the same evidence might be available.</p> <p>Otherwise consider what would be the ability and incentives of firms to tacitly collude on pricing and refuse wholesale access on reasonable terms, with reference to past behaviour or comparators. In telecoms, transparency conditions could normally be considered to be met. Ability to price above the competitive level and earn profits in excess of cost of capital could be predicted through structural market characteristics (see above) in the absence of evidence to the contrary (e.g., long-term wholesaling agreements enabling effective competition).</p> <p>The ability to identify and target retaliation at the deviating company is especially likely in the case of a duopoly</p>

³⁰⁹ Such evidence is needed to prove that operators in the leading group would have the financial capability to retaliate by lowering prices and bringing profits down to the competitive level.

5.	Is a collusive outcome likely to be disrupted by a fringe or new entrant operator?	<p>High barriers to entry or expansion</p> <p>Low countervailing buyer power</p>	<p>Main consideration: High economic barriers to entry (limited viability of further infrastructure duplication). This indicator is likely to be met in fixed markets outside dense urban areas or within (where duct access or alternatives not available)</p> <p>The following could also be considered, but may be susceptible to change over time:</p> <ul style="list-style-type: none"> - Existing fringe players reliant on infrastructure of leading group - Limited shares of fringe players despite aggressive pricing - Legal barriers to entry <p>Buyers unable to exert influence on pricing, terms and conditions. In telecoms this condition is normally met at least for mass-market buyers</p>	<p>Main consideration: High economic barriers to entry (limited viability of further infrastructure duplication). This indicator is likely to be met in fixed markets outside dense urban areas or within (where duct access or alternatives not available)</p> <p>The following could also be considered, but may be susceptible to change over time:</p> <ul style="list-style-type: none"> - Existing fringe players reliant on infrastructure of leading group - Limited shares of fringe players despite aggressive pricing - Legal barriers to entry <p>Buyers unable to exert influence on pricing, terms and conditions. In telecoms this condition is normally met at least for mass market buyers.</p>
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PART II: OTHER ASPECTS OF THE GUIDELINES

7 Market definition

The SMP Guidelines of 2002 contain an extensive section (section 2) concerning market definition. This section sets out (i) the main criteria for defining the relevant product market; (ii) considerations when defining geographic markets; (iii) route by route markets and (iv) chain substitutability. Finally, it includes a section on the Commission's own practice, under Regulation no. 17 and the merger control Regulation relating to the electronic communication sector. Reference to the Access notice is also made.

Much of the guidance – and particularly guidance on the main criteria for defining relevant product markets – remains relevant. There have not been significant changes in case law this area. However, new issues have been raised due to technological developments and convergence. The approach to market definition within *ex ante* regulation of the electronic communication sector has also evolved in successive versions of the Recommendation on relevant markets susceptible to *ex ante* regulation.

We begin with an analysis of key developments affecting product definition. Focusing further on some of the issues identified, we then consider the distinction between retail and wholesale markets; implications of bundling and convergence; chain substitution with reference to increasing bandwidths in residential broadband and business access markets; and the inclusion of different technological – and specifically cable – within the relevant wholesale market. We conclude with an analysis of geographic aspects of market definition including circumstances in which subnational and transnational markets should be identified.

7.1 Defining the relevant product market

The SMP Guidelines of 2002 provide guidance on defining the relevant product markets. The Guidelines state that “according to settled case-law, the relevant product/service market comprises all those products or services that are sufficiently interchangeable or substitutable, not only in terms of their objective characteristics... but also in terms of the conditions of competition and/or the structure of supply and demand on the market in question.” It advises that NRAs should commence the exercise of defining the relevant product or service market by grouping together products or services that are used by consumers for the same purposes (end use). The following additional guidance is given:

- Similarity of physical characteristics is not sufficient for substitution because different kinds of products or services may be used for the same end (para 45). The key is the perception by consumers as regards functionality and end-use.
- Differences in pricing models and offers may also imply different groups of consumers – for example resulting in a segmentation between residential and business customers (para 46). However, a low quality product sold at a lower

price could be an effective substitute to a higher quality product sold at a higher price if consumers would switch in response to a relative price increase.

- Product substitutability may emerge through the convergence of various technologies such as PSTN and Internet voice (Para 47).
- NRAs must consider demand and supply-side substitution by applying the hypothetical monopolist test (para 48). In this regard the SMP Guidelines make the following recommendations:
 - **Demand-side substitution:** NRAs should determine substitutable products with reference to whether consumers could easily switch in case of a relative price increase. NRAs should make use of any previous evidence of consumers' behaviour, for example by examining historic price fluctuations in potentially competing products and consumers' reaction to such. In the absence of this evidence NRAs should seek and assess the likely response of consumers and suppliers to a relative price increase. They should in this context also consider barriers to switching e.g., due to investments in technology and long-term contracts. Where end-users face significant switching costs in order to substitute products, they should not be included in the same relevant market.
 - **Supply-side substitution:** Current guidelines state that alongside demand substitution, NRAs should also take into account the likelihood that operators which are not currently active on the relevant product market could decide to enter the market within a reasonable timeframe, following a small, but significant, lasting price increase. Where the overall costs of switching production are negligible, that related product might be included in the market definition. However, this would be less likely if significant investment would be needed, or of other barriers exist – for example due to long term supply agreements. Respondents to the Commission's consultation on the SMP Guidelines, including BEREC, generally agree that this general guidance remains valid. This guidance is also consistent with the Commission Notice on the definition of relevant markets for the purposes of Community competition law.³¹⁰

However, since the guidelines were adopted, there have been some additional insights from case law as well as evolutions in telecommunications markets and the associated competitive conditions and regulatory approaches which may require an update to some points raised on market definition (section 22.3) as well as aspects of the discussion on Commission's own practice (section 2.3).

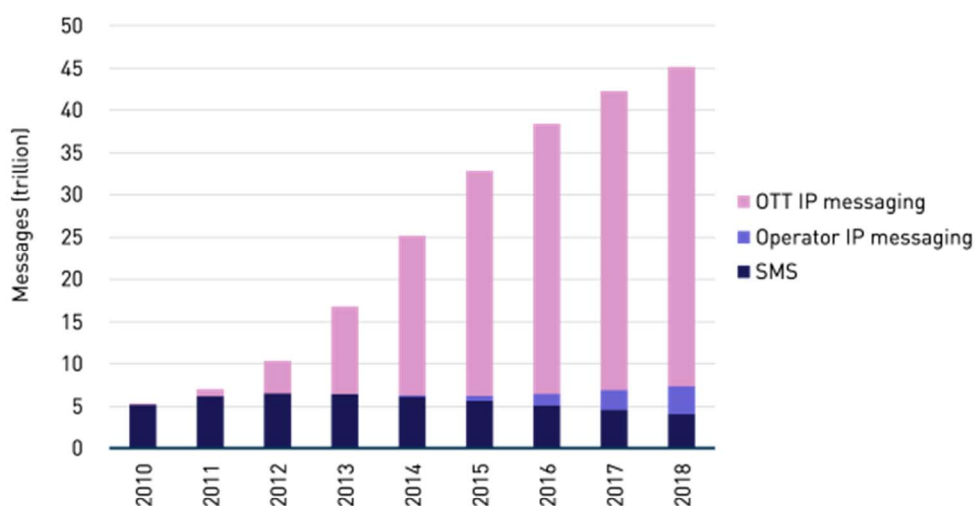
³¹⁰ OJ C372/5, 9 December 1997.

7.1.1 Market developments

There have been a number of significant market developments since the SMP Guidelines were originally adopted, which have affected the landscape within which NRAs have defined and analysed electronic communications markets.

- Access networks have evolved from copper and coax towards next generation access networks which involve the complete or partial replacement of legacy networks with fibre.
- Mobile has evolved from a focus on calls to broadband. Successive generations of mobile technologies have emerged bringing increased bandwidth – and with 5G – the prospect of low latency.
- Fixed and mobile services are increasingly using common core infrastructure based on fibre.
- The delivery of managed services over telecom networks has evolved from service-specific platforms towards all-IP platforms. This has entailed the decline of PSTN and SMS as a means of delivering telephone services. TV is also increasingly provided via IP in some countries.
- Over-the-top (OTT) services are increasingly providing an alternative to managed services for voice and entertainment (as illustrated by the following chart).

Figure 25: Volume of messages from mobile handsets



Source: Analysys Mason³¹¹, 2014

³¹¹ See

<http://www.analysismason.com/About-Us/News/Insight/OTT-messaging-volumes-Jan2014-RDMV0/>.

- The development of cloud computing has changed the way businesses manage data as well as increasing their requirements for reliable symmetric bandwidths. WIK models³¹² also suggest that cloud computing may in time also affect consumer demands for bandwidth and symmetry.

Models of competition have evolved at the same time.

- The market power of incumbents in fixed and mobile markets has tended to decline³¹³ and market concentration levels have also trended downwards in many countries. However, at the same time, convergence and consolidation amongst alternative operators has led in many markets to an oligopolistic market structure (see discussion in section 1.1).
- In some countries such as Spain, Portugal, France and more recently Italy³¹⁴ – alternative operators have climbed the ladder of investment to FTTH using physical infrastructure access (such as duct access), bringing additional infrastructure-based competition to dense urban areas. In other countries such as Sweden, Italy, Denmark and Germany, municipal operators, subsidiaries of utilities or local specialists have provided infrastructure competition to traditional incumbents and where relevant cable operators;
- Increased investment requirements for next generation mobile technologies have incentivised network sharing. Network sharing or 'co-investment' arrangements have also evolved, or been mandated in the context of fixed fibre deployment;³¹⁵
- In areas where they have not been able to directly invest or co-invest in fibre access networks, alternative operators which previously relied on copper local loop unbundling, a physical access product, have had to migrate to alternative virtual access products.³¹⁶
- While fixed consumer and small business markets have arguably become more local in nature, increasing demands from multi-national and multi-site corporations for seamless connectivity and service guarantees have spawned

³¹² See SMART (2015/0002).

³¹³ According to Commission Digital Agenda Scoreboard data, new entrants' share in fixed broadband subscriptions reached 59% in 2016, up from 46% in 2004.

³¹⁴ Fastweb has also begun deploying FTTH in Italy in the context of a co-investment scheme with Telecom Italia.

³¹⁵ For example, voluntary fibre co-investment/swap agreements are in place between Portugal Telecom and Vodafone, Telecom Italia and Fastweb, Orange Spain/Jazztel and Vodafone/ONO. Co-investment has been mandated under national legislation in accordance with article 12 Framework Directive and implemented between the major players in France.

³¹⁶ Virtual access, when it meets certain conditions, is normally considered to be a functional substitute for physical access and is included in the same relevant market (Wholesale Local Access). Nonetheless, virtual wholesale products do not offer the full degree of flexibility that is available when using physical wholesale access.

the development of specialist operators focused on the provision of multi-national business services.

7.1.2 Changes in *ex ante* regulatory practice

The Commission Recommendation on Relevant Markets alongside the practice of NRAs has evolved to reflect these developments.

- Following the adoption of the 2014 Recommendation on Relevant Markets, retail electronic communications markets are no longer considered susceptible to *ex ante* regulation.
- In place of 18 often technologically specific markets (e.g. wholesale unbundled access to metallic loops, retail and wholesale leased lines, broadcasting transmission services) identified in the initial 2003 Relevant Market Recommendation,³¹⁷ there are now 5 more generic wholesale markets listed in the Commission Recommendation as potentially susceptible to *ex ante* regulation.³¹⁸
- NRAs have had to consider new issues including (i) whether next generation technologies such as fibre should be included within the relevant market; (ii) whether virtual wholesale products offer a substitute to physical wholesale access; (iii) whether in view of technological developments cable should be considered in the same wholesale market as copper and FTTx networks; (iv) whether high quality bitstream should be included in the same relevant market as symmetric leased lines.

The evolution in approaches to market definition for wholesale local access across 12 EU markets from 2010-2015 are shown in Table 17 and Table 18 below. These show the progressive inclusion of FTTH in the relevant market as well as FTTC VULA as a potential substitute for physical unbundling products. It also shows that markets were defined in all cases at a national level (notwithstanding evolutions in a few countries towards geographically differentiated remedies) and cable was not generally included within the scope of the relevant market (with the exception of the UK). Although cable was normally considered to substitute for xDSL at retail level, a key reason given for its exclusion from the physical/virtual access market were challenges in unbundling cable due to its architecture and capabilities.

Key developments in *ex ante* market definitions for wholesale broadband access – shown in Table 19 and Table 20 have been growing trends to include cable within the relevant wholesale market (on the basis that cable bitstream could substitute for bitstream provided via other technologies) alongside a progression towards no SMP

³¹⁷ C(2003) 497 <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003H0311>.

³¹⁸ The market for unbundled access has given way to 'Wholesale Local Access', while leased lines are encompassed within a market for wholesale high-quality access.

either across the whole market or a geographic portion, due to competitive constraints from infrastructure competition such as cable alongside constraints from competitors relying on remedies in the upstream wholesale local access market.

As regards markets for terminating segments of leased lines/high quality wholesale markets (see Table 21 and Table 22), important developments have resulted in either the segmentation and/or partial deregulation of these markets by reference to bandwidth or other factors such as technology. By 30 March 2017 5 NRAs concluded that the market no longer satisfied the “3 criteria test”, and therefore proceeded towards full deregulation.

NRAs in two of the markets covered by our research had also by 2015 included dark fibre for business purposes as a substitute for leased lines (Austria) or as a distinct market (FTTO in the Netherlands). However, decisions concerning the proposed regulation of dark fibre for business in both the Netherlands and the UK³¹⁹ were subsequently overturned by national appeals bodies. The Competition Appeal Tribunal of the UK ruled in 2017 that Ofcom had erred when it defined a single product market for contemporary interface symmetric broadband origination services covering all bandwidths,³²⁰ while the Dutch court concluded that KPN did not have SMP in market for FTTO,³²¹ a conclusion later affirmed by ACM.³²²

319 Although Ofcom did not include dark fibre within the same product market as high quality leased lines (para 4.8 BCMR Statement), it was considered at the SMP stage and remedies were proposed.

320 http://www.catribunal.org.uk/files/1260_BT_Ruling_26072017.pdf.

321 <http://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:CBB:2013:273>, court ruling.

322 ACM decides against business fibre regulation <https://www.acm.nl/en/publications/publication/15684/No-need-for-regulation-of-business-fiber-optic-market/>.

Table 17: Market definition Wholesale Local Access (formerly physical infrastructure access) status around 2010

✓	SMP for complete market
✓	SMP for sub market only
✓	Market complete deregulated

✓ newly included in market definition

EU			Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romania	UK	
Early NGA review 2009-2011			2010	2009	2010	2011	2010	2010	2011	2009	2009	2010	2010	2010	
Market 3a (ex market 4)	year														
	Relevant product market	Copper (physical access)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FTTC VULA	✓												✓
		fibre (FTTH)			✓	✓	✓	✓	✓	✓			✓	✓	✓
		cable													✓
	Relevant geographic market	national	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		sub-national													✓
	SMP finding	yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
no															

Table 18: Market definition Wholesale Local Access (formerly physical infrastructure access) status around 2015

Latest NGA review 2014-2015			Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romania	UK
year			2013	2011	2014/2015	2014	2015		2015	2015	2016	2015	2015	2014
Market 3a (ex market 4)	Relevant product market	copper	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
		FTTC VULA	✓						(✓)			✓	✓	✓
		fibre (FTTH)	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
		cable												
Relevant geographic market	national	✓		✓	✓	✓			✓	✓	✓	✓	✓	
	sub-national													✓
SMP finding	yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	no												✓	

Table 19: Market definition Wholesale Broadband Access (formerly physical infrastructure access) status around 2010

Early NGA review 2009-2011			Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romania	UK	
Market 3b (ex market 5)	year		2010	2011	2008	2011	2010	2011	2008	2009	2009	2010	2010	2010	
	Relevant product market	copper	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FTTC	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FTTH				✓	✓	✓		✓	✓	✓	✓	✓	✓
		cable	✓				✓				✓			✓	✓
	Relevant geographic market	national	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	
		sub-national							✓						✓
	SMP finding	yes		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
		no	✓											✓	

Table 20: Market definition Wholesale Broadband Access (formerly physical infrastructure access) status around 2015

Latest NGA review 2015			Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romania	UK	
Market 3b (ex market 5)	year		2013	2011	2014/2015	2014	2015	2014	2012	2015	2015	2015	2010	2014	
	Relevant product market	copper	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FTTC	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		FTTH	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
		cable	✓			✓	✓				✓	✓	✓	✓	✓
	Relevant geographic market	national	✓		✓	✓				✓	✓		✓		
		sub-national					✓		✓		✓			✓	
	SMP finding	yes		✓	✓	✓	✓	✓	✓	✓	✓				✓
		no	✓							✓		✓	✓		

Table 21: Market definition terminating segments of leased lines/high quality access status around 2010

Market definition early NGA review 2009-2011		Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romenia	UK	
Market 4 (ex market 6)	year	2010	2006	2010	2010	2011	2008	2008	2010	2009	2005	2010	2008	
	Relevant product market	traditional LL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Ethernet based LL	✓	✓	✓	✓	✓		✓	✓	✓			✓
		Business bitstream												
		Dark Fibre												
		Bandwith/other segmentation			✓		✓			(✓)			✓	
	Relevant geographic market	national	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		sub-national												✓
	SMP finding	yes	✓	✓	✓	✓	✓	✓	✓	(✓)	✓	✓	✓	✓
		no												

Table 22: Market definition terminating segments of leased lines/high quality access status around 2015³²³

Latest NGA review 2015		Austria	Belgium	Czech	France	Germany	Poland	Netherlands	Italy	Spain	Sweden	Romenia	UK	
Market 4 (ex market 6)	year	2013/14	2013	2014/15	2014	2015	2015	2012	2015	2013	2013	2010	2013	
	Relevant product market	traditional LL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Ethernet based LL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
		Business bitstream				✓			✓		✓			
		Dark Fibre	✓						✓					
		Bandwith/other segmentation	✓		✓		✓	✓		(✓)			✓	✓
	Relevant geographic market	national	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		sub-national	✓											✓
	SMP finding	yes	✓	✓	✓	✓	✓	✓	✓	(✓)	✓	✓	✓	✓
		no												

³²³ In a subsequent 2016 decision, the Swedish NRA PTS concluded that the high quality access market did not meet the three criteria test.

7.1.3 Insights from *ex post* cases

The *SMP Guidelines* explicitly envisage that, despite a common analytical approach to market definition as between *ex ante* and *ex post* disciplines, market definitions as between those two disciplines may differ, given that the prospective analysis required under the *EU Regulatory Framework* is different to that based on specific historical facts established under a competition law investigation. Accordingly, a market definition adopted under competition rules is "without prejudice" to a market definition adopted under the *EU Regulatory Framework* (Paragraphs 37 and 63 of the *SMP Guidelines*).

Since the year 2000, the Commission's decisional practice in the field of merger control in the telecommunications sector (refer to Part A of [Annex \[Z\]](#)) reflects the following trends:

- The prospective analysis conducted by the Commission under EU Merger Regulation lends itself to a more expansive approach to product market definition which reflects the *ex ante* approach to market definition set forth in the various versions of the *Relevant Markets Recommendation*. There is fundamental consensus regarding the scope of relevant product markets at the wholesale access level, including the relative **importance to be attributed to supply-side analysis**. The Commission has adopted an analogous approach towards the wholesale acquisition of media rights, which will become increasingly important in a converged environment. Given the nature of merger control decisional practice, however, it is commonplace for the Commission not to take a definitive position as regards the precise scope of relevant product markets.
- The merger precedents are clear that **next generations of technology are likely to subsume previous generations of technology** (e.g., 2G, 3G, 4G) insofar as they do not represent fundamentally different services but only an improvement in quality and capacity. This approach towards technology migration is not couched in terms of chain substitution, although it contains elements of such an analysis. Chain substitution issues from an *ex ante* perspective are further discussed in section 0.
- **The Commission has been willing to identify an emerging product market for the provision of seamless pan-European mobile communications services to geographically mobile business customers.** While also adopting a forward-looking analysis, *ex ante* regulation does not envisage the possibility of market definition which is merely potential or still evolving (*i.e.*, at least some market maturity is foreseen in an *ex ante* context in order to be able to designate an operator or operators as having a position of SMP).
- **Merger control practice has consistently defined markets for GTS (global telecommunications services) or variants of such services in terms of the**

terminology used to describe them. These markets are largely defined in terms of the identity of end users (*i.e.*, large multinationals) on the understanding that they are likely to require a range of (not specifically specified) telecommunications services. Although multi-national business end-users have been identified as a relevant customer group in the context of *ex ante* regulation,³²⁴ and the potential exists to define a transnational market under the EU framework for electronic communications,³²⁵ this provision has never been used.

- The Commission has, on a number of occasions, defined markets relatively broadly while at the same time emphasising that a theory of harm could appropriately focus on much narrower market segments than the overall product market. The equivalent approach adopted by NRAs in their market analysis exercises relies upon a relatively broad market definition exercise, while nevertheless targeting remedies at particular market segments in order to address perceived market failures.
- With the exception of GTS services, which are defined as global in this geographic scope, **the vast majority of markets at both wholesale and retail levels have been defined as being national** (although the Commission has at times decided not to take a definitive view in some merger cases about the scope of the relevant geographic market). The key departure point arises where product markets are potentially multi-play in nature and a key competitive dynamic rests with cable operators with regional (or city-specific) catchment areas; in these cases, the Commission has contemplated the adoption of sub-national markets,³²⁶ although to date has not adopted a Decision along such lines (having left the scope of the geographic market open).
- By contrast, the Commission's decisional practice in its review of behavioural practices under Article 102 TFEU (refer to Section B of [Annex \[Z\]](#)) suggests the analysis undertaken in the **enforcement of Article 102 is fundamentally driven by a demand-side approach**. In relying on historical evidence to support a particular theory of harm, actions brought by the Commission under Article 102 TFEU often result in the definition of more narrowly defined relevant product markets, being limited *inter alia* by reference to a great emphasis on demand substitution, a very specific theory of harm alleged by a Complainant, and references to factors such as technological capabilities, perceived functional differences, geographic and customer specialisations. This relative approach arguably leaves less scope for the use of chain substitution as a basis for

³²⁴ See discussion in 4.2.1 2014 Relevant Markets Recommendation and BEREC analyses concerning business supply.

³²⁵ Article 15 of the Framework Directive provides for the potential to Commission to adopt a Decision identifying transnational markets following a comitology procedure.

³²⁶ This is analogous to the delineation, under an *ex ante* review, for the provision of fixed broadband services where cable operators are key competitors.

market definition. The Article 102 precedents have thus far adopted a relatively standard approach towards geographic market definition, universally identifying national geographic markets in the particular cases examined, driven primarily by a consideration of network coverage and licensing requirements. This is in contrast to the more expansive view of markets undertaken in a market analysis under the *EU Regulatory Framework*, which adopts a more supply-side emphasis, or the approach under the *EU Merger Regulation*, which often leaves the issue of market definition open where there are no apparent competition concerns.

7.1.4 Changes which may be required to the *SMP Guidelines* on product markets

Developments in market conditions and competition, regulatory practice and competition law suggest that the following changes may be warranted to the *SMP Guidelines* concerning market definition.

- **Innovation and technological convergence: Paragraph 63:** A discussion on innovation and technological convergence could address the relevance of alternative means of communication through OTT operators and other Internet-related communication paths which provide partial or full substitutes to traditional telecommunications services (although not networks). Technological convergence in the backbone networks used to provide fixed and mobile telephony and Internet as well as television services could also be referenced.
- **Relationship between retail and wholesale markets - Paragraph 64 & 65:** The principle espoused needs to take due account of the fact that the *Access Notice* is no longer operational and the fact that retail markets are no longer the focal point of *ex ante* regulation. Instead, the relationship between retail and wholesale markets in current practice could be elaborated – this is further discussed in a following section. Moreover, the scope of the wholesale markets considered susceptible to *ex ante* regulation has changed. Switched voice telephony and copper local loop unbundling are no longer considered as distinct markets and have declining relevance in modern communications (and market analysis). Instead, the trend in successive iterations of the Commission Recommendation on Relevant Markets, has been to move away from technologically specific markets towards more generic wholesale markets which capture the *function of the service from the perspective of wholesale customers* rather than its technical characteristics. Thus, the market for physical infrastructure access including unbundling, has given way to ‘Wholesale Local Access’ (Market 3a which may include alongside physical unbundling, virtual access which provides a high degree of flexibility), while the market for terminating segments of leased lines has been updated to encompass

'Wholesale high-quality access provided at a fixed location' (market 4). This shift in practice should be reflected in an update to the SMP Guidelines.

- **Mobile communications - Paragraph 66 and 69:** More recent cases which tend to reiterate the lack of substitution between fixed and mobile services and identify separate markets for each such as Orange/Jazztel³²⁷ and Vodafone/Liberty Global³²⁸ could be referenced. The description of previous generation GSM technologies needs to be updated to reflect new and emerging technologies and also to reflect various merger precedents which consider the assimilation of older technologies into a product market which includes next generation technologies.³²⁹ References to mobile call origination could be removed in the context of the conclusion by the Commission in the 2007 Relevant Markets Recommendation that this market was no longer susceptible to *ex ante* regulation.
- **Inclusion of self-supply, and substitution between technologies - Paragraph 67:** This issue is treated only briefly within the current SMP Guidelines, but has been a live issue in the context of *ex ante* market reviews. It may therefore warrant an extended treatment, as further discussed in section 7.4.
- **Single network markets for termination - Paragraphs 68 and 69:** Practice over the years has clarified the position that product markets for termination apply with respect to individual networks, whether mobile or fixed. What is arguably more instructive is guidance on where such a conclusion might be capable in certain circumstances of being undermined by technological developments such as fixed mobile call substitution and the evolution of OTT communications as an alternative means to reach the same end-user.
- **Route-by-route markets – paragraph 61:** The discussion of country pair markets should be re-considered, given the virtual disappearance of such "markets" from the regulatory interventions of Internet-based NRAs in light of liberalisation measures having been adopted internationally and a range of bypass or re-routing options widely available to customers.

In addition to the topics which are already included in the SMP Guidelines and could be updated, in its response to the Commission consultation on the review of the SMP Guidelines, BEREC has requested further guidance on bundled markets, and examples of the application of chain substitution.

³²⁷ COMP/ M. 7421.

³²⁸ COMP M.7978.

³²⁹ For example, T-Mobile Austria/Tele.ring COMP/M.3916, T-Mobile/Orange COMP M.5650. Hutchison 3G Austria/Orange Austria COMP/M.6497.

High level recommendations are shown in the box below. We further expand on some of the issues for which additional guidance may be needed on market definition in the following sections.

Recommendations concerning product market definition:

- The general principles concerning the definition of product markets remain sound.
 - The SMP Guidelines should be updated to reflect market developments (such as OTT, convergence, NGA) alongside more recent competition law cases and ex ante regulatory practice and challenges in market definition
 - Key issues which could be further explored include the relationship between retail and wholesale markets, assessing substitution amongst different technologies (and the role of switching costs thereof), defining bundled markets and chain substitution
 - As regards the distinction between ex post and ex ante approaches to market definition, there is arguably benefit in emphasising the relative importance of supply-side substitutability analysis in the market definition process conducted in an *ex ante* context (see Paragraph 52 of the *SMP Guidelines*), as opposed to an *ex post* context where the policy rationale for intervention by NCAs is fundamentally different to that which provides the basis for intervention by NRAs under the *EU Regulatory Framework*. Some discussion could also be introduced which reconciles the Commission's practice under *ex post* rules to address a theory of harm to segments of a particular product market with the *ex ante* practice of addressing remedies towards segments of a relevant product market to address potential market failure(s).
-

7.2 The relationship between retail and wholesale markets

From the time of the original (2003) recommendation on relevant markets,³³⁰ it has been made clear that „the starting point for the definition and identification of markets is a characterisation of retail markets over a given time horizon... Having characterised and defined retail markets... it is then appropriate to identify relevant wholesale markets, which are markets involving the demand of products and supply of products to a third party wishing to supply end-users.“

This Recommendation, which has been repeated in subsequent Recommendations on Relevant Markets, is core to the philosophy that SMP access regulation should be

³³⁰ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003H0311&from=EN> recital 7.

applied only where necessary to address a lack of effective competition at the retail level, and should be removed as soon as competition is achieved that is sustainable in the absence of regulation.³³¹

The proposed Electronic Communications Code would further formalise this approach, by clarifying in recitals that „for national regulatory authorities, the starting point for the identification of wholesale markets susceptible for *ex ante* regulation is the analysis of corresponding retail markets“.³³² The draft Code also highlights that „several wholesale markets can provide wholesale upstream inputs for a particular retail market, and conversely one wholesale market can provide wholesale upstream inputs for a variety of retail markets“.³³³ The Code proposals would also repeal provisions which previously permitted regulation at the retail level on the basis of a market definition and SMP finding at the retail level – on the basis that wholesale regulation is considered sufficient to tackle potential competition problems on the related downstream retail market or markets.³³⁴

The principle that retail markets should be analysed before wholesale markets and that wholesale regulation is considered sufficient to address any retail competition problems, could usefully be repeated and elaborated in the SMP Guidelines. It could also be clarified in the Guidelines that NRAs do not need to find SMP at the retail level in order to justify a further definition of associated wholesale markets, but only competitive problems at the retail level. The nature of these problems is further discussed in section 6.4.

Once the retail market has been defined and analysed, if competition problems are identified (under modified greenfield assumptions), NRAs should proceed to the definition of relevant wholesale markets taking into account the Commission’s Recommendation on Relevant Markets. Wholesale markets listed in the Commission’s Recommendation are considered to have met the „three criteria test“³³⁵ for susceptibility to *ex ante* regulation (unless the NRA concludes that the test is not met in the specific circumstances within its territory), while NRAs would need to conduct the test themselves for wholesale markets not included in the Recommendation.

A further concept that has been refined over time through the practice of NRAs, the Commission and in subsequent iterations of the Relevant Market Recommendation is that there may be a hierarchy or value chain of wholesale markets underlying the retail markets under consideration. For example, the 2014 Recommendation on Relevant

³³¹ This principle of applying economic regulation only where there is no sustainable and effective competition was emphasised in the 2009 Review of the Framework Directive through article 8 (5f) https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/140framework_5.pdf, although this article did not specifically refer to assessing competitiveness at the retail level.

³³² Recital 155 draft EU Electronic Communications Code.

³³³ Recital 157 draft EU Electronic Communications Code.

³³⁴ Recital 158 draft EU Electronic Communications Code.

³³⁵ The three criteria test consists in (i) the presence of high and non-transitory structural legal or regulatory barriers to entry; (ii) the market structure does not tend towards effective competition; and (iii) competition law alone is insufficient to adequately address the identified market failures.

Markets highlights that under the retail market for broadband Internet services, there are at least two relevant wholesale markets – wholesale local access, and wholesale central access – with WLA providing a more basic upstream solution than WCA. In the explanatory note accompanying the Recommendation, NRAs are advised to analyse such groups of related retail and wholesale markets together.³³⁶

The approach taken by some NRAs may however blur the distinctions between wholesale markets resulting in wholesale product markets which are associated with more than one retail market. For example, in France, Spain and Portugal a key remedy in the physical infrastructure access/wholesale local access market has been duct and pole access. As this remedy was mandated in these Member States without specific restrictions on usage, this enabled it to be used not only to install fixed broadband, but also leased lines and mobile backhaul.

This approach may become more prevalent if proposals for the Electronic Communications Code are adopted which clarify (Article 70) that physical infrastructure access such as access to ducts and poles may be mandated if it provides a solution to a competition problem at the retail level even if it is not within the relevant wholesale market concerned. Although this was not the conclusion reached in the 2014 Recommendation on Relevant Markets, it is also conceivable that in certain circumstances passive infrastructure access might be considered as a relevant market in its own right, which would also result in a one to many relationship between this wholesale market and downstream wholesale and retail markets.

Conversely, if bundled markets were identified at the retail level, multiple wholesale markets might be identified as inputs. This is further discussed in section 7.3.4.

Recommendations concerning the relationship between retail and wholesale markets:

- The *SMP Guidelines* could usefully clarify that NRAs should first define (or at least analyse) the relevant retail market and then, if competition problems are identified in the retail market under modified greenfield assumptions (*i.e.*, the absence of SMP regulation), determine the associated wholesale markets and the links and the hierarchy between and among them. The close relationship between retail and wholesale market definition could also be underlined.

- When defining the relevant wholesale markets which may be susceptible to *ex ante* regulation, NRAs should start by identifying and analysing the market which is most upstream of the retail market in which problems have been found, noting that this may

³³⁶ See Explanatory memorandum to 2014 Recommendation Relevant Markets page 49.

be a market which consists in or includes more generic cross-market wholesale products such as passive infrastructure access (e.g. duct access).

Thereafter, if remedies in the most upstream market are not sufficient in themselves to address the competitive problem in the retail market, NRAs may proceed to define and analyse downstream wholesale markets following the modified greenfield approach.

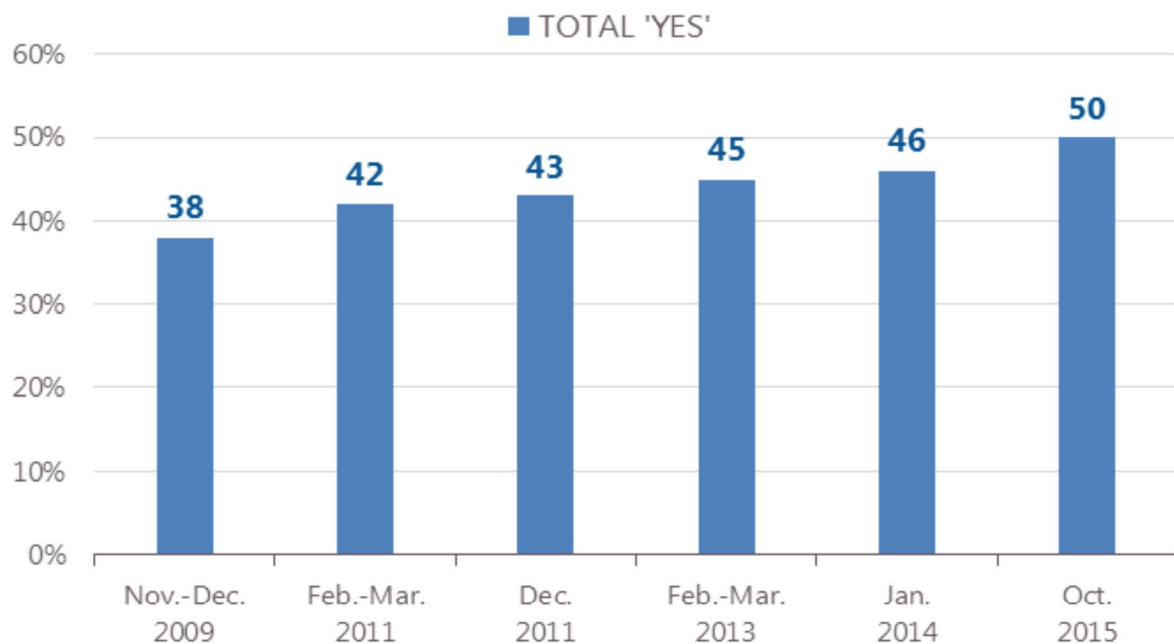
7.3 Implications of bundling and convergence on market definition

Convergence in the supply of electronic communication services is well progressed across many markets. Convergence may take the form of using common infrastructure to provide multiple services, such as the increasing prevalence of common core (typically fibre) infrastructure which is used to supply both fixed (telephone, broadband and TV) and mobile retail services. In turn, operators may take advantage of the synergies achievable from convergence in the technical supply of services, to offer bundled retail services to customers. Double play offers consisting of telephone and broadband services have been standard for some years. Triple play offers including telephone, broadband and TV are now prevalent in some markets, and bundles involving both fixed and mobile services are now also common in countries such as Spain, France, Portugal and Belgium. According to the last e-communications Eurobarometer survey published in 2016,³³⁷ 50% of respondents reported that they subscribed to electronic communication services as part of a bundle.

³³⁷ Special Eurobarometer 438.

Figure 26: Take-up of bundled offers

QA7 By bundle, we mean a package offering a combination of electronic communication services (or a combination with other services such as TV channels) from the same provider at an overall price. Has your household subscribed to two or more of the following services as part of a bundle?
(% - EU)



Source: Special Eurobarometer 438

Business services also typically involve combinations of voice and data sometimes across multiple sites, and may include combined fixed mobile offers.

Convergence and bundling could have implications for both retail and wholesale market definitions, as discussed in the following sections. However, the underlying tools for the assessment of market definitions remain the same as those set out in the Commission Notice on market definition.

Bundling and convergence offer the potential to deliver advantages to consumers – including one-stop-shopping and single billing, possible increased functionality (for example through enhanced IP-calling facilities, and on-demand TV delivery), and the potential for reduced costs and prices if the provider is able to leverage economies of scope in service provision and/or equipment. On the other hand, bundling and/or the associated terms might be a cause for concern if it aims to leverage market power from one market into other services forming part of the bundle.

In this section we explore insights on bundling from competition law and *ex ante* practice and discuss the possible implications for market definition at retail and wholesale level.

7.3.1 Insights from *ex post* practice

Proposed bundled market definitions have been a feature of several *ex post* competition law cases, as undertakings accused of anti-competitive tying have sought to demonstrate that services were intrinsically connected, and that the tying was beneficial to consumers. For example, in its 2010 report on bundling³³⁸ BEREC notes that in *Tetra Pak II*,³³⁹ Tetra Pak claimed that there was a natural link between the products it sold to its customers (machines and cartons). The consequence in Tetra Pak's view was that it could lawfully combine the two products through contract (tying).

However, in this case, as well as in the case involving the tying of Microsoft's operating system with services, authorities have concluded that the market definition should cover only individual products. In *Tetrapak*, the EU Courts cited the existence of independent manufacturers who specialised in the manufacture of cartons (the tied product), as evidence that there was separate consumer demand and hence a distinct market for the tied product. Meanwhile in the Microsoft case, the Commission concluded that there were separate markets on the basis that: (i) there remained separate consumer demand for stand-alone media players, distinguishable from demand for PC operating systems; (ii) a number of vendors developed and supplied media players on a standalone basis; and (iii) Microsoft itself developed and distributed versions of its Windows Media Player for other PC operating systems.

These cases, however, do not involve the more complex relationships evident in the telecommunications sector, which involve a number of companies being able to provide service bundles (not all of which might be identical in scope), concern multiple operators providing such services (as opposed to an individually dominant firm), the possibility that the bundle can be used as the facilitator of various predatory and margin squeezing practices, while many aspects of the bundles rely on a complex array of regulated and non-regulated wholesale access inputs to allow operators to provide the service bundles.

As regards electronic communications, the Commission has had the opportunity on a number of occasions to determine whether there are distinct markets for the provision of "multi-play" services, but has thus far not needed to take a definitive position on this issue (especially given the evolutionary nature of such services, the complexity of access services needed to sustain such services, the incremental addition of additional services, etc.). However, the extent of the Commission's analysis in the *Ziggo* Case suggests that it is developing a range of analytical steps by which to determine whether multi-play markets can be identified and their scope determined.³⁴⁰ Similarly, the

³³⁸ BEREC report on impact of bundled offers in retail and wholesale market definition BoR (10) 64.

³³⁹ Commission Decision of 24 July 1991, Case IV/31.043, *Tetra Pak II*.

³⁴⁰ In *Ziggo*, for example, the Commission attached relevance to the fact that a number of operators could offer the service bundles in question (including both TV and non-TV offerings), that over 50% of consumers purchased bundled service offerings, the fact that TV services were a major driver for converged services, and the idea that related markets might be affected by the performance of the

Commission has not considered markets to have evolved sufficiently to be able to draw a clear demarcation point between online and offline distribution.³⁴¹

It is clear that each Member State will have different patterns of evolution for converged or multi-play services, based on a number of factors ranging from consumer demand, supplier “push” of converged services, the breadth and scope (and financial attractiveness) of wholesale access relationships, and so forth. Accordingly, such markets are unlikely to evolve consistently across the EU Member States and will inevitably be very fact-specific.

7.3.2 Bundling practice in the context of *ex ante* SMP regulation

There is little experience of the analysis of bundled markets in the context of *ex ante* SMP regulation, because notwithstanding the widespread prevalence of retail bundles including basic bundles such as the combination of broadband and telephony, NRAs have consistently found separate retail markets respectively for telephone access, Internet and business-grade services. Belgium provides an example where remedies at the wholesale level were designed to facilitate competition in bundled retail services. However even here, BIPT did not define a retail market for bundled services but considered that the cable operators had SMP on the market for broadcasting signals and that the development of multi-play offers including TV and broadband Internet justified the imposition of resale cable Internet broadband as ancillary remedy of an SMP on the broadcast market.

The continued reliance on individual service retail markets is consistent with the approach proposed in the Commission’s Recommendation on Relevant Markets, in which the Commission noted that “this Recommendation does not propose to define a separate retail market for bundles because **evidence to date has not indicated that there is a need for *ex ante* regulation of bundles**”. Even if an NRA defined a retail market for triple play services, for example, the wholesale inputs needed to compose this bundle would remain separate and non-substitutable, including, for example, local access, “higher-level access and termination”.³⁴²

In other words, the Commission signals that it does not consider that the identification of bundled markets would have a material impact on the outcome of the market analysis. The Commission does however highlight that it is important that NRAs can ensure that the vertically integrated SMP operator’s regulated elements of the bundle are effectively replicated at retail level. Thus, the need for access to wholesale inputs to form a

operator with the bundled offering (e.g., facilitating leverage, cross-subsidization and potential foreclosing strategies).

³⁴¹ As the Commission’s decisional practice in merger control has demonstrated, the Commission has sought to define potential or emerging markets, or has considered certain market definitions without definitively adopting them. By contrast, the process of *ex ante* market definition, if submitted, requires a greater degree of certainty as regards the outer boundaries of a defined product market.

³⁴² 2014 Explanatory Memorandum to the Relevant Market Recommendation page 18.

competing bundled offer might inform the significance given to that wholesale product and remedies applied.

7.3.3 Defining retail markets in the presence of bundled offers

If, notwithstanding existing practice and guidance, NRAs consider that the market conditions in their jurisdiction are suggestive of a bundled market at retail level, they can proceed with the analysis, using the same methodology as for other aspects of product market definition. The SSNIP test remains relevant in this context.

On the demand-side, the question is whether, as a result of a small but significant non-transitory price increase of the bundle, a sufficient proportion of consumers would unpick the bundle and revert to purchasing individual components such that the price increase for the bundle would become unprofitable.

A critical loss test can shed light on what would be the relevant share of customers required to switch away from the bundle to exert a sufficiently strong pricing constraint. The critical loss is the percentage loss of subscribers that would make a price increase of 10% for a hypothetical monopoly provider of, e.g., a triple play bundle unprofitable. Under a few simplifying assumptions, the critical loss for a given price increase can be shown to depend only on the price-cost margin prior to the price increase.³⁴³

For telecoms and television services the price-cost margin is typically high. In this case, a small percentage loss of sales is already sufficient to make a 10% price increase unprofitable. If the price-cost margin for a triple play bundle was in the neighbourhood of 80%, the critical loss would be 11%. In other words, if 11% or more of a hypothetical monopolist's subscribers "unpicked" the triple play bundle in case of a 10% price increase, double play and stand-alone offers would impose a short-run pricing constraint on triple play, and triple play would not represent a separate relevant product market.

As noted in BEREC's report, in order to avoid using indicators that are influenced by the presence of market power and therefore might yield unreliable conclusions,³⁴⁴ this analysis should take as a starting point bundled and individual offers and prices that would exist in a competitive market.

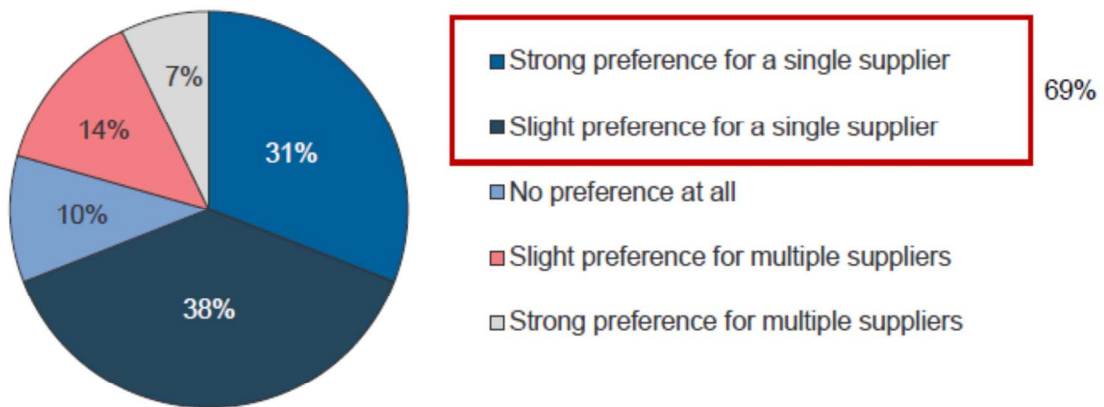
If the market appears currently to be competitive, the critical loss analysis could be conducted with reference to existing bundled and individual offers and their relative prices. In order to support a critical loss analysis, evidence should be sought on whether in response to increases in bundled offer prices (for example at the end of

³⁴³ The price-cost margin is $(p-c)/p$, where p denotes the retail price and c the marginal cost of providing cable TV to end-users.

³⁴⁴ The problem of using existing indicators to define markets when these indicators have been influenced by anti-competitive conduct is referred to as the cellophane fallacy after the case *United States v E.I. Du Pont De Nemours & Co*, 351 US 377 (1956).

promotional periods), consumers switched to alternative individual offers. The difference between the bundled price and the sum of the components may also be relevant to determine consumers’ incentive to switch. A more limited gap in the pricing might imply a smaller incentive to switch. A higher gap might suggest a higher switching incentive. Survey responses concerning the importance of bundles to consumers and their potential switching behavior might also be relevant (see for example responses to a survey conducted by WIK concerning multi-site and multi-national customers’ preferences as regards buying a range of services from multiple suppliers or a single supplier).

Figure 27: Illustration of customer surveys – multi-site and multi-national corporations’ preference for single vs multiple suppliers for a range of electronic communications services



Source: WIK (2013) Business Communications, economic growth and the competitive challenge

In addition to the focus on pricing, NRAs should also consider the degree to which consumers could in practice switch from a bundled offer to individual offers. Factors which may affect this include the availability of comparative information, the presence or otherwise of processes to aid switching from one to multiple suppliers and the timescales for doing so, and the need to acquire different and/or duplicate equipment. Surveys may also indicate perceived challenges associated with switching. For example the 2016 Eurobarometer survey distinguishes customers of bundles which have not switched due to inertia, from those which were hindered from doing so, and collected data on what barriers those hindered from switching encountered.³⁴⁵

In markets where the retail outcomes may have been affected by market power (e.g., absence of individual offers as a strategic choice by operators), NRAs should seek to understand what the situation might have been in the absence of market power with reference to previous offers and bundling conduct, existence or otherwise of cost

³⁴⁵ See page 93 and following, Special Eurobarometer 438.

advantages associated with bundling and international benchmarks.³⁴⁶ Relative pricing of bundled vs individual offers in this context should be considered with reference to the relative cost.

On the supply-side, NRAs should consider whether operators in related markets might enter into the provision of bundled offers in response to a relative price increase in bundles. Their ability to do so should be assessed with reference to any legal and regulatory barriers (eg spectrum availability as regards mobile) or investment requirements for infrastructure and content (e.g. as regards television) to supply the bundled services which it does not already offer.

In its 2010 report on bundling, BEREC describes a number of outcomes that may result from an analysis of a retail market which includes bundled offers. Their guidance on possible findings and associated conditions is presented below.

Table 23: BEREC analysis of potential retail market configurations involving bundles and associated conditions

Finding	Condition
Separate market for each individual service and a separate market for the bundle	Bundler can price above competitive level without consumers unpicking the bundle
Separate market for each individual service with bundles considered part of these individual markets:	Bundler cannot price above competitive level without consumer unpicking the bundle Availability of bundles constrains ability of individual service providers to price above competitive level
Single market containing the bundle and its constituent parts	The hypothetical monopolist of each individual service does not exert sufficient constraint on the bundler, but hypothetical monopolist of the bundle and all the individual components can price above competitive level
Asymmetric substitution e.g. voice/broadband bundles substitute voice alone, but not other way round	Bundle in market with individual service as focal point, but individual service not in the market when defined with the bundle as focal point

Source: Derived from BoR (10) 64 paragraph 86

In general however, given that an SMP analysis is not conducted at the retail level, but only an analysis of whether there are competition problems, NRAs should consider

³⁴⁶ International benchmarks provide some support for the idea that in a competitive market in the absence of vertical integration, services would be sold individually – in addition to any bundles that may be offered. For example, an analysis by WIK of service offerings in Stockholm, which features a wholesale only fibre provider, retail broadband services are typically offered separately from telephony and TV – in contrast with the bundled offers that are prevalent in markets such as France, Spain and Portugal where major undertakings are vertically integrated and operate multiple services.

what impact, if any, these different configurations of the retail market definition may have on the ability to address the central problem at wholesale level. If, as may be the case, they would not have a significant impact on the definition of electronic communications markets susceptible to *ex ante* regulation at wholesale level, it may be appropriate for NRAs to leave the precise boundaries of the retail market open – placing greater focus on competition problems experienced by end-users in the context of retail services (including bundles) that are or may be offered.

7.3.4 Implications of bundling and convergence on wholesale market definitions

In the event that a bundled retail market is found, and the NRA concludes that there are competition problems in that market, an important implication is that the elements of the retail bundle may influence the definition of associated wholesale product markets which may be susceptible to *ex ante* regulation.

For example, if a retail market is found for triple play services including voice, broadband and TV or quadruple-play services also including mobile, the NRA would need to examine the underlying wholesale competitive conditions for each of the components to gauge where potential wholesale obstacles lie. It is possible in a situation of converged supply, that this may lead them to focus on cross-market wholesale inputs and/or to remove restrictions that may have applied on existing wholesale market definitions (for example extending the scope of a broadband bitstream product to include the capability to deliver TV (multicast) if TV is found to be in the bundle and competitive problems are found).³⁴⁷ A retail quadruple play market which was found not to be competitive, might justify the identification of a wholesale market for mobile wholesale access, if lack of mobile access was a constraint on the competitive supply of quadruple play retail services, or extension of the scope of existing market definitions to enable use of duct access and/or backhaul for mobile if poor quality or high cost of mobile access supplied by competitors was a constraint on effective competition in a bundled retail market.

In this sense, identification of competitive problems in a retail market which involves bundled services (even if the scope of that market is not precisely defined) could enable NRAs to address potential leverage issues by addressing barriers to entry at the wholesale level through appropriate SMP access regulation coupled with rules to avoid margin squeeze.

However, any significantly expanded, or additional, wholesale markets would also need to be subject to the three criteria test. This may raise questions around whether

³⁴⁷ Such an extension could however also be applied in the absence of finding a distinct retail market involving bundled offers. For example in case DK/2010/1099 – the Danish NRA proposed to impose an extended access obligation involving multi-cast – as a means of enabling alternative operators to replicate the bundled retail services of the incumbent. The Commission responded that such a remedy could be justified if the market for wholesale broadband access develops in such a way that a TV offering becomes indispensable to effectively compete at retail level.

alternatives could emerge that would undermine the need for the expanded market to support competition in retail bundled services – eg if OTT becomes a practical alternative to managed television services.

NRAs should also have regard to whether *ex ante* regulation would provide the best solution to the identified competition problem, or whether alternatives would be more appropriate such supporting mobile competition through spectrum policy or license conditions, competition law remedies or remedies that might apply in relation to specific legislation on media. It is unlikely for example, that *ex ante* wholesale regulation applying to the electronic communication sector could be expected to directly address competitive concerns that may arise in the context of content.

Recommendations related to bundling:

- The *SMP Guidelines* do not currently include any reference to assessing the potential for bundled markets in the electronic communication sector. In view of the increased trends towards retail bundling (e.g., triple play and quadruple play offers) they could usefully do so.

- A bundled market at the retail level may be considered to exist if following a price increase, customers would not ‘unpick the bundle’ and switch to individual services.

- The analysis should be conducted on the basis of the bundling and pricing structures that would exist in a competitive environment. The relative popularity of bundled offers is relevant. However, the absence of or very low take-up of individual offers does not necessarily indicate a bundled market, if consumers have been deprived of a choice they would otherwise have made (and would have been available in a competitive market) for individual services, or have been incentivized towards bundled offers through pricing strategies that are not reflective of the underlying costs. Thus, individual retail markets may be identified even in a market where bundling is prevalent and individual offers are not widely available, if there exists demand for individual offers that is not being effectively fulfilled in the market.

- Relevant evidence includes pricing and costs of bundled services in comparison with the individual components, consumers’ actual and stated behaviour in the presence of price increases, and barriers to switching.

- BEREC notes that there may be several configurations involving bundling within retail markets. Given that NRAs are required only to prove that a retail problem exists and not to find SMP or impose remedies in retail markets, it may not be necessary to precisely delineate the scope of a market which involves bundles.

- If an NRA includes bundles within a relevant retail market and finds that there are competitive problems affecting consumers which derive from bundles, it should then

identify the relevant wholesale markets which may address the root cause of these problems. Depending on the competitive bottleneck, this might justify expanding the scope of the wholesale broadband market to facilitate the delivery of TV (e.g., through multicast), or could in a quad-play environment involving competitive mobile challenges, even justify the identification of mobile access markets.³⁴⁸ This approach should enable NRAs to address anti-competitive leverage at the wholesale level. However, NRAs would need to apply the three criteria test on any significantly expanded wholesale market. In this context, they would need to consider whether the competition problem affecting retail bundles is durable (e.g., in the light of potential competition from OTTs) and whether there are other mechanisms which could address the problem such as spectrum policy, licence conditions or competition law. Certain potential inputs such as content may also fall outside the scope of the *ex ante* framework for electronic communications.

7.4 Are there single-platform wholesale markets for VDSL and cable or is there a multi-platform wholesale market?

The upgrade of cable networks and the feasibility of bitstream access on these networks must be integrated into the market definition exercise. Regulators need to address the question of whether bitstream services, which can potentially be provided over cable networks, are part of the same relevant market as traditional incumbent VDSL services or whether each platform gives rise to a distinct relevant market. In other words, is wholesale central access a multi-platform market or are there single-platform markets? As technologies evolve, potentially enabling more flexibility in the characteristics of wholesale access on the cable platform, this question is also becoming increasingly relevant for wholesale local access.

This is primarily a product market definition issue. Generally speaking, the relevant product market comprises all wholesale products that impose a short-run competitive pricing constraint on the price-setting behaviour of suppliers. “Short-run”, for the purpose of regulatory market definition, means a period of up to a year.³⁴⁹ The relevant short-run pricing constraints in our context can be a result of:

- demand substitution;

³⁴⁸ It should be noted in this context that under the proposed Electronic Communications Code Article 70(2), duct access could be mandated irrespective of whether the assets that are affected by the obligation are part of the relevant market in accordance with the market analysis. Extension of the market definition to include duct access would thus not be needed.

³⁴⁹ One year is the period commonly used in the application of the Hypothetical Monopolist Test (short term entry). There was a reference to this period in the 1997 revision of the FTC Horizontal Merger Guidelines para 1.32.

- indirect demand substitution, and/or
- supply substitution.

In the following, we set out the relevant tests required to decide on whether multi-platform or single-platform markets need to be defined. For expositional simplicity, we focus on the question of whether cable bitstream imposes a short-run competitive pricing constraint on VDSL bitstream and is therefore to be included in the same relevant wholesale market. The answer has profound implications for the SMP assessment. Multi-platform markets may require a joint SMP assessment, whereas for single-platform markets, by definition, it is sufficient to assess individual SMP.

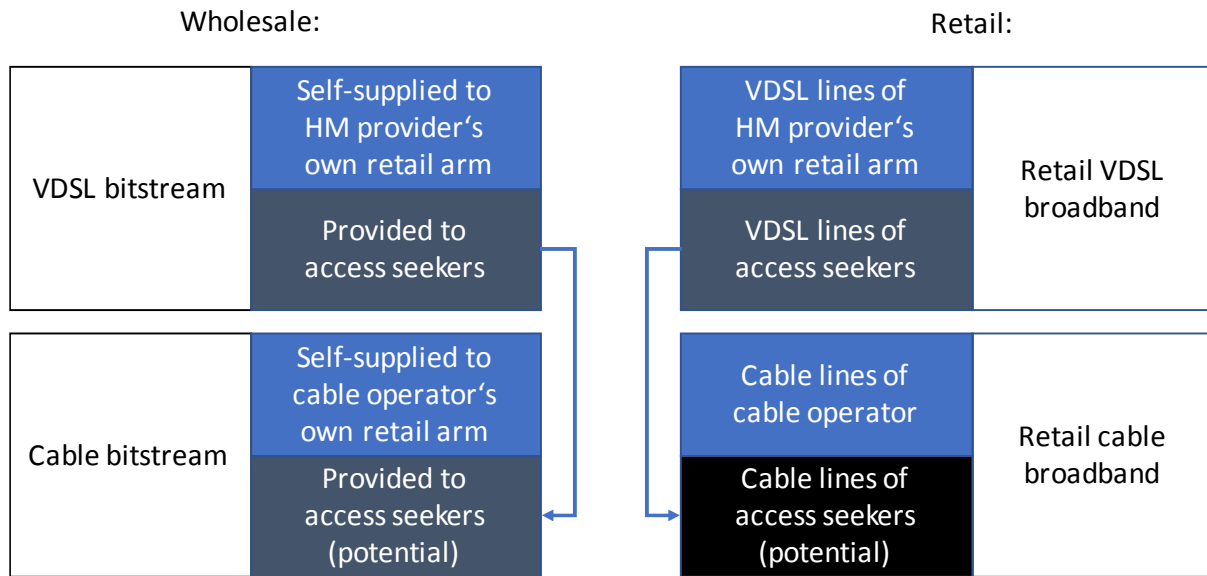
7.4.1 Demand substitution

The first, and most powerful, form of competitive pricing constraint is the result of demand substitution. A cable bitstream product can be regarded as a demand substitute for VDSL bitstream if:

- cable bitstream has characteristics and a price that are similar to VDSL bitstream (which means that access seekers could potentially use cable bitstream to provide a broadband product to end-users that, from the end-users perspective, is similar to VDSL broadband),
- switching costs of access seekers associated with switching from VDSL to cable bitstream are low (which means that, first, access seekers can interconnect with the cable network without a need to incur substantial network reconfiguration costs and delays, and that, second, access seekers can migrate their retail customers to the cable platform relatively quickly and at low cost regarding in-house cabling and terminal equipment).

The substitution relationship is illustrated in the following Table assuming a Hypothetical Monopolist (“HM”) test scenario. The left-hand boxes show the bitstream services. These consist of (i) bitstream services provided by the Hypothetical Monopolist provider of VDSL bitstream, either supplied to access seekers or self-supplied to the HM Monopolist provider’s own retail arm, and (ii) bitstream services provided by the cable operator, currently only self-supplied to the cable operator’s own retail arm, but which could potentially be also supplied to access seekers. The right-hand boxes show the retail services. These consist of (i) VDSL broadband offered by the HM provider’s own retail arm and by access seekers, and (ii) and cable broadband offered by the cable operator and potentially by access seekers.

Figure 28: Assessment of potential wholesale demand substitution



The substitution relationship is illustrated by the arrows in the Table. The left-hand arrow shows the substitution between VDSL and cable bitstream at the wholesale level. The right-hand arrow depicts the corresponding substitution relationship between VDSL and cable broadband at the retail level.

The standard test for demand substitution is the SSNIP test according to which cable bitstream can be considered a demand substitute for VDSL bitstream if, in case of a wholesale price increase for VDSL bitstream³⁵⁰, access seekers would switch to cable within a year. A “SSNIP” is a small, but significant non-transitory increase in price from a cost-based price level. For regulatory market definition, the SSNIP usually assumed is 10%.

Regulators have established a high degree of substitutability between VDSL and cable from a consumers’ perspective, as well as similar characteristics and costs of VDSL bitstream and a potential cable alternative from an access seeker’s perspective. The functional equivalence of Internet access over VDSL and cable networks at the retail level is generally accepted. Also, retail prices are usually similar. By implication, wholesale bitstream services provided over VDSL and potentially over cable networks must also be considered equivalent in terms of functionality and price, since they allow access seekers to produce retail products that are interchangeable from retail customers’ perspective. In relation to cable bitstream, the Commission has pointed out that “market analysis should also take into account the possible role of regulators in

³⁵⁰ Small, but significant non-transitory increase in price (from a cost-based price level).

incentivising suppliers and operators of the DOCSIS community into developing a standard allowing VULA-type access to their networks³⁵¹

However, switching costs may prevent some access seekers to fully migrate from VDSL bitstream to a potential cable bitstream product within a short period of time. A simple SSNIP test would not be conclusive if access seekers were able to migrate only a limited share of their retail customers to the cable network within the relevant period. The question then is whether the share of retail customers (ie bitstream lines), which would be migrated to cable, would still be sufficient to create a short-run competitive pricing constraint. The relevant test is the Hypothetical Monopolist test. According to the Hypothetical Monopolist test, cable bitstream can be considered a demand substitute for VDSL bitstream if access seekers, in case of a wholesale price increase by a Hypothetical Monopolist provider of VDSL bitstream, could migrate a sufficient number of retail customers (bitstream lines) from VDSL to cable, such that the Hypothetical Monopolist supplier of VDSL bitstream would be unable to profitably raise the wholesale price of VDSL bitstream.

A Critical Loss (“CL”) test can be used for answering this question. The Critical Loss is the percentage demand reduction that would make a small, but significant non-transitory increase in price unprofitable. The Critical Loss, mathematically, depends only on the assumed price increase and the price-cost margin, and is therefore easy to calculate³⁵². If we set the wholesale price increase at 0.1 and the price-cost margin for VDSL bitstream at 0.8, the Critical Loss is 0.11. Hence, a 11% loss of VDSL bitstream lines would already be sufficient to make a 10% increase of the wholesale price unprofitable. The related Critical Loss Elasticity is -1.1, that is, an actual wholesale price elasticity of -1.1 would make a wholesale price increase of 10% unprofitable. This shows that full migration is not required and a limited amount of substitution at the wholesale level would make a wholesale price increase unprofitable and be sufficient to justify a market definition that includes both VDSL and cable bitstream.

The set-up for the test merits two further qualifications:

First, it should be noted that the test needs to be carried out in a **prospective, forward-looking manner**. Potential access seekers not yet providing access-based services should therefore be reflected in the test. In fact, while there may be switching costs of existing operators, new access seekers may actually be indifferent in using cable or copper given the functional equivalence and similar prices of the retail products.

Second, it is important that any switching costs are assessed under the assumption of a **competitive, access regime** for cable. It must therefore be abstracted from any impediments that cable operators may have created, or may likely create, to make

³⁵¹ NL/2015/1727, p. 10. The development of a VULA standard on cable would enable it to be considered in the context of wholesale local access.

³⁵² The Critical Loss (CL) can be calculated as $CL = (\Delta p/p) / [(p\Delta/p) + m]$, where m is the price-cost-margin (which is set at 0.8) and $(\Delta p/p)/p$ (which is assumed to be 0.1).

access unattractive in technical or financial terms. Also, incumbent VDSL operators may create switching costs to prevent wholesale customers from migrating to cable. These impediments clearly should not be reflected in switching costs as they may result in an overly narrow market definition.

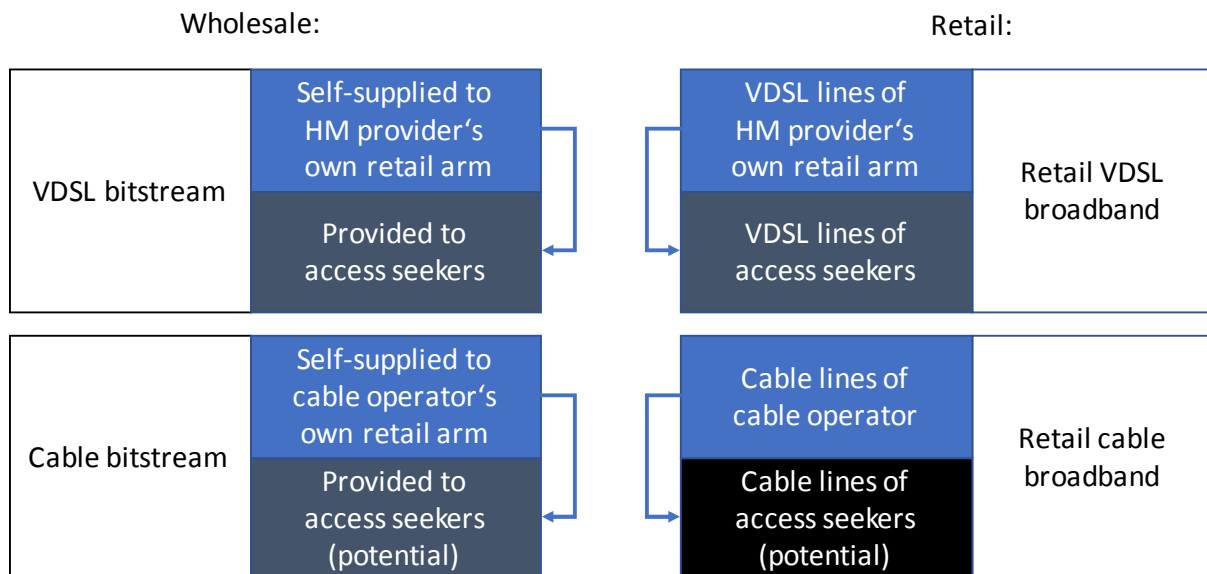
Taking into account that (i) retail, and related bitstream services are equivalent in terms of functionality and price, (ii) new access seekers, which may prospectively enter the market, by definition do not incur any switching costs, and (iii) any switching costs faced by existing access seekers must be assessed under the assumption of a competitive access regime, we conclude that, *a priori*, cable bitstream imposes a direct pricing constraint on VDSL bitstream and should be part of the same product market. The relevant product market is therefore likely to be a multi-platform market.

Self-supply

A related, but often poorly addressed question is whether self-supplied bitstream lines should be included in the relevant product market in addition to bitstream lines provided to third-party access seekers. This question is relevant both for the incumbent telecoms operator’s and the cable operators’ self-supplied bitstream lines.

The substitution relationships are again indicated by the arrows in the following Table. The left-hand arrows indicate the substitution links at the wholesale level, and right-hand arrows show the corresponding substitution links at the retail level.

Figure 29: Assessment of self-supply of VDSL and cable bitstream



The relevant test for the integrated VDSL operator is whether it could easily migrate self-supplied bitstream lines to third-party access seekers in case of a hypothetical wholesale price increase for VDSL bitstream. This seems to be a reasonable

assumption, because a wholesale customer relationship system is already in place and the access provider could easily (in technical terms) move bitstream lines from its own retail arm to external access seekers. Therefore, self-supplied bitstream lines should be included in the relevant wholesale central access market together with bitstream lines provided to access seekers. This also reflects Article 7 practice. According to the Commission's practice and the case law of the General Court of the European Union, the inclusion of captive sales into the relevant market depends on whether the internal traffic would be made available in the merchant market in case of an increase or decrease of market prices (*i.e.*, whether the captive sales would be sufficiently quickly switched to the merchant market in response to a change in the competitive conditions)³⁵³.

The self-supply issue also arises with regards to cable bitstream. The question is of particular relevance if cable bitstream is considered a demand substitute for VDSL bitstream, but not yet offered to third-party access seekers. Here, one could again consider whether a cable operator could start offering cable bitstream to access seekers within the relevant period of a year in case of a hypothetical price increase for VDSL bitstream. However, as the analysis should reflect the position in a competitive market, one would need to disregard any strategic decisions by the cable operator that rendered such a switch problematic even in the event that it would be profit-enhancing (such as a decision to limit capacity and/or interoperability, or to abstain from developing wholesale customer relationships). In general, cable self-supply would be included if cable and VDSL bitstream are found to be substitutes (as discussed in the section concerning multi-platform markets), and the self-supplied bitstream lines of the vertically integrated VDSL operator are also part of the market.

7.4.2 Indirect demand substitution

For the purpose of market definition, an assessment of indirect pricing constraints is not absolutely required if it has already been established that cable bitstream is a direct (wholesale) demand substitute for VDSL bitstream. If doubts remain on this, an assessment of the indirect pricing constraint resulting from retail demand substitution can also justify including cable bitstream in the same wholesale market as VDSL bitstream.

Again, the relevant test is the Hypothetical Monopolist test: Cable bitstream can be considered an indirect demand substitute for VDSL bitstream if retail subscribers to VDSL broadband, in case of a wholesale price increase for VDSL bitstream (from a cost-based level) and a subsequent retail price increase for VDSL broadband, would switch in sufficient numbers from VDSL to cable, such that a Hypothetical Monopolist supplier of VDSL bitstream would be unable to profitably raise its wholesale price.

³⁵³ See *e.g.* Commission serious doubts on 2008 Polish transit market notification.

The price elasticity of demand for a wholesale input may be difficult or impossible to estimate on the basis of available wholesale market data. It can, however, under certain assumptions, be easily derived from the price elasticity of demand for the related retail product: The price elasticity of demand for a wholesale input can be calculated as the price elasticity of demand for the retail product multiplied by the cost share of the wholesale input in the retail price³⁵⁴. Given that the wholesale price, in the HM test, is assumed to be cost-based, the cost share in the retail price is equivalent to the share of the wholesale price in the retail price, or, in other words, the wholesale/retail price ratio. The wholesale/retail price ratio captures the dilution of wholesale price increases at the retail level: The smaller the share of the wholesale price in the retail price, the more a wholesale price increase will be diluted at the retail level.

The cost share of the wholesale input in the retail price depends on the access level. A local access product has a lower cost share than a regional access product, and a regional access product has a lower cost share than a national access product. For a regional VDSL bitstream service, we assume a cost share in the vicinity of 0.6.

If the cost share of VDSL bitstream is 0.6, and the Critical Loss Elasticity of wholesale demand³⁵⁵ is around -1.1 (as argued above), the actual price elasticity of retail demand must be at least -1.8 to consider cable bitstream as an indirect demand substitute for VDSL bitstream³⁵⁶. This is a relatively high price elasticity at the retail level that is required to justify a multi-platform market on the sole basis of indirect pricing constraints.

The Commission in its Article 7 practice, defines the conditions to be fulfilled for indirect demand substitution³⁵⁷ as follows: ... *when assessing the effect of indirect substitution through a SSNIP (small but significant non-transitory increase in prices) test it needs to be demonstrated that:*

- *ISPs would be forced to pass a hypothetical wholesale price increase on to their consumers at the retail level based on the wholesale/retail price ratio without been able to absorb it;*
- *there would be sufficient demand substitution at the retail level to retail services based on indirect constraints such as to render the wholesale price increase unprofitable; and*

354 The price elasticity of demand for a wholesale input (E_W) can be derived under certain assumptions from the price elasticity of demand for the related retail product as $E_W = sE_R$, where s is the cost share of the wholesale input in the retail price and E_R is the price elasticity of demand for the retail product. The most important assumption is that there is no direct demand and supply substitution at wholesale level (see Kennan, *The Hicks-Marshall Rules of Derived Demand: An Expository Note*, 1998).

355 The Critical Loss Elasticity is the price elasticity of demand that makes a 10% price increase by the Hypothetical Monopolist provider unprofitable.

356 If $E_W = sE_R$, then $E_R = E_W/s$.

357 See e.g. Commission Serious doubts letter on Spanish WBA (2008) notification; Commission comments letter on FICORA WBA (2009) notification.

- *the customers of the ISPs would not switch to a significant extent to the retail arm of the integrated hypothetical monopolist, in particular if the latter does not raise its own retail prices.*

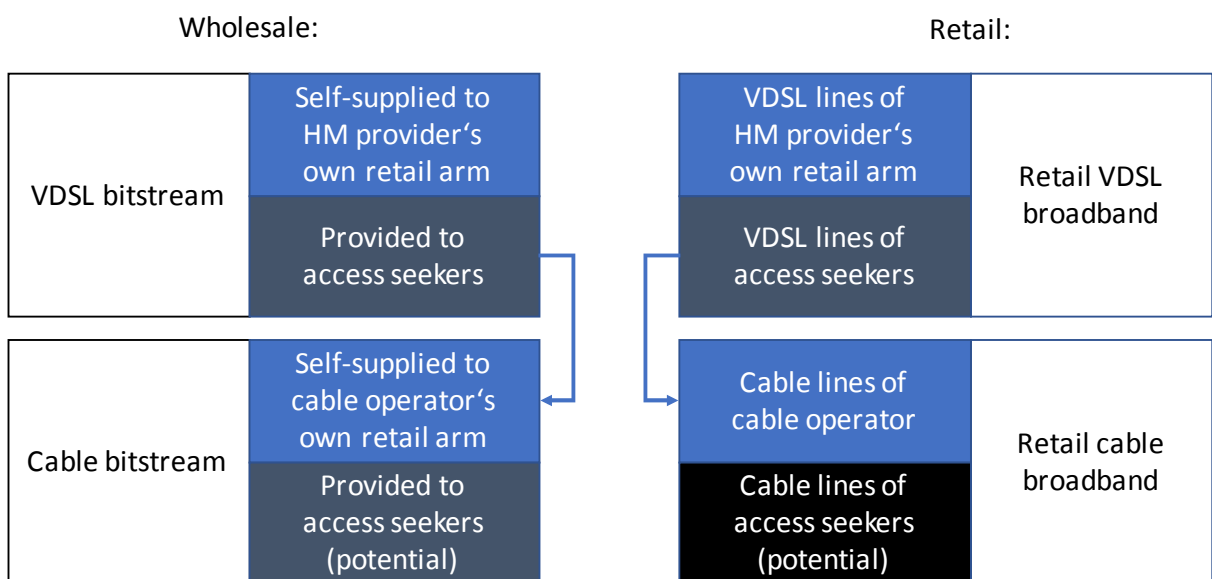
Thus the Commission’s test focuses on the impact of a hypothetical VDSL bitstream price increase on the commercial bitstream business alone. The Commission’s test implies the following steps:

1. The Hypothetical Monopolist provider of VDSL bitstream increases its wholesale price.
2. Bitstream-based providers increase their retail prices of VDSL broadband.
3. Some, but not necessarily all, of the subscribers of bitstream-based providers switch to cable broadband.
4. VDSL bitstream lines of the Hypothetical Monopolist provider of VDSL bitstream decrease accordingly.

The Commission’s test considers that cable imposes an indirect pricing constraint on VDSL bitstream if the hypothetical price increase for VDSL bitstream leads to a decrease of VDSL bitstream lines that makes the wholesale price increase unprofitable. The loss of VDSL bitstream lines created by subscribers of access seekers moving to the incumbent’s own retail arm is not taken account of.

The indirect demand substitution relationship in the Commission’s test illustrated by the arrows in the following Table.

Figure 30: Assessment of indirect demand substitution (Commission’s test)



Self-supply

For the purpose of market definition, an assessment of indirect pricing constraints is not absolutely required if direct pricing constraints are already strong enough (as suggested above). If there was no direct substitutability, the existence of an indirect pricing constraint, where established, may still justify including cable in the same wholesale market as VDSL bitstream. In this case, the self-supplied cable bitstream would be included in the market for wholesale central access, together with VDSL bitstream (both externally provided and self-supplied).

7.4.3 Supply substitution

A third form of competitive pricing constraint is supply substitution. Strictly speaking, supply substitution exists if a cable operator would switch to offer VDSL bitstream within a year in case of a small but significant non-transitory increase in the price of VDSL bitstream. This is not of relevance here as constructing a VDSL network is not an economically viable option for a cable operator.

Sometimes, supply substitution is also understood as a cable operator introducing cable bitstream as a result of a price increase of VDSL bitstream. This is of course a viable option that we have dealt with under “self supply” (see the section on demand substitution above).

Recommendations on single-platform vs multi-platform markets:

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- Retail VDSL and cable broadband, on the one hand, and related bitstream services, on the other, are equivalent in terms of functionality and price.
 - In determining whether separate markets for different technologies exist at wholesale level, switching costs incurred by access-seekers already present on a given platform should be taken into account. This may point towards limitations in demand substitution between different technological platforms at the wholesale level. However, other factors also need to be considered to ensure that the analysis does not reflect only the status quo, but rather the situation that may exist in a competitive market in which there has been progress in developing new technological solutions to enable access on different platforms, and efforts had been made to address barriers to switching and interoperability. Thus, the lack of supply of a certain type of wholesale access product does not mean that it should not be considered to form part of the relevant wholesale market, providing it is technologically feasible. From the demand-side, the perspective of new entrants should also be considered. As such players would not have invested in specific platforms, they would not be affected by switching barriers that may apply to current entrants. Based on these latter considerations, a multi-platform market might be identified at the wholesale level.
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- It is not possible to reach definitive conclusions without a market-by-market analysis. However, in view of technological developments and actual cable wholesale offers in some markets, one may conclude that, *a priori*, cable bitstream is increasingly likely to impose a direct pricing constraint on VDSL bitstream and therefore be considered to fall within the same product market. In this context, there may be a trend developing towards multi-platform markets.
 - In turn, the indirect pricing constraint from retail demand substitution may be diluted to the extent that it, alone, may not be sufficient to justify a multi-platform market.
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7.5 Chain substitution

Point 62 of the current *SMP Guidelines* sets out the notion of chain substitutability. Chain substitution refers to circumstances in which the boundaries of the relevant product or geographic market are expanded to take into account products or geographic areas which, although not directly substitutable, should be included in the same market. The Guidelines observe that chain substitution may occur when it can be demonstrated that although products A and C are not directly substitutable, product B is a substitute for both products A and C. In this case A and C may be considered to be in the same relevant market because their pricing might be constrained by the substitutability of product B.

The concept of chain substitution is well-understood and its underpinnings in case law remain valid. However, BEREC and others have asked for the inclusion in the Guidelines of examples of its application. We address product and geographic questions in turn.

7.5.1 Chain product substitution

An important practical question is whether going forwards, broadband services at all bandwidths will continue to be considered as lying in the same geographic market, or whether the commercial and state-aid supported development of Very High Capacity networks might result in a separate market being defined at higher speeds.

Similar questions arise in business access markets including the ‘high quality’ market – market 4 of the 2014 Relevant Market Recommendation.

7.5.1.1 Mass-market broadband

In general, NRAs have not applied bandwidth breaks in markets associated with mass-market broadband – thereby explicitly or implicitly assuming a chain of substitution from

basic broadband at speeds of 2Mbit/s and above through to very high capacity connections which may reach speeds of 100Mbit/s or more.

This is consistent with the competition law practice of the Commission, which has consistently concluded that successive technologies offering additional capacity should be included within the same relevant market. For example:

- Successive mobile technologies, 2G, 3G and 4G have been considered in the same market in the context of merger proceedings such as T-mobile/Orange UK³⁵⁸ and Hutchison 3G/Orange Austria;³⁵⁹ and
- In the context of the Orange Spain/ Jazztel merger, the Commission concluded that fixed Internet access services to residential and small business customers, regardless of whether their speed is less or more than 30Mbit/s and irrespective of the technology used for the delivery of those services belong to the same relevant retail market.³⁶⁰

With the widespread deployment of fibre networks which can deliver symmetric bandwidths of 1Gbit/s and above, it may be that fibre can deliver different or enhanced retail services compared with those that can be delivered via copper – such as remote storage, and support for multiple HD screens. The price for fibre-based access may also significantly exceed that of copper-based broadband. If this is the case, this might lead one to suspect that there might be a distinct market for fibre-based broadband services.

However, the key question in this case would be whether the presence of bandwidths at intermediate speeds including ‘entry-level’ fibre and cable broadband services substitute for both standard and fibre-based broadband services. Again, this question can be assessed with reference to the SSNIP test. Would consumers respond to a small but significant non-transitory increase in the price of basic broadband by moving to the intermediate high bandwidth service *e.g.*, from 20Mbit/s to 100Mbit/s? Would an increase in price of the higher bandwidth service result in consumers switching to fibre-based broadband at higher speeds *e.g.*, at 1Gbit/s? Is the result that the price of the higher speeds are constrained by those offered by basic broadband?

Evidence for this potential pricing constraint may come from reviewing data in countries where, in line with the Recommendation on non-discrimination and cost methodologies, basic broadband is offered on a competitive basis (with competition from cable and/or cost-based unbundling for example), while higher bandwidth services at speeds of up to 1Gbit/s and beyond have not been subject to cost-based charge controls.

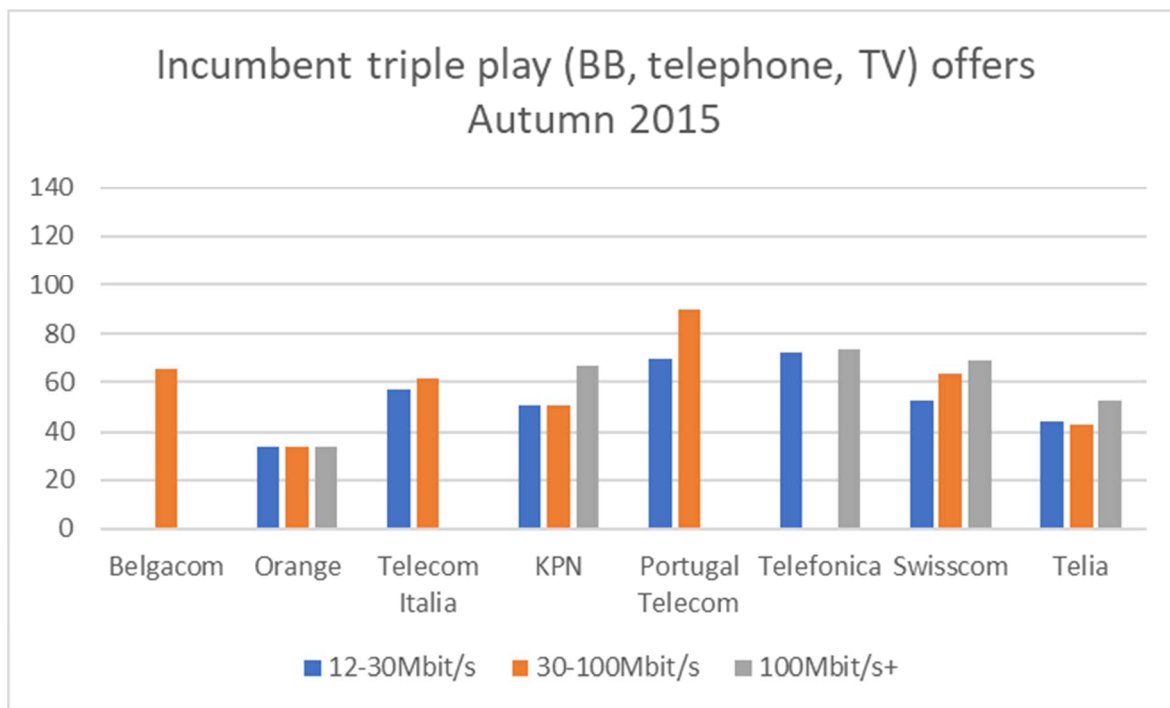
³⁵⁸ COMP/M.5650.

³⁵⁹ COMP/M.6497.

³⁶⁰ COMP M.7421.

Broadband pricing data from a range of countries in 2015 suggests that there is likely to be a constraint between ADSL-based broadband and FTTx/cable at speeds of above 100Mbit/s. As the chain of substitution may, however, apply asymmetrically – *i.e.*, from lower to higher speeds, but not in reverse, this constraint may, however, be weakened in cases where large-scale migration has occurred from a legacy low speed technology to a more high performance modern technology, thereby leaving captive customers stranded on lower speed offerings.

Figure 31: Incumbent triple-play charges by speed



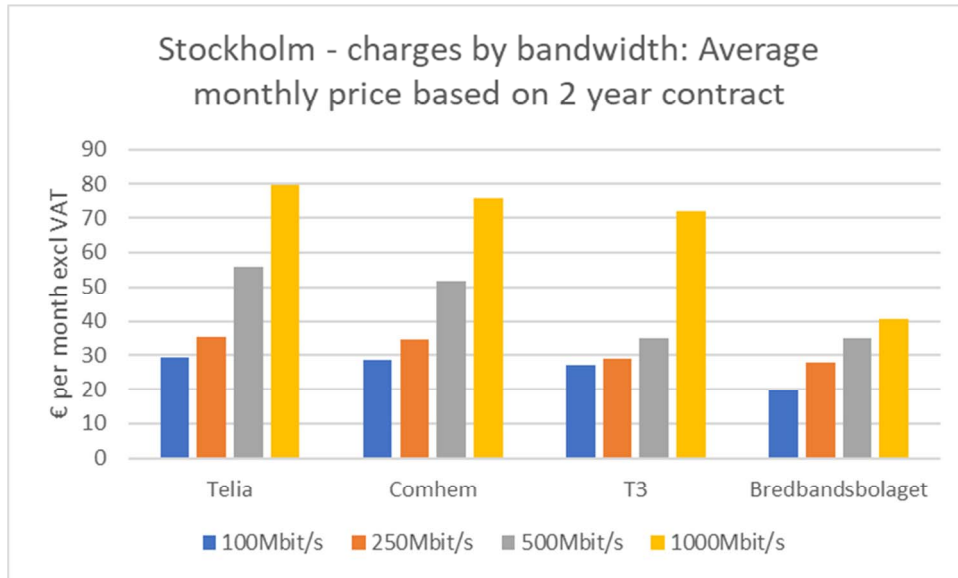
Source: WIK based on BIAC/Van Dijk for the EC

Since few European countries have widespread Gigabit offers for consumers, it is harder to gauge whether there are effective pricing constraints between 100Mbit/s and 1Gbit/s. However, data from Stockholm, which benefits from competitive supply of fibre retail services shows that although there is a pricing gap between 100Mbit/s and 1Gbit/s services, intermediate priced services are available that might bridge that gap. The chain of substitution between 100Mbit/s and 1Gbit/s+ in Stockholm is further supported when one considers the offers made to consumers in multi-dwelling units, which are typically priced at a considerable discount to those advertised to individual subscribers.³⁶¹ 1Gbit/s offers are also available in Paris at prices similar to those for lower bandwidths. Such evidence alongside substitution patterns in other countries internationally such as Japan and Singapore in which Gigabit offers are widely

³⁶¹ See, for example, WIK (2017) 'A tale of 5 cities: an analysis of the impact of broadband business models on choice, price and quality.'

available, may suggest that on the demand side there is likely to be a continued chain of substitution for very high capacity connections.

Figure 32: Stockholm, charges for single play broadband by bandwidth – average monthly price based on 2 year contract³⁶²



Source: WIK based on operator websites – accessed May 2017

The chain of substitution across different speeds and qualities is strengthened on the supply-side by operators' ability – within the scope of the capabilities of the underlying physical infrastructure that they are using³⁶³ - to potentially provide new product variants within a short period of time should consumers require them to do so. Thus, even if there were apparent gaps in the chain of substitution, these would be rapidly closed *in a competitive environment* across the available technologies if the demand arose.

As regards the impact of competition on chain substitution, developments in countries such as France, Spain and Portugal,³⁶⁴ suggest that, if upstream barriers are reduced through the provision of duct access and access to in-building wiring, there may be the potential for infrastructure competition to emerge in the provision of fibre-based services at least in more densely populated areas. This may result in regional differences in competitive intensity for very high bandwidths, compared with a more uniform³⁶⁵ degree of competition in lower bandwidth copper-based services, for which competition typically

³⁶² Advertised prices based on individual subscriptions. Analysis by WIK found considerably lower differentials when offers to multi-dwelling units were considered.

³⁶³ For example, the additional cost associated with increasing broadband speeds above 100Mbit/s may be limited if the underlying physical infrastructure enables the provision of higher speeds.

³⁶⁴ Analysis by the French NRA suggests that around 17% of households could be competitively served through infrastructure competition in FTTH, while the CNMC has identified around 36% of households that could be competitively served – see https://circabc.europa.eu/sd/a/63a151e8-a7b1-4be7-9b51-0327479d78ec/ES-2015-1818-1819-1820%20Adopted_publication_EN.pdf.

³⁶⁵ At least excluding very remote areas for which copper unbundling may not be economically viable.

depends on wholesale access to unbundled loops. However, such differences in competitive intensity in very high bandwidths in mass-market services have thus far been addressed through variations in remedies,³⁶⁶ and not through defining separate (regional) markets for higher and lower bandwidth broadband connections. The instability of the competitive boundary combined with the demand-side chain of substitution which links low copper speeds through cable to higher fibre-based speeds, has resulted in product markets which encompass copper and fibre technologies.

7.5.1.2 High-quality (business) broadband

In contrast with mass-market broadband, where NRAs have not identified bandwidth breaks, a number of NRAs have applied bandwidth distinctions in their analysis of wholesale leased line or high quality (*i.e.*, large business) markets. Examples from the UK, Germany and the Czech Republic follow:

- **Germany:** In the context of the market definition for Wholesale high-quality access provided at a fixed location, BNetzA maintained a subdivision by bandwidths in its latest (2016) market review,³⁶⁷ which has existed, albeit with different gradations, since 2003 in the market for leased line services. From the perspective of demand substitution, BNetzA noted that gradations of the provided bandwidths for traditional leased lines and Ethernet based leased lines are common based on the heterogeneity of the transportation tasks and the price levels. BNetzA also concluded that a consideration of the competitive situation (in which a greater degree of competition was observed at higher bandwidths) confirmed the need to define separate markets for different bandwidth levels. With regards to a possible chain of substitution the BNetzA noted that there was a lack of a corresponding common intermediate product, such that the separate markets could not be combined into a common larger market via the instruments of chain substitution.³⁶⁸ On the other hand the BNetzA referred to a chain substitution when considering the inclusion of a high quality business Layer 2 bitstream product in the relevant market for Wholesale high-quality access provided at a fixed location.³⁶⁹ Specifically, BNetzA

³⁶⁶ In France, the NRA has distinguished very dense areas in which infrastructure competition in fibre can be expected to emerge to the base of multi-dwelling buildings, from less dense areas, in which they have identified a need for co-investment in the terminating segment of the fibre network. The nature of the co-investment and access offers that must be made by operators under the symmetric system of regulation varies accordingly. The Spanish NRA CNMC has distinguished certain prospectively competitive areas for NGA in the context of the market analysis of the wholesale local access market. These areas are not subject to regulatory obligations concerning NGA access (VULA). However, the geographic scope of the WLA market remains national, and certain remedies including duct access and LLU are applied throughout.

³⁶⁷ BNetzA (2016), Auf der Vorleistungsebene an festen Standorten bereitgestellter Zugang von hoher Qualität Markt Nr. 4 der Empfehlung 2014/710/EU (Notifizierungsentwurf). p. 123 ff.

³⁶⁸ BNetzA (2016), Auf der Vorleistungsebene an festen Standorten bereitgestellter Zugang von hoher Qualität Markt Nr. 4 der Empfehlung 2014/710/EU (Notifizierungsentwurf). p. 135.

³⁶⁹ It must be noted, that such a high quality layer-2-bitstream product is not yet available in Germany. As reference a hypothetical product was defined by the NGA Forum of the BNetzA. BNetzA (2016), Auf

concluded that direct substitution between the Layer 2 bistream product and wholesale terminating segments with traditional interfaces was not necessary as long as there was a possible substitutability with Ethernet-based interfaces.³⁷⁰

- **UK:** In its 2012 Business Connectivity Market Review Ofcom analyzed whether separate markets for leased lines at different bandwidths could be identified.³⁷¹ In their analysis for Traditional Interface (TI) services Ofcom found the existence of bandwidth breaks at around 8Mbit/s, 45Mbit/s and 155Mbit/s (see Figure 33). The analysis showed that there were significant price increments at certain points which Ofcom referred to as “bandwidth breaks”. They concluded that this suggested that a SSNIP applied on a bandwidth just below these levels would not prompt switching to higher bandwidth services, suggesting that there would be a break in the chain of substitution between bandwidths. *For example in response to a SSNIP, an end-user with a bandwidth requirement of 45Mbit/s would not switch to a 155Mbit/s service, because the jump in price (indicated by the step in the figure) is greater than the effect of the SSNIP (which is typically taken to be a price increase of 5 or 10%).* Compared with that, the smoother the increase in the (total) price as total bandwidth increases, the more likely it is that circuits of different bandwidths fall in the same market. Ofcom also identified a bandwidth break for alternative interface (e.g. Ethernet) circuits – identifying a separate market for services below and above 1Gbit/s.³⁷²

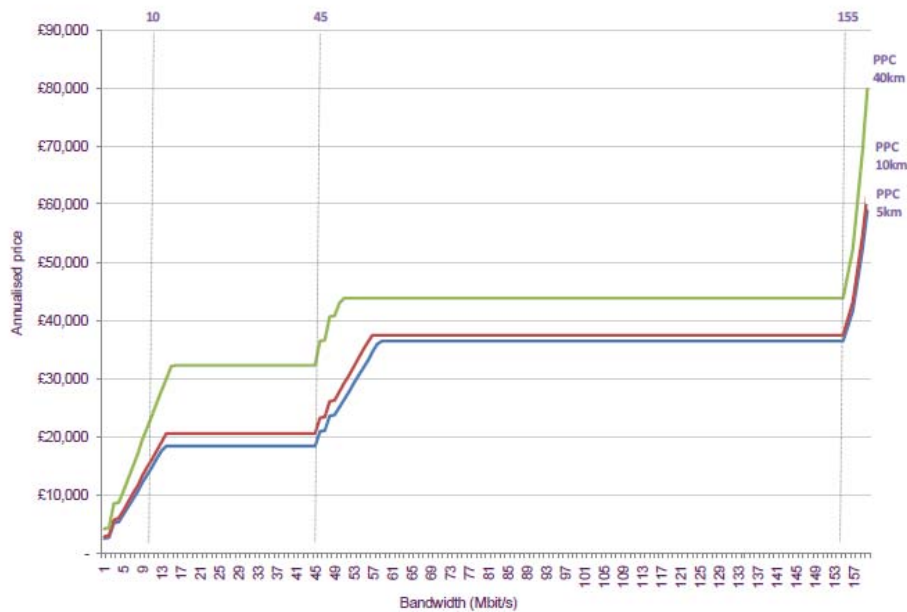
der Vorleistungsebene an festen Standorten bereitgestellter Zugang von hoher Qualität Markt Nr. 4 der Empfehlung 2014/710/EU (Notifizierungsentwurf). p. 78 ff.

370 BNetzA (2016), Auf der Vorleistungsebene an festen Standorten bereitgestellter Zugang von hoher Qualität Markt Nr. 4 der Empfehlung 2014/710/EU (Notifizierungsentwurf). p. 91.

371 Ofcom (2012), Business Connectivity Market Review, p 79 ff.

372 In its 2016 Business Communications Market Review, Ofcom abandoned the 1Gbit/s break point for alternative/contemporary interface leased line circuits. Ofcom noted in this context that “We define a single product market for (contemporary interface) CI services of all bandwidths because we find evidence that a chain of substitution links all such services and observe that they can all be provided using the same physical access infrastructure.” However, the removal of this bandwidth distinction was overturned in a 2017 decision by the Competition Appeals Tribunal, which is now under consideration by Ofcom.

Figure 33: Wholesale price estimates for traditional interface leased lines in the UK by bandwidth



Source: Ofcom analysis, based on BT wholesale pricelist for PPC services

- Czech Republic:** In its market analysis of 2014, the Czech regulator included different technologies within the market for wholesale high quality access at a fixed location, but segmented the market by bandwidth – distinguishing connections up to and including 2Mbit/s from those with higher bandwidths. This distinction was made mainly on the basis of differing competitive conditions (61% of terminating segments excluding self-supply for lines <2Mbits compared with 19% for those above). In its subsequent 2017 decision,³⁷³ CTU maintained a bandwidth break, but increased the threshold to 6Mbit/s irrespective of the means of transmission. CTU's analysis was based on the substitutability between the costs of wholesale services provided over the incumbent's local metallic lines, compared with the costs related to radio links installed by access seekers. CTU found that, for services not exceeding 6Mbit/s, it was more convenient for access seekers to purchase wholesale products from the incumbent, whereas at bandwidths above, it was cheaper for access seekers to install their own radio link. Thus, although performed in a different manner, the assessment again focused on differences in competitive conditions based on bandwidth.

³⁷³ See Case CZ/2017/1999 https://circabc.europa.eu/sd/a/fb0f084a-d6eb-46a7-b34e-087050c75cfe/CZ-2017-1999%20ADOPTED_EN.pdf.

In the explanatory memorandum accompanying the 2014 Recommendation on Relevant Markets, the Commission noted that since 2007 “a large number of NRAs had segmented the regulated leased lines market according to bandwidth. This division was warranted in order to take into account the fact that lower-bandwidth (typically copper-based) leased lines are no longer attractive to new entrants who prefer to focus their infrastructure investments on the more profitable, high-speed leased lines. Consequently, the market for high-speed leased lines was found competitive in a number of Member States.” Thus, segmentation in these leased line markets was justified to take account of differences in competitive conditions on the *supply side*. However, the Commission also observed that NRAs should be aware that nationwide market shares at higher bandwidths may provide a distorted picture, if competition was concentrated in a limited number of dense business areas. This points to the possibility that in these circumstances a geographic market segmentation might result in a finding of no SMP in dense business districts and a market definition outside such districts which may not include bandwidth breaks.

There is however another potential demand-side justification for a break in the chain of substitution for business services which may persist for legacy copper leased lines (typically offered at bandwidths of 2Mbit/s or less). In this case, in an environment where most customers have switched to more cost-effective Ethernet leased lines, customers of the remaining low bandwidth lines may represent a specific group for which switching costs are high and migration challenging.

When legacy copper business solutions are set aside, and focus is placed on fibre leased lines the evidence for chain substitution appears stronger. Available data on commercial business fibre offers at speeds of 100Mbit/s and above, suggests that in business districts characterized by significant competition³⁷⁴ such as London, Paris and Stockholm, there are limited price differences between 100Mbit/s and 1Gbit/s. Dark fibre is also available on commercial terms in these regions at rates which broadly reflect the charges for very high capacity leased lines.

More generally, when reviewing whether very high capacity business connections should be considered in the same or a different market compared with lower capacities a key question is not the actual price differences, but whether such differences would be observed in a competitive market and would deter business customers from switching in the event of a small but significant price increase. Evidence of pricing behaviours within districts characterized as having strong business competition is relevant in making this assessment, as is the relationship between very high capacity business access charges and the underlying cost.

³⁷⁴ Infrastructure-based competition in Paris and London, competition supported by a wholesale only fibre network in Stockholm.

Figure 34: Broadband and dark fibre pricing across six European cities, 2015

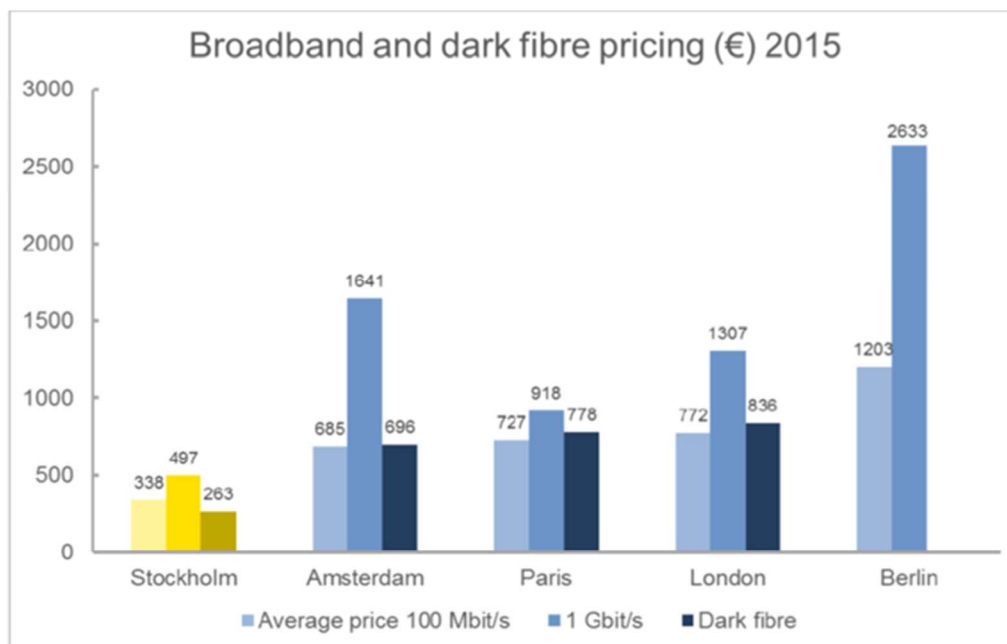


Figure 1: Average price per month (EUR) based on 36 monthly fees and connection fee – 100 Mbit/s, 1Gbit/s, and dark fibre.

Source: United Minds (2015).

It is also relevant to assess whether customers have switched to higher or lower speeds in circumstances where there has been a small but significant price increase of broadband, and whether they claim they would do so in the context of a representative survey.

It should also be assessed whether operators, in case of gaps in price or speed, could potentially provide such offers within a short period of time (supply substitution). Unless a change of technology is required, this should usually be the case.

7.5.2 Chain geographic substitution

The Guidelines mention that the same logic applying to chain product substitution also applies to geographic market definition. For example, chain substitutability could occur where an undertaking providing services at national level constrains the prices charged by undertakings providing services in separate local geographical markets. The Guidelines describe the example of a cable operator whose operations are subnational, but whose charges are constrained by a dominant undertaking operating nationally. An interaction between the pricing of the nationwide incumbent and a cable operator or other infrastructure providers which operate on a local level such as municipal, city carriers or rural providers is common in electronic communications and usually leads to markets being defined as national rather than subnational. This was apparent also from the ‘local carrier’ hypothetical scenario which is set out in the annex. There is further

discussion in section 7.6 on circumstances in which subnational geographic markets should be defined, notwithstanding the presence of a nationwide incumbent.

Recommendations on chain substitution:

- Existing generic guidelines on the concept of chain substitution remain relevant:
- The practice of the Commission, both in the context of merger reviews and *ex ante* market analysis, has been that different generations of technology are generally considered to be within the same market as a result of chain substitution which results in prices for previous generations constraining those offered for future generations. NRAs have followed this logic in analyses of retail and wholesale broadband markets. NRA practice as regards chain substitution in business access markets is more mixed.
- As regards the practical application of a chain substitution assessment for very high capacity broadband (e.g., at speeds of 1Gbit/s or more), broadband at such speeds could be considered in the same market as basic broadband through a chain of substitution if the price of higher speeds (eg at 100Mbit/s) are constrained by basic broadband and if very high capacity broadband is constrained by the prices charged for higher speeds. Chain substitution could exist both on the demand side and (unless a change of technology is required) on the supply side. The assessment should be conducted on the basis of prices for these speeds that would be charged in a competitive market, with reference to underlying costs and the degree to which operators may reasonably distribute common costs amongst different speed offers. Price gaps for different speeds in a competitive environment are relevant, as is actual and potentially stated switching behaviour in the presence of price increases.
- A similar logic applies in relation to very high capacity business connections:
- One area in which chain substitution may appear to break down is when the majority of customers have migrated to a modern more high performance infrastructure, leaving a captive customer-base stranded on the legacy infrastructure (this is already apparent for analogue leased lines). When such an issue is identified, however, NRAs should take care that the regulatory approach does not perpetuate the cycle of captivity, but rather serves to encourage migration on to modern networks and enables the ultimate switch-off of legacy networks.
- Differences in the competitive conditions associated with different underlying infrastructures (e.g., copper vs fibre) may result in the emergence of different

competitive conditions for different bandwidths. However, this issue is normally addressed through the adaptation of remedies rather than by determining a break in the chain of substitution.

- Geographic chain substitution is common in electronic communications. In addition to referring to cable networks, the Guidelines could usefully add that otherwise distinct local areas such as those featuring city carriers or municipal networks could be considered to be part of a wider geographic market if the prices within each area are constrained by a nation-wide incumbent.
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7.6 Geographic markets

In the 2009 revision of the EU electronic communications framework, greater emphasis was given to reflecting different geographic conditions in electronic communication markets.³⁷⁵ In practice, one of the ways in which NRAs have been taking this into account is by ensuring that market definitions and/or remedies appropriately reflect geographic differences.

The 2002 SMP Guidelines include the following guidance regarding geographic markets:

“The relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. The definition of the geographic market does not require the conditions of competition between traders or providers of services to be perfectly homogeneous. It is sufficient that they are similar or sufficiently homogeneous, and accordingly, only those areas in which the conditions of competition are “heterogeneous” may not be considered to constitute a uniform market.”

The Guidelines advise that, *“with regard to demand-side substitution, NRAs should assess mainly consumers’ preferences as well as their current geographic patterns of purchase. As far as supply-side substitution is concerned, where it can be established that operators which are not currently engaged or present on the relevant market, will, however, decide to enter that market in the short term in the event of a relative price increase, then the market definition should be expanded to incorporate those “outside” operators.”*

³⁷⁵ Article 8(5)e of the Framework Directive requires NRAs to take due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within a member state.

This generic advice remains consistent with caselaw and is still relevant today.

However, since the guidelines were written there have been developments in *ex ante* cases concerning the specific conditions which may support geographic segmentation, as well as in the circumstances in which a segmentation of the relevant market is warranted as opposed to a geographic segmentation of remedies.

7.6.1 Conditions for geographic segmentation of subnational markets

The SMP guidelines mention that in the electronic communication sector, the main determining factors for the geographic boundaries have been (a) the area covered by a network; and (b) the existence of legal and other regulatory instruments. However, the Commission and NRAs have developed more sophisticated approaches with a *greater focus on competitive differences* as infrastructure competition has developed.

For example, in para 2.5 of the 2014 EC Recommendation, the Commission clarifies that NRAs should look at the number and size of potential competitors, the distribution of market shares, price differences or variations in prices across geographic territories, and other related competitive aspects such as the nature of demand, differences in commercial offers, marketing strategies, etc. The Recommendation also notes that relevant geographic units should be: (a) of an appropriate size, *i.e.*, small enough to avoid significant variations of competitive conditions within each unit but yet big enough to avoid a resource intensive and burdensome micro-analysis that could lead to a fragmentation of markets; (b) able to reflect the network structure of all relevant operators; and (c) have clear and stable boundaries over time. These points are further discussed and elaborated in the context of the BEREC Common Positions on geographical aspects of market analysis.³⁷⁶

On the basis of these criteria, the Recommendation identifies that there could be the potential for geographic segmentation in the market for wholesale local access in circumstances where infrastructure competition has developed as well as in wholesale central access, which may be affected not only by additional infrastructure-based competition, but also by competition resulting from upstream access obligations in the WLA market. Geographic segmentation is also possible in the wholesale high-quality access market on the basis of differences in supply, although the Commission notes that demand could be transnational for some segments of this market.

In the 2016 study for the EC SMART 2015/0002, WIK included cases where NRAs had defined geographic markets and/or identified more competitive regional areas within a nationwide market.

³⁷⁶ See for example BoR (14) 73.

Table 24 shows that the number and type of operators coupled with retail market share data were the most common indicators used to identify geographic differences in competitive conditions in the market for wholesale broadband/central access. NRAs generally considered that 3 or more operators may provide sufficient indication of competitive differentiation – together with a market share for the incumbent of less than 50%.³⁷⁷³⁷⁸ Coverage of infrastructure-based alternative operators is also an increasing focus with the deployment of NGA (see for example Portugal 2017).³⁷⁹ MDF areas were commonly used as the geographical unit. However, there have also been developments here towards a more technologically neutral approach. In its 2017 market analysis, ANACOM notes that it carried out the geographic analysis on the basis of parishes (as opposed to exchange areas as in the previous review – see table below). The main reason given for a more infrastructure-agnostic geographic approach was the increasing relevance of fibre and cable networks, and the decreasing importance of LLU.

“ANACOM adds that the number of unbundled local loops was close to 320 000 in 2008, while at the end of 2015 the corresponding value was approximately 99 000. There are 3 092 parishes and 1 852 exchange areas in Portugal.”³⁸⁰

The proposed European electronic communications Code introduces measures which could serve to further align some of the methods used to support the geographic delineation of relevant markets. Specifically, obligations to perform infrastructure mapping³⁸¹ could support geographic market assessments by ensuring NRA's have consistent information about where there may be current or prospective infrastructure competition (i.e. overlapping coverage of infrastructure-based providers), and the number of operators involved. Mapping may also support the development of standards in the definition of geographic units that are independent of the underlying technology.

³⁷⁷ <40% in DE and PL.

³⁷⁸ A market share of 50% is also the level required to create a rebuttable presumption of dominance in the context of competition law.

³⁷⁹ ANACOM (2017), Decisão final sobre a análise dos mercados de acesso local grossista local local fixo e de acesso central grossista num local fixo para produtos de grande consumo

³⁸⁰ Commission Recommendation of 29.11.2016. Brussels, 29.11.2016 C(2016) 7674 final, footnote 17.

³⁸¹ Article 22 draft EU Electronic Communications Code.

Table 24: Criteria used for identifying more competitive subnational markets in reviews of wholesale broadband access / wholesale central access

	Year	Result of analysis	Geographical unit used	Indicators used to identify geographical differences in competitive conditions	Criteria used to identify more competitive subnational market
DE	2015	Sub-national markets	Cities	Size of area; Number and type of operators; Retail market share or incumbent	> 30.000 subscriber lines and > 4.000 marketed connections in MDF area; ≥4 operators (incumbent plus three alternative providers); <40% retail market share of incumbent
ES	2015	Sub-national markets	MDF areas	Number and type of operators; Retail market share or incumbent	≥3 operators (incumbent, at least 2 altnets with ≥10% market share); <50% retail market share of incumbent;
PT	2008	Sub-national markets	MDF areas	Number of operators	≥3 operators (incumbent, at least one LLU, at least one cable operator with cable penetration >60%)
PT	2017	Sub-national markets	Parishes	Number and type of operators Coverage of alternative operators Market share of incumbent	At least 2 alternative operators to incumbent, each with NGA coverage higher than 50% in parish; or One alternative operator to incumbent with NGA coverage higher than 50% and incumbent retail market share in parish <50%
PL	2014	Sub-national markets	Communal areas	Number and type of operators; Retail market share or incumbent	≥3 operators (≥65% of premises have access to the infrastructure of ≥3 operators; ≤10% of premises have no access to the Internet); <40% retail market share of incumbent
UK	2010	Sub-national markets	MDF areas	Number and type of operators; Retail market share or incumbent	≥3 operators; <50% retail market share of incumbent
UK	2014	Sub-national markets	MDF areas	Number and type of operators	≥3 operators

7.6.2 Conditions for the identification of competitive zones within a national market

The following table shows the criteria used to identify more competitive areas within national markets in the context of a review of WBA/WCA markets. There are significant similarities in evidence with the indicators used for market definition segmentation.

However, the explanatory memorandum to the Commission 2014 Relevant Market Recommendation implies³⁸² and BEREC’s 2014 Common position makes clear³⁸³ that the option of identifying separate zones within a national market, should be used where “available evidence suggests that the scope of the relevant market is national – and any differences in the conditions of competition between geographical areas are not yet sufficiently stable or sustainable to justify the definition of regional or local markets”.

Thus, the *stability*³⁸⁴ of the differentiation is key to the use of market definition as opposed to remedy segmentation – alongside the *degree of differentiation*. More generally, it can be observed that NRAs pursue a segmentation of the relevant market when distinctions are such as to justify a ‘no SMP’ finding in some regions whilst SMP is maintained elsewhere. Segmentation of remedies is more typically pursued when there is still justification to maintain some type of SMP remedy, but there is a rationale to distinguish the remedies (e.g., different product types) or strength of regulation (e.g., the application of strict price control regulation, as opposed to more flexible approaches).

Table 25: Criteria for identifying more competitive areas within national markets in reviews of wholesale broadband access / wholesale central access

	Year	Result of analysis	Geographical unit used	Indicators used to identify geographical differences in competitive conditions	Criteria used to identify more competitive zone within national market
ES	2015	Areas within national market	Municipalities	Number and type of operators; Retail market share or incumbent	<p>≥1 so-called Ultra-Fast Broadband MDF in the municipality characterised by</p> <ul style="list-style-type: none"> • ≥3 operators (including ≥2 altnets based on ULL or own infrastructure with ≥10% market share); • at least 3 NGA networks (FTTH or HFC) are deployed, each with ≥20% coverage; • <50% retail market share of incumbent;
FR	2011	Areas within national market	MDF areas	Number and type of operators;	≥2 operators offering bitstream (incumbent, ≥1 altnet based on ULL)
FR	2014	Areas within national market	MDF areas	Number and type of operators;	≥2 operators offering bitstream (incumbent, ≥1 altnet based on ULL, FTTH or cable)
IE	2011	Areas within national market	MDF areas	Number and type of operators;	Presence of cable infrastructure, LLU-based competitors and, prospectively, the potential for the roll-out of NGA (and thus uptake of unbundled services)

³⁸² See reference to ‘clear and stable boundaries over time’ in chapter 2.5 2014 Relevant Market Recommendation.

³⁸³ Para 165 BoR (14) 73.

³⁸⁴ Specifically, the degree to which the boundary of the competitive area can be clearly identified and which remains consistent over time.

7.6.3 Conditions for the identification of transnational markets

Significant focus has been given by NRAs to circumstances in which subnational markets could be found. However, much less attention has been given to the potential to identify transnational markets. Although as described in section 7.1.3 there have been references in *ex post* cases to markets for ‚Global Telecommunication Services‘, and the potential exists (article 15 Framework Directive) for the Commission to issue a Decision under comitology defining transnational markets susceptible to *ex ante* regulation, this provision has never been used. One possible reason, discussed in the context of a 2015 study by WIK and TNO for the Commission on ‚Access and Interoperability‘,³⁸⁵ is that while there may be cross-border aspects to certain retail markets, such as those relating to the provision of communication services to multinational corporations, the underlying wholesale markets susceptible to regulation are likely to be national or even subnational in character.

The Commission’s proposals for an EU electronic communications code aim to address this by introducing the concept of „transnational demand“.³⁸⁶ Specifically, under this provision, BEREC would be required on reasoned request to conduct an analysis of transnational end-user demand for products and services provided within the EU in one or more of the markets listed in the Relevant Market Recommendation. If BEREC concludes that transnational end-user demand exists, is significant and not sufficient met by supply, it is then required to issue guidelines on common approaches that NRAs should take, including where appropriate when imposing remedies. This approach is designed in effect to address trans-national aspects of certain retail markets such as the high quality retail market, by supporting consistency in the way national wholesale markets are regulated and the specifications for the products supplied.

The justification for finding transnational wholesale markets which are susceptible to *ex ante* regulation, is however likely to remain limited.³⁸⁷

Recommendations on geographic segmentation:

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- The generic guidance on geographic market segmentation remains relevant.
 - Guidance on the criteria to be used for geographic segmentation could be developed. Specifically, NRAs should focus on indicators which imply differences in competitive characteristics including (i) number and type of

³⁸⁵ SMART 2014/0023.

³⁸⁶ Article 64 draft EU Electronic Communications Code.

³⁸⁷ As cross-border connections are typically competitively supplied, at the wholesale level it is mainly local or in some areas regional access connections that remain susceptible to *ex ante* regulation. It is thus possible for there to be an problem at the retail level affecting the ability of an operator to meet transnational demand, for which the solution may be to apply appropriate co-ordination (e.g., as regards technical characteristics) within individual national wholesale markets which are susceptible to *ex ante* regulation.

operators and their current and prospective coverage; (ii) market shares; and (iii) differences in price or quality of service.

- Infrastructure mapping exercises as envisaged in the context of the proposed Electronic Communications Code may be relevant in identifying areas where infrastructure competition exists or is in prospect.
 - The geographic unit chosen should be not so large as to miss distinctions, but not so small as to render it impracticable. NRAs have typically referred to MDF sites as a geographic unit. As copper MDFs become less relevant with the move to NGA, different (preferably technologically-neutral) units will need to be used.
 - There is a linkage with the SMP analysis. Differences in competitive intensity should normally be such as to justify differences in the SMP finding (*i.e.*, individual SMP/joint SMP/effective competition).
 - Distinct areas in which joint SMP is suspected may also warrant a separate geographic analysis.
 - If distinctions in the competitive dynamic exist but are not sufficient to warrant differences in the SMP finding or are unstable,³⁸⁸ NRAs could, as discussed in the BEREC Common Position on this matter, pursue geographically differentiated remedies. Geographically differentiated remedies may also be required in cases where there is a chain of substitution encompassing technologies which have different geographic competitive dynamics.³⁸⁹
 - It could be clarified in the *SMP Guidelines* that certain retail communications markets may (as identified in *ex post* cases) have a transnational dimension. However, underlying wholesale markets are likely to remain national or subnational. Under the proposed Electronic Communications Code, transnational aspects of retail markets could be addressed through BEREC guidance aligning the regulatory approach to relevant wholesale markets at national level.
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8 SMP

The assessment of a position of SMP (or dominance) is considered at Paragraphs 70-80 of the *SMP Guidelines*. This section identifies the key principles which govern an

³⁸⁸ For example, this may be the case if the demarcation between zones of different competitive intensities cannot be precisely identified and/or the size and nature of these zones are changing over time, as may be the case when competitors begin to install their own access infrastructure, but have not yet become fully established.

³⁸⁹ For example, there may be greater regional trends towards effective competition in infrastructure offering very high capacity (due to entry in fibre), than in legacy technologies such as copper – yet both may be in the same relevant market on the basis of a chain of substitution.

SMP assessment and the criteria which might be relevant in determining the existence of individual SMP. The legal definition of dominance refers to a position of economic strength in which the dominant undertaking or undertakings enjoy a position of economic strength affording it (or them) the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.³⁹⁰

Many of the criteria relevant to an SMP assessment that are referred to in Paragraph 78 of the *SMP Guidelines* apply across all industries, with a number of them also being particularly relevant to telecommunications markets.

The administrative practice of the Commission since the year 2000, both in relation to its application of Article 102 TFEU and in the exercise of its powers of merger review, has identified a number of factors relevant in the assessment of dominance. A number of the Article 102 cases have proceeded to the appeals stages before the European Courts, where the Commission's approach to the assessment of market dominance has been vindicated. The most important EU competition law precedents shedding light on the application of these criteria are discussed below.

While many of the criteria are already listed in the current *SMP Guidelines remain relevant going forward*, the emphasis on the relative importance of certain criteria has arguably evolved over time to reflect changes in market dynamics prompted either by technological innovation or changes in the patterns of supply or demand in the supply of telecommunications services.

8.1 Market Structure

The key structural market feature relied upon by NRAs to assess whether individual SMP can be identified is market share. However, recent European Commission administrative practice under the Article 7 review procedure under the *Framework Directive* suggests that the relevance of market share in an SMP assessment should be approached with caution.³⁹¹ Thus, while, the Commission has reiterated the point that - save in exceptional circumstances - very large market shares (*i.e.*, over 50%)³⁹² will of themselves constitute evidence of the existence of a dominant position, it has nevertheless also noted in its Article 7 decision-making practice that Paragraph 78 of the *SMP Guidelines* additionally clarifies that the existence of high market shares simply means that the operator concerned *might* be in a dominant position. This resonates with the traditional view that there can be no substitute for an NRA to undertake a full economic analysis in order to conclude that a situation of individual SMP exists,³⁹³

³⁹⁰ Case 27/76 *United Brands* [1978] ECR I-20, paragraph 65; Case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR I-461, paragraph 38.

³⁹¹ See, for example, NL/2017/1958-1959 and Phase I Decision in NL/2017/1960.

³⁹² Case C-62/86 *AKZO v Commission* [1991] ECR I-3359, paragraph 60.

³⁹³ Refer to Whish & Bailey *Competition Law* (8th edition, OUP, 2015) Chapter 5, Section 5; see also: Rose and Bailey (eds) *Bellamy and Child: European Union Law of Competition* (7th edition, OUP, 2013), Chapter 10.016.

particularly given the fact that the boundaries of market definition might be blurred.³⁹⁴ According to the recent Article 7 precedents, a market share below 50%, while not necessarily inconsistent with the view that an undertaking might be dominant, nevertheless needs to be confirmed or reinforced by an analysis of other relevant economic factors, as supporting a finding of dominance.

Market shares below 50% will therefore only be capable of sustaining a finding of individual SMP if there are strong economic indicators which support the conclusion that the leading operator in the market is not subject to effective competitive constraints. In this regard, the Commission might have particular regard to factors relevant to a determination of dominance or SMP, such as *inter alia*:

- the declining shares of the allegedly dominant operator over time, the market share distribution observed in the market and, in particular, a forward-looking assessment of the likely evolution of market shares over the forthcoming regulatory period;
- the likelihood of new entrants exerting sustainable competitive pressure both prior to and post market entry;
- existing market actors expanding their geographic operations or service portfolios based on their own deployed infrastructure to be able to better match the reach and scope of the leading operator;
- the availability of commercially negotiated wholesale access agreements (irrespective of whether they have been concluded in the shadow of potential regulatory intervention) which allow for the technical and economic replicability of other products so as to overcome the incumbent's scale advantages;
- the competitive pressure exerted by one technology *vis à vis* another (especially where the technological capabilities of the competing technologies establish a chain of substitution); and
- whether or not the competitive constraints faced by the allegedly dominant firm are exerted only in one segment of the relevant defined product market.

The relative maturity of the market involved will also be a relevant consideration in the strength of the conclusions that one can draw about whether an operator is dominant in any given market. Thus, while it is the case that the relative stability of the leading operator's market share over a period of time is more consistent with a conclusion that a situation of individual dominance exists (see Paragraph 75 of the *SMP Guidelines*),³⁹⁵ it has also been found that an operator identified in an Article 102 TFEU investigation was

³⁹⁴ For example, a number of NRAs have taken the view that it is unnecessary for them to identify affected retail markets formally when imposing *ex ante* regulatory obligations in wholesale markets under the *Framework Directive*. The practice goes much further under the Commission's administrative practice in merger control, where it is common for the Commission under a Phase I review to leave the relevant market definition issue open, yet alone that used for related markets; e.g., see COMP M.7000 *Liberty Global / Ziggo*; Case COMP *Deutsche Telekom / Orange / Buyin*.

³⁹⁵ Refer to COMP/38.784 *Wanadoo España vs Telefónica*, where the dominant firm was held to have had a stable leading position for many years that far surpassed its competitors (affirmed in Case T-336/07 and Case C-295/12 P).

dominant despite its market share dropping from 90% to 80% over the period 2001-2002 given that the overall market shares involved were always high over the relevant period.³⁹⁶ By contrast, market share was considered to be an inconclusive proxy for dominance where a new mobile commercial services market had emerged, especially given the fact that the affected market was being constantly disrupted by new technology.³⁹⁷ Where new potential entry is more certain because of scheduled licensing regimes (e.g., as occurs in relation to prospective broadband satellite offerings), it may be appropriate for an NRA to take into account the imminent deployment of new networks in its dominance assessment.³⁹⁸ Moreover, the strong market position of a competitor in related or neighboring markets may, in appropriate circumstances, act as a significant constraint on certain operators.³⁹⁹

The precedents have also emphasized the importance of attributing due weight to the fact that a high market share can be correlated with the existence of a large gap between the dominant operator and its largest competitor, consistent with the view that the second operator is unlikely (at least in the context of a relatively mature market structure) to be able to exercise a sustainable competitive restraint on the dominant operator if its market volumes, customer numbers and revenues are relatively small compared to those of the dominant operator. Thus, if in addition to its large market share the leading operator is over twice the size of its next largest competitor, such a factor will be a material consideration in a determination that the leading operator enjoys a position of market dominance.⁴⁰⁰

The existence of individual SMP will, in turn, be measured not only in absolute percentage terms but also by reference to concentration ratios in the form of the HHI index.⁴⁰¹ Moreover, the growing practice is to interpret market share data by reference to factors going beyond the traditional measurement of value (i.e., revenues derived from sales) to include volume (e.g., numbers of minutes, capacity) and subscriber numbers where appropriate in accordance with the service being supplied,⁴⁰² either in their own right or in combination with one another.⁴⁰³ This is done with a view to

³⁹⁶ See COMP/38.233 *Wanadoo Interactive* (affirmed in Case T-340/03 and Case C-202/07).

³⁹⁷ See Case COMP/M.6314 *Telefonica UK/Vodafone UK/Everything Everywhere/JV. Telefonica UK.*

³⁹⁸ See Case COMP/M.1564 *ASTROLINK Joint Venture.*

³⁹⁹ For example, see Case COMP M.6990 *Vodafone/Kabel Deutschland.*

⁴⁰⁰ For example, refer to Case COMP/M.1795 - *Vodafone AirTouch/Mannesmann*, where the new entity post-merger would be over twice the size of its next major competitor; see also Case COMP/M.1741-*MCI WorldCom/Sprint*, where the merged entity was calculated to be over three times the size of its next competitor, irrespective of the method chosen to calculate market share, e.g., traffic volume exchanged or revenues.

⁴⁰¹ See, for example, COMP/M.6497 *Hutchison 3G Austria/Orange Austria.*

⁴⁰² See for example, Case COMP/M.4748 *T-Mobile/Orange Netherlands.* See also Case COMP/M.5650 *T-Mobile/Orange.* For a recent example where the Commission considered multiple methods of market share calculation, see Case COMP/M.7758 *Hutchison 3G Italy/Wind/JV.*

⁴⁰³ *Ibid.* For example, a consistent pattern of dominance might be clearly substantiated across all relevant market share indicators, whereas its establishment might be a more complex issue if certain indicators are relatively low. Thus, for example, a finding that per subscriber shares are significantly lower than per revenue shares might suggest that the operator has power over price or, in the alternative, might be consistent with a finding that the relevant market is more fragmented than was originally thought to be the case (e.g., the lower subscribed numbers might reflect a more affluent segment or “market” in its own right).

determining whether the putative dominant operator is best positioned to exert power over price or to engage in various forms of strategic behavior which might, for example, turn more on the particularities of telecommunications as a network industry, including *inter alia* the exploitation or insulation from competition of a particular segment of its customer base, its ability to engage in targeted or discriminatory foreclosure or predatory strategies in a strategically important segment of the broader relevant product market or because of its overall access to a much wider customer base than enjoyed by its competitors.

In addition, a growing number of cases has highlighted the relative importance of an operator concentrating large blocks of spectrum under its ownership as an indicator of dominance, especially in light of the growing perceived demand of converged (*i.e.*, fixed/mobile) and multi-play services likely to demand extra bandwidth and coverage.⁴⁰⁴ In one particular merger review, the concentration of particular blocks of spectrum into the hands of the merged entity was said to put it in a market position whereby it could develop and become the sole provider of an LTE (4G) network.⁴⁰⁵

8.2 Entry and Expansion Barriers/Barriers to Switching/Potential Competitors

The fact that electronic communications services are provided over interconnected networks means that economies of scale and scope are more prevalent than in most other industries, as is the relevance of network effects, the fact that many (but not all) networks require access to scarce resources, and the fact that successful market entry is often associated with very significant sunk costs which are irreversible. These network-specific characteristics mean that the existence of regulatory and economic entry barriers, barriers to expansion and barriers to switching as between operators, have a material impact on the feasibility and scale of potential entry.

In the regulatory context, the existence of certain entry barriers is also relevant at the threshold level of determining whether or not *ex ante* regulation is appropriate.⁴⁰⁶ Thus, under the so-called “three criteria” test, the application of *ex ante* regulation will only be appropriate where entry barriers are both high and enduring, and limited to structural, technical or legal considerations. Thus, in determining whether or not *ex ante* regulation based on an SMP designation is appropriate, strategic barriers to entry (most of which are not telecommunications sector-specific) should not be taken into consideration.

⁴⁰⁴ For example, see Case COMP/M.5650 *T-Mobile/Orange*. See also case No COMP/6497 – *Hutchison 3G Austria/ Orange Austria*.

⁴⁰⁵ *T-Mobile/Orange, ibid*, where the Commission concluded that the notified merger would have led to a high concentration of spectrum for the merged entity, thereby raising concerns that competing Mobile Network Operators would be restricted in expanding and potential entrants would be deterred from entering the market.

⁴⁰⁶ Commission Recommendation of 9 October 2014 on Relevant Markets Susceptible to *ex ante* Regulation (C(2014) 7174 final) recitals 11-14.

The Commission has had the opportunity on a number of occasions to consider how entry barriers affect the existing and potential competitiveness of telecommunications markets.

For example, a number of precedents have emphasized the importance of new entrants being able to incur the very large sunk costs necessary to deploy a ubiquitous national network in order to benefit from the economies of scale (and, increasingly, scope) that are necessary to drive sustainable and effective market entry.⁴⁰⁷ Thus, dominance in the telecommunications sector is often synonymous with the existence of large geographically ubiquitous networks.⁴⁰⁸ Where one moves away from the need to control a network infrastructure, the importance of scale becomes less of an entry barrier. Evidence of recent market entry in the provision of certain "mobile wallet platform services", for example, was considered to have been sufficient to preclude any concerns that the relevant market in question might be characterized by significant entry barriers.⁴⁰⁹ The ability of a new entrant to grow market share quickly may also reflect that the relevant market in question is more contestable and that entry barriers can be overcome within a reasonable timeframe.⁴¹⁰

In order to be able to overcome entry barriers faced by those new entrants wishing to become fully fledged network providers, a number of the Commission's merger review cases have emphasized the importance of new entrants being able to benefit from the existing *ex ante* regulation of wholesale inputs which provide entrants with cost-oriented wholesale broadband access.⁴¹¹ Similarly, the possibility of achieving effective entry through Mobile Virtual Network Operators (MVNOs) which are over time capable of expanding their operations to become full Mobile Network Operators (MNOs) has also been seen as a positive indication that the height of entry barriers might not be insurmountable.⁴¹² Such an approach is consistent in the context of fixed line operations with the principle that new entrants are in a position, once having entered the retail market in question, to expand their operations by using more sophisticated

⁴⁰⁷ See, for example, Case C-280/08 P *Deutsche Telekom v Commission* [2010] ECR I-9555; COMP/39.525 *Telekomunikacja Polska* (affirmed in Case T-486/11, appeal pending in Case C-123/16 P). For a recent discussion on entry barriers in mobile markets, refer to Case COMP/M.7758 *Hutchison 3G Italy/Wind/JV*.

⁴⁰⁸ The breadth of network coverage enjoyed by a dominant operator might arguably also give it unparalleled access to retail customers, often resulting in information asymmetries which it enjoys at the expense of its smaller competitors.

⁴⁰⁹ See Case COMP/M.6314 *Telefonica UK/Vodafone UK/Everything Everywhere/JV*.

⁴¹⁰ *Ibid.* See also, for example, Case COMP/M.3916 *T-Mobile Austria/tele.ring*. See also Case COMP/M.5532 *Carphone Warehouse/Tiscali UK*.

⁴¹¹ See, for example, Case COMP/M.5532 *Carphone Warehouse/Tiscali UK*. See also Case No COMP/M.6584 – *Vodafone Group/Cable & Wireless Worldwide*, where it was ruled that the existence of a price cap and a non-discrimination obligation in relation to mobile termination markets overcame foreclosure issues and leveraging concerns that might have otherwise have arisen as a result of the notified merger.

⁴¹² See, for example, Case COMP/M.5650 *T-Mobile/Orange*, where MVNOs were considered to exert a significant competitive force in the UK of themselves. See also Case COMP/M.7231 *Vodafone/ONO* as regards the impact of access obligations with regard to alternative operators providing multiple play services (see discussion below).

wholesale inputs over time, thereby climbing the so-called "ladder of investment" to become fully fledged facilities-based providers.⁴¹³

In addition, the precedents have identified a range of other entry barriers, including:

- the need for mobile operators to acquire spectrum rights, which are limited in scope and number;⁴¹⁴
- the ability to roll out a ubiquitous national network over a long period of time while the investment costs for doing so are drawn from State funds and from the provision of key services earning monopoly rents benefitting from exclusive rights over that period;⁴¹⁵
- regulatory compliance costs, including costs associated with data retention and information services, data protection compliance, legal interception, concluding multiple agreements for access and interconnection (including roaming agreements), and the expenses incurred in the implementation of interfaces to enable mobile number portability;⁴¹⁶
- the lack of availability of spare capacity, which could limit access opportunities for new wholesale customers;⁴¹⁷ and
- costs in the form of necessary marketing expenses, which may prove to be irreversible.⁴¹⁸

In determining the existence of entry barriers, caution must be exercised so that an entry barrier is not confused with the existence of a relatively mature market. Thus, in one merger review, the Commission commented that market developments such as stagnating price levels, reduced market entry and market consolidation were not attributable to the existence of entry barriers, but rather to the maturity of the market where competition was likely to remain fierce among the established market actors who

413 The concept is discussed in Prof. Martin Cave's paper on infrastructure competition: M. Cave, *Encouraging infrastructure competition via the ladder of investment* (2006) 30 Telecommunications Policy 223–237. The Commission's more recent approach towards mergers in highly concentrated mobile telecommunications markets is more ambivalent as regards the positive competitive impact capable of being generated by non-infrastructure based competitive alternatives. For example, the Commission in Case COMP/M.7018 *Telefonica Deutschland/E-Plus* concluded that entry from MVNOs and Service Providers would be unlikely to generate equivalent competitive pressure on Mobile Network Operators.

414 Refer to discussion *op. cit.* regarding Case COMP/M.5650 *T-Mobile/Orange*. See also Case No COMP/6497 – *Hutchison 3G Austria/ Orange Austria*. Refer also to Case COMP/M.7018 *Telefonica Deutschland/E-Plus, op. cit.*

415 See, for example, AT.39523 *Slovak Telekom* (affirmed in Case T-458/09).

416 See, for example, Case COMP/6497 – *Hutchison 3G Austria/ Orange Austria*. As regards the incentives to grant access to unused capacity, refer to discussion in Case COMP/M.4748 *T-Mobile/Orange Netherlands*. The conclusion of multiple access agreements not only raises compliance costs for small competitors, but can also disadvantage them if the conditions of access are unregulated or lightly regulated, insofar as it may be obliged to bear additional costs which a dominant operator can avoid, thereby further reinforcing its position of dominance at the retail level.

417 See Case COMP/M.3916 *T-Mobile Austria/Tele.ring*.

418 Refer to Case COMP/M.6497 *Hutchison 3G Austria/Orange Austria*; *cf.* Case COMP/M.7018 *Telefonica Deutschland/E-Plus*.

will continue to compete for market share in order to gain or maintain economies of scale.⁴¹⁹

Entry can in turn be considered to be more likely when the potential new entrants are already present in related or neighbouring markets,⁴²⁰ thereby lowering the (operator-specific) barriers that would otherwise need to be overcome, or where new technologies become available which permit new entrants to provide qualitatively different services (e.g., due to increased bandwidth) which can challenge the leading operator.⁴²¹ With respect to certain markets, however, the ability to be able to achieve minimum cost efficient scale of operations may be critical in the determination of whether potential entry is likely and sustainable,⁴²² as will be the ability of new entrants to be able to replicate the dominant operator's network.⁴²³

The inability or lack of financial incentives of customers to switch between operators is also cited as a reason why operators might not be deemed to be "close competitors" in the context of a merger review.⁴²⁴ As regards the potential of MVNOs and Service Providers switching to alternative Mobile Network Operators to host their operations, the Commission has recently concluded that such threats to switch hosts would not be credible in the particular circumstances of that case because of the high costs associated with MVNOs or Service Providers changing their preferred host.⁴²⁵ Thus, the costs of switching between network providers might also act in certain circumstances as a means by which a position of individual dominance can be reinforced, effectively insulating the dominant network operator from effective competition. As discussed in section 7.4, if switching costs between technologies are sufficiently high, this might in theory result in finding a more narrow market definition delimited by specific technologies, in which the leading player in each of the relevant technologies might be found to have SMP. However, in the context of *ex ante* regulation, the process of market definition requires a forward-looking view in which the relevant market should be defined in a manner which would be expected to exist in a competitive environment – and thus does not reflect any artificial barriers that may have been erected (e.g., through a lack of a wholesale product offering, or a failure to standardize wholesale offerings to facilitate switching). Demand from potential new entrants which have not invested in specific platforms, and thereby may be neutral in terms of the possible access options to which they may turn, should also be considered. These factors may, as previously discussed, tend towards multi-platform markets, in which the degree of individual market power is likely to be reduced. This may however increase the frequency in which oligopolistic market structures might exist, which might be competitive in nature or characterized by joint SMP.

⁴¹⁹ See Case COMP/M.5532 *Carphone Warehouse/Tiscali UK*.

⁴²⁰ See Case COMP/M.1564 *ASTROLINK Joint Venture*.

⁴²¹ See, for example, Case COMP/M.5532 *Carphone Warehouse/Tiscali UK*.

⁴²² See Case COMP/M.1741 *MCI WorldCom/Sprint* in relation to the market for Internet connectivity.

⁴²³ See Case COMP/M.1795 *Vodafone/Mannesmann*.

⁴²⁴ See Case COMP/M.5650 *T-Mobile/Orange*.

⁴²⁵ See Case COMP/M.7018 *Telefonica Deutschland/E-Plus*.

8.3 Behavioural abuses facilitated by vertical integration

The consideration of the impact of current and anticipated future structural factors on the ability of an undertaking to behave independently of its competitors and consumers has also been an important aspect of the analysis conducted by NRAs to determine the existence of individual SMP. Traditionally, in telecommunications markets, it has been assumed that, in the absence of *ex ante* regulation, dominant operators might exercise their ‘independence’ from competitive constraints by engaging in various anti-competitive or foreclosing practices such as excessive pricing, predatory pricing, margin squeezes and through the discriminatory treatment of competitors and discrete customer segments, either at retail or wholesale level (especially given that the vast majority of incumbents remain vertically integrated).⁴²⁶

Indeed, in markets in which individual SMP has been designated to exist, but regulation has been absent, or only imperfectly applied, there may be evidence of excessive pricing by the dominant firm at the wholesale and/or the retail level, and/or evidence that it has discriminated in favour of its downstream operations at the expense of third party service providers.

Excessive retail pricing may be detectable through the ability of the firm designated with SMP to price consistently above its smaller competitors without losing significant market share or, at the wholesale level, to price above cost without competitors having the potential to switch to alternative wholesale providers. In this regard, the benchmarking of wholesale and retail charges against comparable markets can be useful to detect any excessive retail pricing.

It should be noted however, that excessive pricing is not the only or even the main concern of most NRAs today. Increasingly, there have been concerns about potential predation in retail services, and especially in promotional offers for bundles, which may include services that fall outside the traditional remit of *ex ante* electronic communications regulation. Thus, the usual economic mantra that dominance should equate to ‘power over price’ requires a more nuanced approach in the context of electronic communications.

As regards the practice of discrimination, the collection of ‘Key Performance Indicators’ can enable NRAs to assess whether advantages have been given in relation to the provision of circuits, maintenance services, repair and so forth, to the downstream arm of the putative SMP operator.

⁴²⁶ See Case T-699/14 *Topps Europe Ltd v Commission* EU:T:2017:2, paragraph 93.

8.4 Commercial and Technological Advantages

There are a number of cases in which the Commission has identified that a telecommunications operator enjoys a position of market dominance because, in addition to other economic factors, it benefits from being able to take advantage of a range of important commercial or technological advantages *vis a vis* its competitors, including:

- the presence of a larger corporate group from which the dominant operator can derive benefits such as commercial, logistical and financial support, allowing it to generate synergies and generate cost savings (e.g., including the bulk purchasing of equipment);⁴²⁷
- a broad installed network of sales outlets;⁴²⁸
- the existence of a strong brand presence in the marketplace;⁴²⁹
- the existence of vertical and horizontal integration across the value chain at the expense of competitors, thus being able to forego the transaction costs that would be incurred by rivals when purchasing the wholesale inputs necessary to provide their services at the retail level,⁴³⁰ while at the same time conditioning the entry and expansion of new entrants because of their dependence on wholesale inputs from the allegedly dominant operator;⁴³¹
- insofar as they are demonstrated not to exercise any pricing restraints on the dominant operators in any given geographic market while also not relying on the allegedly dominant operator's wholesale inputs, the role played by cable operators can be an important consideration in the determination of SMP in relation to those other operators;⁴³²
- the existence of high levels of profitability when compared to other similarly situated operators in other EU Member States;⁴³³
- a proven track record of being able to engage in anti-competitive abuses historically is often facilitated by the existence of a dominant position, with the impact of such actions being felt most acutely by competitors or customers because of that dominance;⁴³⁴

⁴²⁷ See, for example COMP/38.233 *Wanadoo Interactive*; cf. AT.39523 *Slovak Telekom*.

⁴²⁸ See, for example, COMP/38.233 *Wanadoo España*; cf. AT.39523 *Slovak Telekom*.

⁴²⁹ See COMP/38.233 *Wanadoo España*.

⁴³⁰ An example of a dominant firm being able to raise rivals' costs is illustrated in the case of COMP/39.525 *Telekomunikacja Polska*.

⁴³¹ Refer to COMP/38.784 *Wanadoo España* cf. COMP/39.525 *Telekomunikacja Polska* The ability to deny access by a dominant operator might result in input foreclosure (vertical effects) or in the increase in price of the stand-alone products or components of a bundle where the dominant operator is actively promoting its discounted bundles ((conglomerate effects). In this regard, refer to Case COMP/M.7978 *Vodafone/Liberty Global/Dutch JV*. Indeed, *ex ante* and *ex post* cases within the telecommunications sector have been consistent in according significant weight in their assessment of SMP to the fact that incumbent firms are typically characterized by a high degree of vertical integration.

⁴³² Refer to COMP/38.784 *Wanadoo España*.

⁴³³ Refer to the observations of the Commission in Case COMP/M.5650 *T-Mobile/Orange*.

⁴³⁴ *Op. cit.*, *Topps Europe Ltd*.

- the relative importance to the competitiveness of the market for the dominant operator to continue to provide wholesale access opportunities to competitors, either on a regulated or on a freely negotiated basis;⁴³⁵
- the existence of certain technological network features or characteristics which confer upon the dominant operator a significant competitive advantage in its operational functions in terms (beyond the traditional ability to raise price) of its ability to control technical developments in the relevant market,⁴³⁶ or to discipline the market by engaging in selected instances of network degradation;⁴³⁷
- the ability of an operator to self-supply (either through a portfolio of products generated through vertical integration or through the operation of intra-corporate arrangements with members of a wider corporate group) multiple-play services when compared to the smaller portfolio offerings of its immediate competitors;⁴³⁸ and
- the engagement of the allegedly dominant firm in a series of multilateral contractual relations which rely on cooperation between operators to achieve common goals (e.g., roaming relationships, network sharing agreements and co-investment arrangements which are not open to third parties on reasonable terms), where their effect would be to foreclose smaller entrants or to eliminate an independent trading partner with whom smaller operators could deal.⁴³⁹

8.5 Countervailing Buyer Power

The Commission has had the opportunity on a number of occasions to consider whether the exercise of market power by an operator is capable of being constrained by its customers in particular circumstances. The precedents have thus far confirmed the following principles:

- individual end users in mass market electronic communications markets have no credible countervailing buyer power when negotiating contracts with operators,

⁴³⁵ See discussion above regarding the importance of wholesale access alternatives to promote new entry and to curb individual market power.

⁴³⁶ Refer to Case COMP/M.1795 - *Vodafone AirTouch/Mannesmann*. Note that in Case COMP/M.5650 *T-Mobile/Orange*, the Commission took due account of the role played by the existence of different types of network technology.

⁴³⁷ See Case COMP/M.1741 - *MCI WorldCom/Sprint*.

⁴³⁸ For example, refer to Case COMP M.6990 *Vodafone/Kabel Deutschland*. By contrast, if existing regulatory obligations exist with respect to wholesale inputs for mobile and fixed services, the dominant operator is unlikely to be able to shut out fixed and mobile operators from emerging markets for multiple play services: see Case COMP/M.7231 *Vodafone/ONO*.

⁴³⁹ See, for example, Case COMP/M.4035 *Telefonica/O2*. In many instances, these relationships are unraveled as part of the process of brokering remedies in merger review situations or by reference to Article 101 TFEU infringement actions where the relationships between competitors raise concerns that competition is being restricted either by object or by effect.

nor is it likely that individual business customers have sufficient size or commercial significance to be able to bargain on matters of price;⁴⁴⁰

- those few individual customers who might be able to resist price increases to some degree would not be in a position to shelter the remainder of the market from the exercise of market power by the dominant operator;⁴⁴¹
- many retailers of electronic communications services are likely to be able to pass on price increases to end customers (often working through commissions), which renders them less likely to jeopardize their relations with a dominant operator;⁴⁴²
- large multinational customers are often in a position to exercise countervailing buyer power in their acquisition of Global Telecommunications Services (GTS),⁴⁴³ especially given that the market for such services is often global in scope and is usually associated with bidding markets⁴⁴⁴ whose terms and conditions lie within the control of the customer;
- the fact that GTS customers may have countervailing buyer power does not necessarily mean, however, that there are no bottlenecks within the supply chain involved in alternative operators being able to supply services to GTS customers. In particular, multi-national suppliers of GTS services rely on procuring access to high quality terminating segments across regions and countries. The supply of such terminating segments may be restricted only to the incumbent where the connectivity is to points outside dense business districts where competitive supply may be more likely to be available (accordingly, the Commission has found in the 2014 *Relevant Market Recommendation* that the market for wholesale high-quality access is susceptible to *ex ante* regulation);⁴⁴⁵
- MVNOs and Mobile Service Providers have in practice been shown to have sufficient bargaining power to negotiate wholesale agreements in mobile markets which are characterized by the existence of several network operators and effective competition. However, they have not been considered in recent cases to have sufficient bargaining power to negotiate favorable wholesale access conditions which would allow them to compete on a level playing field at the retail level where the market has been subject to significant consolidation;⁴⁴⁶ and
- at the wholesale level, certain markets based on the exchange of large volumes of traffic might lend themselves to countervailing buyer power because the

⁴⁴⁰ See Case COMP/M.6497 *Hutchison 3G Austria/Orange Austria*. See also Case COMP/M.7758 *Hutchison 3G Italy/Wind/JV*. See also AT.39523 *Slovak Telekom* and COMP/39.525 *Telekomunikacja Polska*.

⁴⁴¹ *Ibid*, *Hutchison 3G Austria/Orange Austria*. See also AT.39523 *Slovak Telekom*.

⁴⁴² *Ibid*, *Hutchison 3G Austria/Orange Austria*.

⁴⁴³ See discussion in M. JV.15 *BT/AT & T*.

⁴⁴⁴ For example, refer to Case COMP/M.1564 - *ASTROLINK Joint Venture*.

⁴⁴⁵ See para 4.2.2.3 of the Explanatory Memorandum accompanying the 2014 *Relevant Market Recommendation*.

⁴⁴⁶ See, for example, most recently, the discussion in Case COMP/M.7018 *Telefonica Deutschland/E-Plus*.

operators involved may have as much to benefit from saving costs as benefiting from network externalities (e.g., the growth of so-called “bill and keep” relationships in the field of interconnection, along with those existing at the level of backbone Internet connectivity).⁴⁴⁷

Although not as yet the subject of any clear administrative precedent at EU level or any EU Court Judgments, the role of so-called Over-the-Top (“OTT”) operators is assuming a growing importance in the determination of whether or not a telecommunications operator is constrained in its commercial conduct by large multinational OTTs who are both customers of, and suppliers to, telecommunications operators. For example, OTT video streaming services may exercise their bargaining position to deny their services being included as part of the product bundle sought to be offered by the telecommunications operator, and instead form a partnership with a competing telecommunications operator. This might restrict the ability of the operator to engage in product differentiation, placing it at a competitive disadvantage in the provision of bundles; as such, it might constitute an effective competitive constraint on the exercise of market power by the operator.⁴⁴⁸ Similarly, the increased bargaining position of OTT operators is arguably indirectly increased by the Net Neutrality rules, which prevent telecommunications operators from responding with counter-threats such as according less priority to OTT services (e.g., due to the relatively high bandwidth levels of consumption).⁴⁴⁹

Recommendations on SMP

1. The *SMP Guidelines* would benefit from greater clarity being given to the interpretation of the role of market shares in an assessment of dominance. Consequently, consideration should therefore be given to the provision of greater emphasis in Paragraph 75 of the *Guidelines* on the process of evaluation of shares by reference to this longevity, gaps in market shares when compared with other competitors, market maturity, and other relevant factors which have emerged from the administrative precedents and case-law. These sectors are particularly important where a putatively dominant firm has a share between the 40% threshold associated with the *United Brands* case-law and the test set forth in the *Akzo Case* (i.e., above 50%). (Refer to discussion in Point 1 of this Section.)

⁴⁴⁷ In this regard, refer to COMP/M.1741 *MCI WorldCom/Sprint*.

⁴⁴⁸ For a comprehensive overview on potential bundling practices between OTT services and ECS, see: BEREC *Report on OTT services* of January 2016 (BoR (16) 35) chapter 6.

⁴⁴⁹ To this effect, refer to BEREC *Report on OTT Services*, *op. cit.*, Section 6.4. A range of academics have, *inter alia*, also sought to explore the effects which the larger OTT operators might have on traditional telecommunications markets, see Lina M. Khan “*Amazon’s Antitrust Paradox*” (2017) 126 *Yale Law Journal* 710; *cf.* Scott Galloway, “The Four: The Hidden DNA of Amazon, Apple, Facebook, and Google” (Portfolio, 2017).

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2. Given the growth in telecommunications sector precedents over the years, the dominance criteria listed in Paragraph 78 of the *SMP Guidelines* could benefit from a greater emphasis being placed on the more critical areas of analysis, including the treatment of entry barriers, on the one hand, and strategic and technical barriers to entry, on the other. In doing so, the types of criteria should be listed in a manner which better reflects the key characteristics and priorities of the telecommunications industry, and deals with more general criteria applying to all industries separately.
 3. The discussion of those entry barriers, which also govern the analysis performed under Criterion 1 of the so-called “three criteria test”, should be identified separately, given the dual role which they play. In addition, appropriate emphasis also arguably needs to be placed on the importance of maintaining existing wholesale access relationships in order to sustain the competitive outcomes in the affected markets (and the implications on new entry which the preservation of existing wholesale access regulation might have, or the possibility of competition between operators to provide wholesale access on negotiated terms).
 4. It is also arguable that a separate discussion should address the relevance and importance of the concept of countervailing buyer power, which has now been addressed at some length in the various Commission precedents and which has a particular resonance in the telecommunications sector. Although not currently the subject of reliable precedents in terms of case-law or administrative decisions, the role of Over-the-Top (OTT) operators in constraining market power is likely to become a particularly important issue over time, and accordingly justifies greater guidance being directed towards the treatment of the concept by NRAs when considering the competitive impact of OTT operators. To this end, it may be worthwhile exploring the extent to which OTT operators constrain potentially dominant operators more generally, or with respect to specific markets (and this guidance should include the impact of Net Neutrality rules.)
 5. There is merit in the Commission addressing various comments of stakeholders by explaining that the list of criteria that might be relevant to a dominance assessment is not closed, but can vary from market to market and from EU Member State. Nevertheless, there is little benefit in the Commission seeking to canvas all of the potential elements that might act as an indicator of dominance, given that many of them are of equal relevance to all industrial sectors or, more importantly, because they relate to matters that can be more appropriately addressed by licensing/authorization requirements or *ex post* competition rules directed to particular individual circumstances.
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9 Leveraging of market power

The *SMP Guidelines* make reference to the fact that a position of SMP can be established on the basis of a situation of leveraged market power (Paragraphs 83-85), derived from the logic of the *Tetra Pak II Case*⁴⁵⁰ and based on the explicit terms of Article 14(3) of the *Framework Directive*: "*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*".

Since the inception of the *EU Regulatory Framework* in 2002, however, that provision has never been utilised by NRAs as the basis for their *ex ante* intervention. The rationale why NRAs have not seen fit to have recourse to Article 14(3) seems to be based on the understanding that the leverage of market power relevant in an *ex ante* context is fundamentally derived from the vertical integration enjoyed by the SMP-designated undertaking. Accordingly, given that access remedies imposed at the wholesale level are designed to address potential market failures at the retail level (*i.e.*, a 'vertical' relationship), it follows that recourse to a separate and distinct form of leveraged dominance as the basis for intervention is arguably unnecessary. The nature of the vertical relationship between the wholesale access and end-user market is thus already characterised by potential leverage effects, which is also clarified in Paragraph 84 of the *SMP Guidelines*:

"[...] In practice, if an undertaking has been designated as having SMP on an upstream wholesale or access market, NRAs will normally be in a position to prevent any likely spill-over or leverage effects downstream into the retail or services markets by imposing on that undertaking any of the obligations provided for in the access Directive which may be appropriate to avoid such effects. Therefore, it is only where the imposition of ex-ante obligations on an undertaking which is dominant in the (access) upstream market would not result in effective competition on the (retail) downstream market that NRAs should examine whether Article 14(3) may apply." (Emphasis added.)

In addition, reliance on a concept of leveraged dominance which goes beyond such vertical relationships is difficult to reconcile with the enforcement philosophy which underlies the EU Regulatory Framework, insofar as:

1. Beyond vertically integrated entities, the potential range of markets that could be affected as "neighbouring" or "adjacent" markets could be infinite, which is wholly inconsistent with the limited number of markets prescribed under the *Relevant Markets Recommendation*, which is an integral part of the *EU Regulatory Framework*.

⁴⁵⁰ Case C-333/94 P *Tetra Pak v. Commission* [1996] ECR I-5951.

2. It is more than likely that the vast majority of the markets into which a dominant firm can in theory leverage its market power from a primary market will be emerging or evolving “markets”. Accordingly, the *EU Regulatory Framework* is not designed to address the regulation of services whose competitive dynamics are still in a state of flux, and it is expressly provided that emerging services are best addressed by competition rules.⁴⁵¹
3. Since leverage theory is usually associated with the flexibility enjoyed by a dominant firm to attack its competitors strategically, it is far removed from the approach that characterises the imposition of *ex ante* regulation because of the structural concerns generated by vertical integration. Accordingly, such strategic concerns are best addressed by a more flexible, fact-specific discipline such as *ex post* competition rules.
4. If indeed competition policy is a more appropriate instrument with which to address strategic market behaviour, one has to ask whether the relevant leveraged market in question would be able to satisfy the third limb of the so-called “three-criteria test” for the imposition of *ex ante* regulation, namely: that *ex ante* regulation is necessary because *ex post* competition law enforcement is likely to be ineffective.⁴⁵² However, as the respective cases of, among others, *Microsoft (Media Player)*,⁴⁵³ *Microsoft (Internet Explorer)*,⁴⁵⁴ *Hilti*,⁴⁵⁵ and *Centre Belge d’Etudes de Marche-Telemarketing v CLT*⁴⁵⁶ confirm, *ex post* competition rules are well adapted to address a wide range of competition concerns arising from leveraging practices, especially where the leveraging in question is reflected in bundling or tying practices.
5. The guidance that one can draw from the Commission’s decisional practice in the review of *conglomerate mergers* does not suggest that the application of a leveraged dominance approach in an *ex ante* context will be anything other than extremely complex. A *conglomerate* merger brings together the neighbouring market positions of the merging parties, and presumes that one of the merging parties already holds a dominant position in one of those markets.⁴⁵⁷ In such a situation, a merger could provide the parties with both the *opportunity and incentive* to exploit its existing dominance in one market to create or strengthen

⁴⁵¹ Refer to Recital 23 of the *Relevant Markets Recommendation* (2014).

⁴⁵² Refer to Article 2 of the *Relevant Markets Recommendation* (2014).

⁴⁵³ Commission decision of 4 March 2004, upheld on appeal to the General Court Case T-201/04, *Microsoft Corp. v Commission* [2007] ECR II -3601.

⁴⁵⁴ COMP/C-3/39.530 – *Microsoft (tying)* of 16.12.2009 and AT.39530 of 6.03.2013.

⁴⁵⁵ *Eurofix-Bauco v Hilti* OJ [1988] L65/19, Case T-30/89 *Hilti AG v Commission* [1990] ECR II-163, upheld on appeal in case C-53/92 P *Hilti AG v Commission* [1994] ECR I-667.

⁴⁵⁶ Case C-311/84 *Centre Belge d’Etudes de Marche-Telemarketing v CLT* [1985] ECR 3261.

⁴⁵⁷ European Commission, “Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings” [2008] OJ C 265/6, Section V (“*Non-Horizontal Merger Guidelines*”).

a dominant position in another market.⁴⁵⁸ Determining such elements requires a detailed examination of, *inter alia*: the profitability of leveraging;⁴⁵⁹(ii) the impact of the leverage on the merged entity's costs; (iii) whether there exists any Countervailing Buyer Power on the part of customers; (iv) the link between the products and whether they are used by the same customers; (v) a "counterfactual" assessment as to how the markets operated pre-merger; and (vi) whether efficiency gains may affect the merged entity's incentives.⁴⁶⁰ The two key cases where the Commission has investigated conglomerate mergers – namely, *Tetra Laval/Sidel*⁴⁶¹ and *GE/Honeywell*⁴⁶² – have resulted in appeals from the Commission Decisions, with both Decisions being overturned on appeal to the General Court. In both cases, the Commission was found to have wrongly inferred that the existing dominance in one market would necessarily be leveraged into other neighbouring markets. This high evidentiary standard should be contrasted to the anti-competitive inferences which are deemed to flow logically from the phenomenon of vertical integration in the telecommunications sector.

6. Unlike the clear anti-competitive implications which flow from vertical leveraging in the telecommunications sector, the consumer welfare considerations are much more balanced *vis a vis* potential anti-competitive impacts when one considers the impact of leveraging across product markets. Thus, given the phenomenon of technological convergence (especially as reflected in the provision of multi-play bundles), BEREC has recently concluded⁴⁶³ that this may reflect innovation just as readily as it might suggest that anti-competitive leveraging is taking place. Whether or not any given leveraging practice is inherently anti-competitive is therefore very fact-specific, particularly in the light of the fact that electronic communications services are increasingly characterised by competition in the provision of service bundles. In this sense, the recent Court of Justice Judgment in the *Intel* case⁴⁶⁴ arguably reflects a greater judicial preference for effects-based analysis prior to characterising a certain commercial practice as being anti-competitive.⁴⁶⁵ Referring to the *Post*

⁴⁵⁸ See, e.g., *Microsoft/Skype* Case No COMP/M.6281 of 7.10.2011 where the Commission expressed concerns with regard to the fact that the transaction would allow Microsoft to leverage its dominant position in neighbouring markets onto the provision of voice calls services. (para. 205).

⁴⁵⁹ Generally speaking, leveraging will not be profitable in the absence of market power in the leveraging market: M.1879 *Boeing/Hughes*; M. JV.15 *BT/AT & T*.

⁴⁶⁰ A merger analysis of conglomerate mergers also requires that two other conditions be satisfied, namely: (i) the leverage should have a significant effect in terms of excluding or marginalising competitors; and (ii) this exclusion/marginalisation should be caused by the merger. See generally discussion in A. Lindsay, "The EU Merger Regulation: Substantive Issues", Sweet & Maxwell 2017, London, Chapter 12.

⁴⁶¹ Case M. 2416, *Tetra Laval/Sidel*, Decision of 30 October 2001 OJ [2004] L 43/13.

⁴⁶² Case M. 2220, *GE/Honeywell*, decision of 3 July 2001 OJ [2004] I 248/1 overturned on appeal in case T-210/01 *General Electric v Commission* [2005] ECR II-5575

⁴⁶³ BEREC *Report on new bundles trends*, of 6 October 2016, BoR (16) 173 (not publicly available): http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/6490-berec-report-on-new-bundles-trends.

⁴⁶⁴ Case C-413/14 P *Intel v Commission* [2017] EU:C:2017:632.

⁴⁶⁵ The particular practice at issue in the *Intel* case concerned exclusivity rebates.

Danmark I precedent⁴⁶⁶, the Court concluded at paragraph 139 that the Commission is not only required to analyse the extent of the undertaking's dominant position on the relevant market and the share of the market covered by the alleged anti-competitive practice, but it also has “to assess the possible existence of a strategy aiming to exclude competitors that are at least as efficient as the dominant undertaking from the market”. The ramification of this greater emphasis on effects-based analysis may also have a role to play in relation to the assessment of whether leveraging practices are considered to be anti-competitive, especially where complex welfare analysis might be relevant (e.g., where bundling practice occur).

Recommendation on the leverage of market power

Given the lack of recourse to the concept under many years of practice in the implementation of *ex ante* regulation, and given the ability of *ex post* competition rules to effectively address market failures arising from the leveraging practices of dominant undertakings, it is suggested that the Commission should consider removing the existing discussion on leveraged dominance from the *SMP Guidelines*. To the extent that a discussion of leveraging is relevant, guidance should more appropriately be provided in the context of any discussion on bundling practices more generally.

10 SMP analysis: The essential facilities doctrine

The *SMP Guidelines* make reference to the concept of “essential facilities” (at Paragraphs 81-82) within the broader context of an assessment of SMP or dominance (Section 3). The concept of essential facilities is generally understood to embrace both the concepts of market definition *and* market dominance in such a way as to render the independent delineation of the relevant product market unnecessary as a preliminary analytical step before embarking upon an analysis of market dominance.

The overarching conclusion set forth in Paragraph 82 of the *SMP Guidelines* is that the doctrine is of less relevance in an *ex ante* regulatory setting (*i.e.*, the imposition of regulatory obligations consistent with the terms of Article 14 of the *Framework Directive*) than with regard to the application of Article 102 TFEU (ex Article 82). Nevertheless, given the fact that access obligations in an *ex post* context have historically premised on the understanding that the network infrastructure in question is an “essential facility” and the limitation over time of the relevant markets to which *ex ante* access regulation should apply, it is arguably instructive for the *SMP Guidelines* to take due account of the

⁴⁶⁶ Case C-209/10 *Post Danmark* [2012] EU:C:2012:172.

following developments that have occurred since their adoption (refer to *Annex 12*]for an overview of the relevant EU precedents):

- The classic three-part test contained in the *Oscar Bronner Case*⁴⁶⁷ is already found in the *SMP Guidelines* by necessary inference (Footnote 86), although not amplified in the text. However, this test arguably needs to be recast in relation to more technologically advanced markets, as can be seen in the cases of *IMS Health*⁴⁶⁸ and *Microsoft*⁴⁶⁹ respectively, which apply the legal standard set forth in *Oscar Bronner* in an IP licensing setting (as opposed to an access request in relation to a physical facility). Having said that, the requirement that the access seeker should be seeking to provide a “new” product is not necessary when one is considering access to essential infrastructure, as opposed to essential IP rights, which arguably justify a higher standard to justify intervention.⁴⁷⁰ The specification that the other market being affected is a *neighbouring* market, as per *Microsoft*, is more expansive and can arguably address more complex market structure than traditional upstream/downstream functional levels of competition.
- The *Aéroports de Paris Case*⁴⁷¹ suggest that the essential facilities doctrine might even been able to apply (in some circumstances) if the owner of the physical infrastructure which is an essential facility is not active in the secondary (*i.e.*, downstream) market. This has important ramifications for the scope of the doctrine, as many cases and commentators have considered its application to be coterminous with the active participation of the facility owner at another functional level of the market (*i.e.*, the operator of the essential facility should be vertically integrated). By broadening its scope in the manner suggested in this case to include a legal⁴⁷² or practical “gatekeeper”, the

⁴⁶⁷ According to Case C-7/97 *Oscar Bronner*, [1998] ECR I-7791, an essential facility needs to satisfy three cumulative conditions, namely: (1) the service requested must be indispensable in carrying on the access seeker’s business; in as much as there is no actual or potential substitute for the access product (and whether an equally efficient competitor could overcome legal, technical or economic obstacles in replicating an alternative facility); (2) the refusal to deal would be likely to eliminate all competition in the relevant market depending on the input in question; and (3) the refusal could not be objectively justified. (See Paragraphs 41, 44-45, and 4).

⁴⁶⁸ Case C-418/01 *IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG*, ECR [2004], I-05039. The three cumulative conditions set forth are: (1) the refusal to grant access would prevent the emergence of a new product for which there exists a potential consumer demand; (2) the refusal is not justified by objective considerations; and (3) the refusal will exclude any competition on a secondary market. (See Paragraphs 38, 52.).

⁴⁶⁹ Case T-201/04 *Microsoft Corp. v. Commission*, [ECR] 2007 II-03601. Citing *Magill*, *IMS* and *Bronner*, the General Court set forth three cumulative conditions that would satisfy the need for “exceptional circumstances” that could override a dominant firm’s right to deal with whom it pleases, namely: (1) the refusal relates to a product or service that is indispensable to the exercise of a particular activity on a neighbouring market; (2) the refusal is of such a kind as to exclude any effective competition on that neighbouring market; and (3) the refusal prevents the appearance of a new product for which there is potential consumer demand. (See Paragraph 332.)

⁴⁷⁰ Refer to discussion by Advocate General Jacobs of the balancing act that needs to be conducted in those cases involving the refusal to license IP rights (*Oscar Bronner*, *supra*, at Paragraphs 57, 61-62).

⁴⁷¹ Case 82/01 *P Aéroports de Paris v. Commission* [2002] ECR I-9297.

⁴⁷² For example, refer to COMP/AT.37.685, *GVG/FS*, OJ L 11/17 of 16.1.2004. See also Case No. AT.39759 - *ARA Foreclosure*, OJ C 432/05 of 23.11.2016.

doctrine is capable of being used wherever leverage is a viable strategic option or where an undertaking owns a bottleneck facility and is extracting excessively high rents from it or treating its users in an unfairly discriminatory manner. The extension of the doctrine in this manner is likely to be of interest in an increasing range of markets dominated by complicated relationships across the Internet.⁴⁷³ In the alternative, even insofar as it is considered that the essential facilities doctrine reflects a particular example of leveraging, and hence should require that the leveraging occurs between two separate product markets, it is arguable that the second of the two markets affected need only be in the form of a “potential” or hypothetical market.⁴⁷⁴

- A series of Commission Decisions in the energy sector (*Gas de France Suez*⁴⁷⁵, *E.ON*⁴⁷⁶, *RWE Gas*⁴⁷⁷ and *ENI*⁴⁷⁸ – refer to discussion in Annex 12) reflects the view that the hoarding of supply on a transmission network considered to be an essential facility (*i.e.*, not replicable) is tantamount to a constructive refusal to supply because of long-term bookings of capacity, thereby perpetuating dominance in downstream markets. Most importantly, the dominant energy undertaking in each case could not defend itself by arguing that the management of its transmission network could not yield more efficient results, as it was under a positive obligation to provide adequate capacity management to ensure that third party access was viable (in other words, the facility had to be run efficiently). Such an approach raises interesting considerations from a telecommunications sector perspective insofar as investments in Next Generation Networks may indeed result in the dominant firm booking capacity well in advance both for itself and for selected trading partners. In addition, the positive duty to invest and to manage capacity efficiently is not wholly in alignment with the EU Regulatory framework, insofar as *ex ante* obligations imposed on SMP-designated operators are in relation to the obligations which can be fulfilled as of the date of the obligation (rather than in the future due to investments designed to render access possible in the future).
- As has been made clear in both the court of Justice in *TeliaSonera*⁴⁷⁹ and the Commission in its administrative practice in the *Slovak Telekom Case*,⁴⁸⁰ an *ex post* action brought against a telecommunications network operator for a margin squeeze will not be compromised simply because the network facility is not considered to be indispensable input. It will be sufficient for an action to proceed

⁴⁷³ Refer, for example, to Case AT.39740 – Google Search, Commission Press Release of 27 June 2017, IP-17-1784.

⁴⁷⁴ Refer to *IMS Case*, *op. cit.*, at Paragraph 44.

⁴⁷⁵ Commission Decision of 3 December 2009, Case COMP/B-1/39.316 – *Gaz de France Suez*, OJ C 57 of 9.3.2010.

⁴⁷⁶ Commission Decision of 4 May 2010, Case COMP/39.317 – *E.ON*, OJ C 278 of 15.10.2010.

⁴⁷⁷ Commission Decision of 18 March 2009, Case COMP/39.402 – *RWE Gas*, OJ C 310 of 5.12.2008.

⁴⁷⁸ Commission Decision of 29 September 2010 - Case COMP/39.315 – *ENI*, OJ C 352 of 23.12.2010.

⁴⁷⁹ Case C-52/09 *Konkurrensverket v. TeliaSonera Sverige AB* [2011] ECR I-527.

⁴⁸⁰ Case AT.39.523 – *Slovak Telekom*, OJ C 314 of 23.9.2015.

under Article 102 TFEU for the alleged margin squeeze if the network facilities operator in question is subject to an ongoing *ex ante* obligation to provide access and it refuses to satisfy the terms of that obligation. Moreover, in considering whether or not a facilities-based operator is justified on balance in refusing access to its network, due regard will be had to whether or not that network has benefited over the years from public funding.⁴⁸¹

- Given that a refusal to deal is a condition precedent to the application of the essential facilities doctrine, clarification has been provided by the Commission in the *Telekomunikacja Polska* Case⁴⁸² as to the scope of the concept of a “constructive” refusal to deal, which can also be assessed by reference to the combined effect of various factors which render access unnecessarily burdensome.

Recommendations on essential facilities doctrine

1. The essential facilities doctrine is arguably of not direct relevance to the *SMP Guidelines*, given that its application is only relevant in an *ex post* enforcement context. Having said that, given the interaction between *ex ante* and *ex post* disciplines, it seems advisable that the *SMP Guidelines* be revised to reflect the impact of the *TeliaSonera* Ruling, as reinforced by the *Slovak Telekom* Decision.

2. Insofar as the Commission wishes to expand upon the present discussion on essential facilities, the most relevant legal principles that should be considered are:

- An elaboration of the legal test set forth in *Oscar Bronner*, as amplified in *Microsoft* and in *IMS*, while noting that the standard varies where the licensing of IP rights is at issue (*i.e.*, given the importance of proving that there exists at least potential demand for a “new” product and the additional incentives accorded to someone who has developed IP rights);
- a recognition that capacity hoarding may be problematic in its own right (based on the energy sector precedents);
- the understanding that there may be instances where the nature of the essential facility and the type of access request involved means that the essential facility

⁴⁸¹ Refer also to the balancing exercise considered by Advocate General Jacobs in the *Oscar Bronner* Ruling, *op. cit.*

⁴⁸² Commission Decision of 22 June 2011, Case COMP/39.525 — *Telekomunikacja Polska*, OJ C 324 of 9.11.2011, at paragraphs 107-277. The possibility that a refusal to deal can be merely constructive in nature was also explained in Commission Decision of 25 July 2001, Case COMP/C-1/36.915 *Deutsche post – Interception of cross-border mail*, OJ L 331/40 of 15.12.2001, at Paragraph 103; refer also to Commission Communication — *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings* OJ C 45 of 24.2.2009, at Paragraph 79.

holder need not be *actually* operating in both upstream and downstream markets; and

- the refusal to grant access need only be “constructive” and its implications can be assessed by reference to the cumulative effect of the conditions imposed by the essential facility operator.

11 Imposition of obligations on SMP and non-SMP operators

Section 4 of the SMP Guidelines concerns the imposition, maintenance, amendment or withdrawal of obligations under the regulatory framework. It focuses respectively on obligations that are associated with a finding of SMP, as well as similar obligations that may, exceptionally, be imposed on undertakings which have not been designated as having SMP.

The SMP Guidelines highlight and clarify relevant aspects of the 2002 EU Framework for Electronic Communications, with a focus on the Access Directive.⁴⁸³ As such, the Guidelines go beyond the scope of explaining how the concept of ‘SMP’ should be applied, to detailing what are the implications for NRAs of an SMP finding.

It is a matter for debate whether the revised SMP Guidelines should contain guidance on this subject or should be restricted to matters relating to market definition and the finding of single or joint SMP. However, if this section is retained, it will need to be updated to reflect the changes concerning the imposition of obligations on SMP and non-SMP operators that are ultimately applied in the context of the European Electronic Communications Code.

If provisions of the draft Code are accepted, this may require significant changes to the Guidelines to take account of revisions to the process of considering which obligations would be appropriate to address the identified competition problems:

- **Removal of reference to retail SMP obligations:** Para 108 of the SMP Guidelines refers to the potential for SMP obligations to apply to both retail and wholesale markets. In the draft Code, it is proposed that the provisions concerning retail SMP obligations would be removed on the basis that wholesale SMP obligations would be the most appropriate and least burdensome solution to address competition problems identified at the retail level.
- **Greater role for symmetric obligations:** The original 2002 EU Framework for electronic communications envisaged ‘symmetric’ obligations only in limited circumstances which were unconnected with addressing economic competition

⁴⁸³ Directive 2002/19/EC.

problems. Specifically, under Article 12 of the Framework Directive, where undertakings were 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 could impose the sharing of facility or property.” SMP obligations applied by NRAs (as opposed to Member states), played the predominant role in addressing economic competition concerns.

- In the 2009 revision of the Framework, the potential for NRAs to mandate symmetric remedies (up to the first distribution point) to address economic bottlenecks was introduced,⁴⁸⁴ but was an optional power held by the NRAs and applied in only a few countries including France, Italy, Spain and Portugal.⁴⁸⁵ Under the draft Code,⁴⁸⁶ NRAs would be obliged to mandate access to in-building wiring (also reflected in the 2014 Cost Reduction Directive) or up to the first concentration point, where justified on the grounds that network replication would be economically inefficient or physical impracticable. A further extension of symmetric measures beyond the first distribution point is possible in areas with low population density, and NRAs would also be granted powers under certain circumstances to require sharing or joint roll-out of infrastructure necessary for the provision of services relying on spectrum.⁴⁸⁷
- **Priority of civil engineering over downstream SMP access obligations:** The original 2002 EU Framework for electronic communications provided significant flexibility for NRAs to choose from amongst SMP obligations, providing these obligations were “based on the nature of the problem identified, proportionate and justified in the light of the objectives”.⁴⁸⁸ The nature of the specific obligations was however constrained by the relatively specific definition of wholesale access markets that applied at the time – alongside the reference to unbundled access to the twisted metallic pair local loop.⁴⁸⁹ In the draft Code,⁴⁹⁰ NRAs would only be permitted to mandate access to and use of specific network facilities, if obligations for access to civil engineering (such as access to ducts and poles) coupled with any symmetric obligations introduced under article 59,

⁴⁸⁴ Article 12 Framework Directive as amended in 2009 provides that NRAs should have the power to impose obligations in relation to the sharing of wiring inside buildings or up to the first concentration or distribution point, where located outside the building, where this is justified on the grounds that duplication of such infrastructure would be economically inefficient or physically impracticable.

⁴⁸⁵ For example, for symmetric obligations relating to access to in-building wiring in France, see ARCEP, Decision No. 2010 – 1312 of 14 December 2010; Spain, see Telecom Act 2014, Art 45.4 (Symmetric sharing access obligation for every building); *c.f.* Portugal, see Law Decree 123/2009. The use of symmetric remedies in France and Spain is further elaborated in SMART 2015/0002.

⁴⁸⁶ Article 59, Draft European Electronic Communications Code.

⁴⁸⁷ The usual policy debate as to whether an antitrust intervention might be susceptible to the creation of a so-called “Type 2” error (namely, the chilling of competition because of the scope of the obligations that flow from the intervention) is less robust in an *ex ante* context, where the very existence of competition is premised on the availability of wholesale access obligations. From such competition flow the inevitable benefits of competition based on price and variety of services, but also the incentive to invest in order to develop more attractive service offerings

⁴⁸⁸ Article 8 Access Directive.

⁴⁸⁹ Article 9(4) Access Directive as of 2002.

⁴⁹⁰ Article 71 draft Code.

would not on their own lead to the achievement of the objectives for the Framework.

- **Forbearance from access regulation in certain circumstances:** As outlined in paragraph 114 of the SMP Guidelines, the 2002 EU Framework for electronic communications envisaged that if SMP (single or joint) was found in a relevant market, NRAs must impose at least one regulatory obligation on the undertaking(s) that has/have been designated as having SMP. The draft Code, however, envisages circumstances in which no or only a limited set of obligations could be applied on undertakings found to have SMP, depending on the nature of the retail problem that the obligations are intended to address. As regards the appropriateness of regulatory obligation, the specification in the Article 74 of the draft Code that NRAs shall not impose obligations as regards new network elements in a market for which an undertaking has been designated as having SMP if the deployment of the new network elements: contributes to increases in very high capacity; is open to co-investment offers; and if access is available to ‘anchor’ previous generation networks through commercial agreements or on regulated terms. Regulatory obligations could also be lighter in relation to “wholesale only” providers which are designed as holding a position of SMP.⁴⁹¹

⁴⁹¹ Article 77.

If these changes to the market review procedure and clarifications provided in the draft Code are confirmed, it could be helpful for revised SMP Guidelines to clarify the respective role of SMP regulation in relation to symmetric obligations and the need to focus any SMP obligations at the deepest level that would address identified retail problems.

Other proposed changes in the Code that may be helpful to highlight in revisions to the SMP Guidelines are the need to review relevant markets every 5 years and provide for a transitional period with adequate notice given for the removal of SMP obligations in case no SMP is found in a market that was previously regulated.⁴⁹²

The SMP Guidelines also list a number of other obligations in the 2002 Framework which allowed the imposition of certain specific regulatory obligations on non-SMP operators.⁴⁹³ Certain of these obligations are still present in article 59 of the Code. These include:

- The potential to require interconnection to the extent necessary to ensure end-to-end connectivity
- Obligations on undertakings that control access to end-users to make their services interoperable
- Obligations on operators to provide access to conditional access systems as well as APIs and EPGs to the extent necessary to ensure accessible for end-users to digital radio and television broadcasting services

The draft Code additionally provides that NRAs could in justified cases apply obligations on providers of number-independent interpersonal communication services to make their services interoperable, namely where access to emergency services or end-to-end connectivity between end-users is endangered. However, this would be subject to a specific procedure including an analysis conducted by BEREC and a Commission implementing measure, and therefore does not need to be addressed in a new draft of the SMP Guidelines.

The relevant section in the SMP Guidelines would need to be updated to take these provisions into account.

⁴⁹² Article 65 draft Code.

⁴⁹³ Section 4.3.SMP Guidelines.

Recommendations on SMP and non-SMP obligations:

- The section in the SMP Guidelines on SMP and non-SMP obligations will, if retained, need to be updated to reflect the provisions of the EU Electronic Communications Code on this point.
 - The draft Code proposed by the Commission would make it mandatory for NRAs to impose symmetric obligations (to the first distribution point) if certain conditions are met, and SMP duct access should be considered before permitting any other access obligations to be applied. The draft Code also envisages certain circumstances in which there could be a degree of forbearance on SMP regulation (e.g., in the presence of suitable co-investment offers).
 - References to non-SMP obligations which aim to foster interconnection and interoperability, and facilitate access to conditional access systems and EPGs remain relevant.
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12 Procedural issues

The last two Sections of the SMP Guidelines deal with procedural issues, namely (i) the powers of investigation of the NRAs and the cooperation procedures at the national and EU levels for the purpose of market analysis and (ii) the procedures for consultation and publication of the proposed NRA's decisions.

These Sections, if retained, need to be updated to reflect the evolution of hard and soft law, case law and Commission practice since 2002, in particular the adoption of the Procedural Recommendation in 2008,⁴⁹⁴ the revision of the Regulatory Framework and the replacement of the ERG by BEREC in 2009, and the adoption of several cases by the Court of Justice.

12.1 NRAs' Powers of investigation

Paragraphs 130 to 134 of the SMP Guidelines deal with the powers of investigation of NRAs when analysing markets. These powers are key to adopting evidence-based regulatory decisions. For this reason, they were strengthened in the 2009 Framework revision, in particular through amendments to Article 5 of the Framework Directive and Article 11 of the Authorisation Directive. The draft European Electronic Communications

⁴⁹⁴ Commission Recommendation of 15 October 2008 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ [2008] L 301/23.

Code proposes to strengthen them again.⁴⁹⁵ Therefore, the SMP Guidelines should be amended to reflect these more extensive investigation powers.

12.2 Co-operation procedures for market analysis

Paragraphs 135 to 137 of the SMP Guidelines deal with national cooperation between NRAs and NCAs. This cooperation is particularly useful as market analysis is based on competition law methodologies. As the main provisions of the Framework Directive which concern this cooperation, namely Articles 3(5) and 16(1), were not substantially amended in 2009, there is no need to revised the SMP Guidelines in that regard.

Paragraphs 138 to 143 of the SMP Guidelines deal with co-operation at EU level between NRAs and the Commission on the one hand and NRAs on the other. As this cooperation is essential to achieve the Digital Single Market, mechanisms have been strengthened in 2009 and are proposed to be strengthened again by the draft EECC⁴⁹⁶ and the proposed new BEREC Regulation. Therefore, the SMP Guidelines need to reflect those changes. In particular, paragraphs 138 and 142 should be amended to reflect the new roles and tasks of BEREC.

Paragraphs 144 and 145 of the SMP Guidelines concern NRAs obligations to run public consultations. Such consultations help to ensure the quality of regulation and support its legitimacy. They are provided by Article 6 of the Framework Directive. As this Article was not substantially amended in 2009, there is no need to amend the SMP Guidelines in that regard.

12.3 Mechanisms to consolidate the internal market

Paragraphs 146 to 154 of the SMP Guidelines provide mechanisms to safeguard the internal market for electronic communications when NRAs take decisions at a national level. In this regard, the SMP Guidelines should be revised to reflect important legal developments since its adoption in 2002 namely: (i) the adoption of the Procedural Recommendation by the Commission in 2008, (ii) the revision of the Framework Directive by the European Parliament and the Council in 2009 which established BEREC and extended the powers of the Commission to issue Recommendations regarding the selection of remedies in cases where serious doubts are raised; as well as (iii) the adoption of several preliminary rulings by the Court of Justice. Moreover, the draft EECC⁴⁹⁷ and the draft BEREC regulation propose to further strengthen these coordination mechanisms within the EU.

⁴⁹⁵ Articles 20 and 21 of the draft EECC.

⁴⁹⁶ In particular Articles 32-34 of the draft EECC.

⁴⁹⁷ In particular Articles 32-34 of the draft EECC.

Paragraph 146 should be revised to take into account the amendment of Article 7(3) of the Framework Directive and the establishment of BEREC. It may also be expanded on the basis of the notification requirements set up by the 2008 Procedural Recommendation.

Paragraph 147 on the types of measures which affect trade between the Member States could refer to the two recent cases where the Court of Justice clarifies this notion. In the *Prezes Urzędu Komunikacji Elektronicznej* Case,⁴⁹⁸ the Court follows, to interpret the notion, the same reasoning as in competition law and decides that: “*for a decision to be capable of affecting trade between Member States, it must be possible to foresee with a sufficient degree of probability, on the basis of a set of objective factors of law or of fact, that it may have an influence, direct or indirect, actual or potential, on the pattern of trade between Member States in such a way as to cause concern that it might hinder the attainment of a single market between Member States*”,⁴⁹⁹ that this influence “*is normally the result of a combination of several factors which, taken separately, are not necessarily decisive*”⁵⁰⁰ and that “*it is necessary to examine it in its economic and legal context*”.⁵⁰¹ In this Case, the Court of Justice concludes that a measure which seeks to ensure that end-users from other Member States have access to non-geographic numbers has, by its very nature, a cross-border effect within the EU.⁵⁰²

In the *Vodafone v. Germany* Case,⁵⁰³ the Court of Justice follows the same reasoning and concludes that the regulation of mobile termination rate affects trade between the Member States because: “*mobile call termination fees correspond to the prices that other undertakings, including undertakings of other Member States, must pay to the operator of the called mobile telephone network in order to connect the calls in that network and that those fees affect the prices which the users in other Member States must pay when they call clients of the operator concerned in a given Member State*”.⁵⁰⁴

Paragraphs 150-152 on the Commission power to veto market definition and SMP designation should be revised to take into account the amendments to Article 7 of the Framework Directive and the establishment and the role of BEREC in that regard. Those paragraphs could also refer to the *Vodafone v. Germany* Case⁵⁰⁵ where the Court of Justice clarifies that when an NRA has required a SMP operator to provide mobile call termination services and has made the fees charged for this subject to

498 Case C3-17 *Prezes Urzędu Komunikacji Elektronicznej v T-Mobile Polska SA*, ECLI:EU:C:2015:232 .

499 Para 51 of the Case.

500 Para 53 of the Case.

501 *Ibid.*

502 *Supra* at para 55.

503 Case C-395/14 *Vodafone v. Germany*, ECLI:EU:C:2016:9.

504 *Supra* at para 56.

505 Case C-395/14 *Vodafone v. Germany*, ECLI:EU:C:2016:9.

authorisation after a notification to the Commission, that NRA is required to notify to the Commission again before each authorisation of those fees to that operator.⁵⁰⁶

Finally, and most importantly, a new sub-section on the Commission and BEREC power to ensure consistent application of remedies should be included in the SMP Guidelines to reflect the new Article 7a and Article 19 of the Framework Directive. This new sub-section could clarify the roles of the NRAs, the Commission and BEREC as well as the interaction between them on the basis of the Framework Directive and the practice developed so far.

Recommendations on the procedural issues

- The Section of the *SMP Guidelines* relating to the powers of investigation of the NRAs needs, if retained, to be updated to reflect the strengthening of those powers by the 2009 revision of the Regulatory Framework.
 - The Section of the *SMP Guidelines* relating to the coordination mechanisms within the EU between the NRAs and the Commission and between the NRAs, if retained, needs to be amended to reflect the strengthening of those mechanisms by the 2009 reforms and the establishment of BEREC.
 - The Section of the *SMP Guidelines* relating to the Article 7 review regime, if retained, needs to be amended to reflect the revision of those mechanisms and the establishment of BEREC in 2009.
 - A new Section on the powers of the Commission and BEREC in ensuring the consistent application of remedies introduced in 2009, if retained, should be included in the *SMP Guidelines*.
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⁵⁰⁶ Supra at para 58.

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