

# Review of the SMP Guidelines

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## Executive summary

Competition in the European telecoms markets has strongly increased in the last decades. Today, the level of competition for wholesale and retail telecoms services – compared to what was observed by the designers of the 1998 and 2002 EU regulatory framework – is indisputably higher. There is continued innovation, driven by technological developments, as well as differentiation in both products and services, delivering good outcomes for consumers. However, had National Regulators applied the SMP Guidelines as envisaged in 2002, prescribing less regulatory intervention as markets evolve, market outcomes in Europe could be even better. Europe has lost ground on investment in high-speed broadband and is facing a huge investment gap to achieve its connectivity goals by 2025.

In this context, there is no rationale for increasing regulation but, instead, to simplify it and to focus on the essential. In 2017, the European Commission has started a consultation on the SMP Guidelines. Regulators and some other stakeholders have responded by advocating changes based on a negative view of the competitive effects of oligopolies and an apparent inefficiency/insufficiency of the current available tools in the telecom framework. If accepted into the revised guidelines, these views may have negative consequences, not only for any telecoms businesses with own infrastructure, but also for the long-term market outcomes and ultimately for consumers of all services that use telecoms as inputs.

Taking into account the evolution of the European telecoms markets as well as of the regulatory and legal developments, this report will provide an account of the competitive situation in telecoms markets with a forward looking view towards potential areas of revision of the current SMP Guidelines.

The high investments needed in telecoms markets unavoidably lead to concentrated market structures. Such a setting is favourable to investment and innovation, enabling markets to achieve dynamic efficiencies which ultimately increase consumer welfare. Given the oligopolistic nature of telecoms markets, we discuss the concept of dominance, in particular collective dominance, and describe in details how competition law developments detailed the tools to address any concerns in this area. We also conclude that current telecoms markets characteristics do not make them prone to situations of collective dominance. In particular, a high degree of innovation and differentiation is a signal of healthy competition between market operators and as a consequence it is very unlikely that they would have the ability and incentives to coordinate their actions. Besides dominance, we find no other area where market power regulation may play a role. Moreover, we show that other general market failures beyond market power are addressed by other instruments available in the regulatory tool kit, hence there is no gap that would make any further regulation legitimate.

Therefore, Copenhagen Economics advises for a targeted revision of the SMP Guidelines that would not undermine but support the long-term development of telecom markets. We note the insufficient prescriptiveness in the current Guidelines as regards geographical market definition and indirect constraints from retail to wholesale level. This may have the risk of a superficial assessment of cases that may lead to an unfortunate outcome of over-regulation. In addition we develop an in-depth framework to assess potential collective dominance, based on competition law principles, economic analysis and taking into account the specific characteristics of telecom markets. The main recommendations proposed in this report are three-fold.

Firstly, we address the insufficient prescriptiveness in the SMP Guidelines as regards **geographic market definition**. Telecom markets diverge from many other markets as consumers do not move to acquire a new telecom service (limited geographical demand-side substitution). A stable toolbox for handling geographic market definition has not emerged, which has led to counterintuitive regulatory outcomes and regulatory uncertainty. We provide precise recommendations for a more consistent assessment of the competitive constraints arising from the existence of multiple geographic infrastructures. In particular, we see the need for guidance directing the analysis to be based on a bottom-up approach. We recommend that additional, more hands-on guidance is provided within the SMP Guidelines, thus shaping the regulatory practice and regulatory case law.

Secondly, a look at the past experience of regulatory application of the SMP Guidelines leads us to remark considerable uncertainty over time on the appropriate treatment of **indirect constraints** on the product market. This is the competitive pressure in wholesale markets which arises out of competition between retail services based on alternative technological infrastructures. Even when the wholesale infrastructures (and the retail services they underpin) have distinct technological features, it is well known that for many consumers there is nonetheless a real choice between such retail services. According to the technology neutrality regulatory principle, technical differences by themselves cannot determine market boundaries. Thus, we recommend that the SMP Guidelines provide more in depth guidance to NRAs on the inclusion of indirect constraints on the product in the market definition and market power assessment stage.

Thirdly, as regards **collective dominance**, we provide detailed advice on how to apply the **Airtours criteria** established by competition law in a regulatory setting, in particular in a dynamic industry such as telecoms. The Airtours judgement provides a good test for tacit collusion in general, by setting clear principles that have already been tested in numerous competition cases. Based on the latest legal developments, as well as concrete case studies, we explain how each and every Airtours criterion can be adapted to a regulatory perspective by taking into account all dynamic efficiencies stemming from investment and innovation in telecom markets. Finding tacit collusion should not be a mechanical tick-boxing exercise. Every market has peculiarities that have to be taken into account and decisions are ultimately balancing exercises. In assessing competition cases dealing with tacit collusion, the European Commission provided valuable guidance and objectiveness. This report draws the main learnings from those established cases.

## Chapter 1

# Introduction

The Significant Market Power (SMP) Guidelines are one of the key instruments that guide the telecom National Regulatory Authorities (NRAs) in carrying out their duties related to market analysis under the Regulatory Framework. Before intervening, NRAs must be able to document that telecom operators hold SMP on a relevant market in which they operate. The Commission issued the current SMP Guidelines in 2002, soon after the adoption of the Framework Directive<sup>1</sup>. However, these rules can benefit from a focused update, given the significant developments in the telecoms markets in the last 15 years as well as the advances of the EU Court of Justice case law.

This report will argue that the revision of the Guidelines should have a rational view of competition taking into account the progress in the entire digital sector. The report provides evidence on telecom markets developments that will support a revision of the Guidelines that does not undermine the ongoing positive expansions and enhancements in telecoms networks and services.

Telecoms markets are already one of the most intrusively regulated private sector activities in European economies – disciplined by a sophisticated framework based on several layers of pre-emptive (ex ante) obligations. It is known that regulation of innovative markets like telecoms carries the risk of discouraging investments – in economic terms a loss of dynamic efficiency, at the cost of future consumers. In particular, mandated access regulation promotes intra-network competition (based on services and resale but not infra-structural assets) at the expense of lowering the incentives for inter-network competition. This was recognised by the European Commission when the overhaul of the telecommunications rules was launched in September 2016.<sup>2</sup>

Despite these regulatory-driven disincentives, a significant amount of innovation has anyway broken through to the market in the form of new technologies, new deployments and ultimately new products and services. With all these accomplishments, Europe has come a long way but its digital ecosystem still trails from other developed countries in North America and Asia (e.g. Japan, South Korea), mostly due to regulatory intensity.

Against this background, the European Commission has crafted a vision of a Gigabit Society in which all Europeans reap the benefits by simplifying the regulatory intervention

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<sup>1</sup> Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, C 156, 11.7.2002, p. 6

<sup>2</sup> See: (2016) Executive summary of the evaluation, accompanying the document Proposal for a Directive of the European Parliament and of the Council establishing the European Electronic Communications Code (Recast) *“Nevertheless, while its main specific objectives – promoting competition, developing the internal market and promoting the interests of end-users – remain relevant, a review is needed to address the growing need for increased connectivity of the digital single market and to streamline provisions taking into account market and technological developments.”*

See also: (2016) Executive Summary of the Impact Assessment, accompanying the document Proposals for a Directive of the European Parliament and of the Council establishing the European Electronic Communications Code (Recast) *“Nevertheless, access regulation has delivered competition more at service than at network level. Also, while investments in very-high-capacity networks have advanced, they have not taken place across all Member States at the pace envisaged in the public policy agendas and corresponding to expected future needs”*

and with the objective of achieving internal market coherence. This vision of a Gigabit society is accompanied by an ambitious target to improve Europe's broadband infrastructure.

While the overhaul of the telecommunications rules is the most important element to put Europe back on track in terms of investments in telecommunications' infrastructure, the revision of the SMP Guidelines also represents a key element of this reform.

This reform is crucial to bridge the existing investment gap to meet Europe's connectivity ambitions. The Boston Consulting Group estimated that reaching the required levels of coverage and speed outlined in the Gigabit Society vision would require investments of around €660 billion between 2015 and 2035, in fibre to the premises (FTTP) used as technical solution for fixed broadband and 5G.<sup>3</sup>

The SMP Guidelines remain a vital "interconnector" that ensures that regulatory cases are dealt in a consistent way, without undermining the long-term developments of the European telecoms markets, in particular operators' incentives to invest. At the same time, some improvements to give clearer guidance to regulators are possible. Based on established and state of the art principles of economics and competition law – as well as empirical evidence from across Europe – this report takes a closer look at the relevant areas for update of the SMP Guidelines. The report is structured as follows.

### **Developments in the telecom markets since 2002, when the latest Guidelines were put in place**

Despite substantial regulation in place, technological development has triggered a significant increase in competition in the European telecom markets. On the supply side, we witnessed an increase in investments (despite the gap identified), innovation, as well as in the product and service differentiation. On the demand side, consumers have become more sophisticated, triggering further innovation and differentiation.

On the regulatory area, we identify various analytical issues where the 2002-2017 experience of regulatory application of the SMP Guidelines across Member States demonstrates a degree of inconsistency and unpredictability which may follow from insufficient prescriptiveness in parts of the Guidelines, in particular: geographic market definition, indirect constraints and the issue of collective dominance.

### **The competitive dynamics in the European telecom markets**

The competitive dynamics of the European telecom markets is determined partly by their structural characteristics. The existence of high fixed costs means that only a relatively small number of operators can co-exist efficiently in the market. Nevertheless, this market structure may deliver a socially optimal level of welfare, as it may be favourable to sustain dynamic efficiencies that ultimately benefit society and consumers.

We argue that, given the current setting of the EU telecom markets, the need for regulation has decreased considerably. In any event, the existing tools in place cover all possible

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<sup>3</sup> See BCG (2016)

areas of market failures. Regulation as regards market power (SMP) could at most be refined in order to take into account of the latest developments in the area of competition law, in particular within joint dominance. We use two recent case examples from the competition law enforcement to illustrate concretely how to establish a situation of joint dominance (or tacit collusion). Beyond that, the existing regulatory instruments are well placed to cater for the residual market failures that may exist on the current telecom markets.

### **Recommendation for the SMP Guidelines revision**

From the outset, we advocate and argue for a convergence of principles between competition law and regulation of market power, as foreseen in the current Framework Directive.

Furthermore, we provide focused recommendations on how the evolution in infrastructure-based competition should be met by a more consistent assessment of the competitive constraints arising from alternative geographical infrastructures. With the benefit of hindsight, in 2017 we can now conclude that the degree of prescriptiveness in the SMP Guidelines on **geographic market definition** is insufficient.

Telecom markets diverge from many other markets as consumers do not move to acquire a new telecom service (limited geographical demand-side substitution). A stable toolbox for handling geographic market definition has not emerged, which has led to counterintuitive regulatory outcomes and regulatory uncertainty.

We provide focused recommendations for a more consistent assessment of the competitive constraints arising from the existence of multiple geographic infrastructures. In particular, we see the need for guidance directing the analysis to be based on a bottom-up approach. We recommend to provide additional, more hands-on guidance in the SMP Guidelines, so to be able to shape the regulatory practice and regulatory case law.

Furthermore, a retrospective look at the past experience of regulatory application of the SMP Guidelines leads us to remark considerable uncertainty over time on the appropriate treatment of **indirect constraints** on the product market. This is the competitive pressure in wholesale markets which arises out of competition between retail services based on alternative technological infrastructures. Even when the wholesale infrastructures (and the retail services they underpin) have distinct technological features, it is well known that for many consumers there is still a real choice between such retail services. According to the technology neutrality regulatory principle, technical differences cannot drive policy outcomes per se. Thus, we recommend that the SMP Guidelines provide more in depth guidance to NRAs on the inclusion of indirect constraints on the product in the market definition stage.

In sum, our recommendations regarding market definition can be grouped as follows:

#### Geographic market definition

1. More granular guidance on geographic market definition within the SMP Guidelines, so to pre-empt the ambiguity that the current case law and BEREC Common Position on geographical aspects of market analysis enable.

2. Geographic analysis should be designed as bottom-up, with the market delineation arising from local conditions of competition, avoiding top-down starting points such as a single national market by default or a national-minus market.

Indirect constraints (product market definition)

1. Clearer guidance on the analysis of indirect constraints within wholesale market definition, including on a quantitative and comprehensive assessment of the cumulative effect of multiple strands of indirect constraints from retail onto wholesale markets.
2. A stricter implementation of the principle of technology neutrality, specifically in the appraisal of indirect constraints from retail markets (underpinned by different technologies) onto wholesale markets.
3. The wholesale market definition should mandatorily descend from the analysis of the competitive situation (and any market failures) in corresponding (downstream) retail markets – especially where the wholesale markets are a creature of past regulatory remedies or notional markets.

Finally, as regards **collective dominance**, we provide detailed advice on how to apply the **Airtours criteria** established by competition law in a regulatory setting, in particular in a dynamic industry such as telecoms. The Airtours judgement provides an appropriate test for tacit collusion in general, by setting clear principles that have been tested in numerous competition cases. Based on the latest legal developments as well as concrete case studies, we explain how each and every Airtours criterion can be adapted to a regulatory perspective by taking into account all dynamic efficiencies stemming from investment and innovation in telecom markets.

## Chapter 2

# Transition from monopoly to competition in the European telecommunications markets

## 2.1 Introduction to the markets

Before presenting market and regulatory developments we offer a brief description of the types of markets that will be discussed in this report. For the sake of limiting to the most important points, this description is very simplified.

The telecoms market is the sum of the services markets for all electronic communications services<sup>4</sup>. There are different types of telecoms services: voice, data and video. A key element in the data services market is the Internet, a global network of interconnected networks run by Internet service providers (ISPs), transmitting data using the Internet protocol (IP). Multimedia content (e.g. television programmes and films) and information society services (e.g. e-commerce) are related but separate markets. The telecoms market is usually divided into distinct sub-markets for fixed telecoms services and mobile telecoms services. These two sub-markets differ in that subscribers to mobile networks can move around nationally and internationally and maintain service. Both markets offer voice and data services<sup>5</sup>.

**Fixed network** refers here to all wired networks that are used for voice and data communications, and not only to circuit-switched telephone networks. Today, fixed networks enable end users to make phone calls, to connect to the internet through a cable, for example via DSL, and also to received IP-TV or professional services such as VPNs. Another kind of fixed network access has been offered through the cable network, previously only used for cable television. It enables telephone service and broadband internet access through the existing cable television infrastructure just as DSL uses the existing telephone network. A newer development are fibre optic data cables consisting of a thin glass core that transmit laser light pulses. Fibre cables offer greater signal capacity (i.e. higher and faster bandwidth) over longer distances and lower transmission losses than copper while at the same time being smaller. Overall, the fixed network has developed into an integrated services network, offering Voice-over-IP technology as well as landline broadband Internet access. Furthermore television programmes can be distributed over the IP network. Fixed network operators (FNO) own and/or control the access to the copper, cable or fibre network that are used for voice and data communication.

**Mobile network** refers to a local-area wireless transmission technology which connects customers to the network, potentially on the move, using mobile devices such as mobile

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<sup>4</sup> For a comprehensive definition of electronic communication services, see Article 2 of the Framework Directive

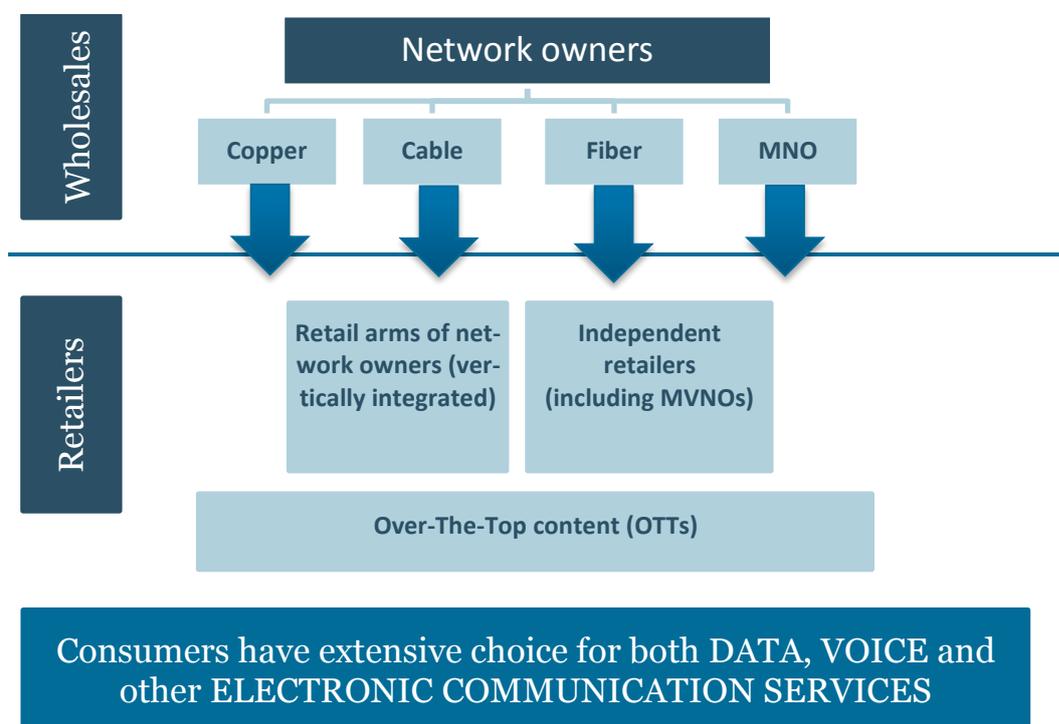
<sup>5</sup> European Commission (2017)

phones, smart phones or tablets. While originally used only for voice communication, mobile data usage has become increasingly important over the years with the development of standards such as GSM, UMTS and LTE, with a current view to 5G.

Mobile network operators (MNO) own and/or control access to a radio spectrum licence issued by regional or government entity. MNOs sell access to their network and the ability to initiate calls to mobile virtual network operators (MVNOs) and Service Providers<sup>6</sup>. While MVNOs own parts of the infrastructure of a mobile network, Service Providers do not own any network infrastructure. Both types of market players use the wholesale access granted by MNOs to sell mobile telecommunications services under their own brands and in their own name on the retail market, that is to say they become party to the contracts with the end-customers.

Figure 1 provides an overview of the relations between actors at different level is the telecom markets.

**Figure 1 Stylised overview of telecom markets**



Source: Copenhagen Economics

<sup>6</sup> European Commission merger decisions are a good reference for this description, see for example: Case M.7018 Telefonica Deutschland/E-plus (2014) at par. 75

## Evolution of EU telecoms markets

In the remainder of the chapter, we characterise the key market developments since the SMP Guidelines were put in place and we will pinpoint the main market characteristics of the EU telecom markets today that are determining the dynamics of competition.

Telecom markets have seen massive changes over the past two decades both on the supply as well as on the demand side. Liberalisation, a common EU regulatory framework, privatisation, investments in new assets and technological innovation have been amongst the drivers of an increase in competition, both at wholesale as well as at retail level – with consumers benefiting as a result in a way that no observer could have predicted two or three decades ago.

Telecoms markets are already arguably one of the most intrusively regulated private sector in European economies – disciplined by a sophisticated framework based on several layers of pre-emptive (ex ante) obligations. In particular, mandated access regulation promotes intra-network competition (based on services and resale but not infrastructural assets) at the expense of lowering the incentives for inter-network competition.

Previous work has identified conceptual and empirical reasons why regulation of this innovative market brings the important side effect of a likely reduction in dynamic efficiency. Intuitively, regulation reduces incentives to invest and compete via own infrastructure assets because it supports service provision business models based on advantageous mandated or regulatory-underpinned access options. The approach to regulating legacy and newer/prospective infrastructure assets must hold a delicate balance in order to avoid the long-term detriment (harm to future consumers) which is caused when mis-specified regulation leads to suboptimal investment. Two studies by Plum and CRA respectively<sup>7</sup> support the view that under the counterfactual scenario of less stringent regulation or deregulation there would have been more investment in independent infrastructures. This negative effect of regulation on investment will likely be even stronger for very high capacity (VHC) networks. In other words, the current regulatory framework, if not adapted to competitive developments, will severely hamper investments in VHC networks.

Thus, the risk associated with the current framework is that of losses of dynamic efficiency, the harm from which befalls future consumers in the guise of suboptimal infrastructure and quality of service. Despite these regulatory-driven incentives in place, a significant amount of innovation has broken through to the market in the form of new technologies, new deployments and ultimately new products and services.

In a nutshell, over the past 15 years, the value unlocked by new assets and technologies (driven by consumer preferences and valuation for new services) has been sufficiently high to induce investment and innovations by operators with own infrastructure – despite the adverse incentives due to regulation (dynamic inefficiency).

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<sup>7</sup> See, inter alia, Plum (2016) and CRA (2015)

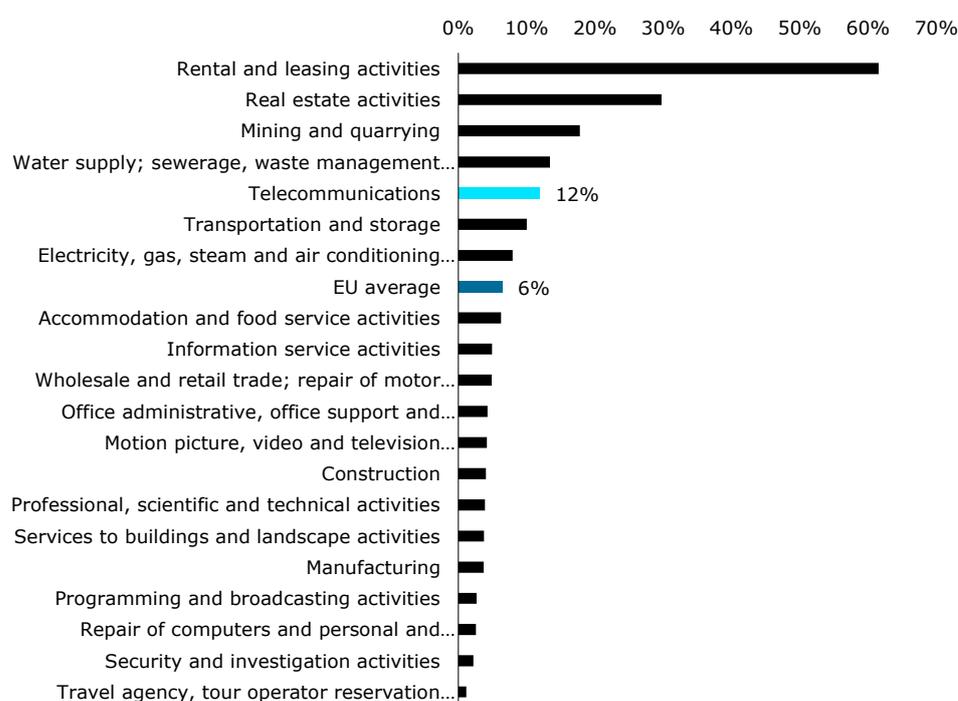
Against this background, we identified the following trends in the parameters used to measure the competitiveness of the current markets fostered in principal by technological developments. On the supply side we witnessed a significant increase in innovation as well as in the product and service differentiation. Investments have also increased, despite the regulatory burden. On the demand side, consumers became more sophisticated and triggered further innovation and differentiation. We take these indicators in turn and provide both Europe-wide and country specific evidence. The European Commission published a report on the impact of competition policy enforcement on the functioning of telecoms markets in the EU.<sup>8</sup> This report supports our findings through similar indicators as we will show below. In the following sections, we reappraise developments as to each of these key features:

- Investments in network assets and technologies
- Innovation in services and processes
- Differentiation in the services provided

## 2.2 Investments in network assets and technologies

With an investment intensity of twelve percent as opposed to an EU average of six percent, the telecommunication sector is an investment-intensive industry, see Figure 2.

**Figure 2 Telecommunications is an investment-intensive industry**



<sup>8</sup> European Commission (2017)

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Note: The figure shows the investment ratio, which is gross investment in tangible assets divided by total production value. The figure includes only a selection of sectors of relevant industries, and provide aggregated numbers for others, such as the manufacturing industry. The average is calculated on the basis of all industries. Data is from 2014.

Source: Eurostat's structural business statistics

The above figure reports the average performance for the entire telecommunications industry, including operators with different business models and positions in the value chain. When we consider operators with a traditional infrastructure business models, such as the ETNO member operators, we find a higher investment intensity, with a value above 16% in 2015<sup>9</sup>.

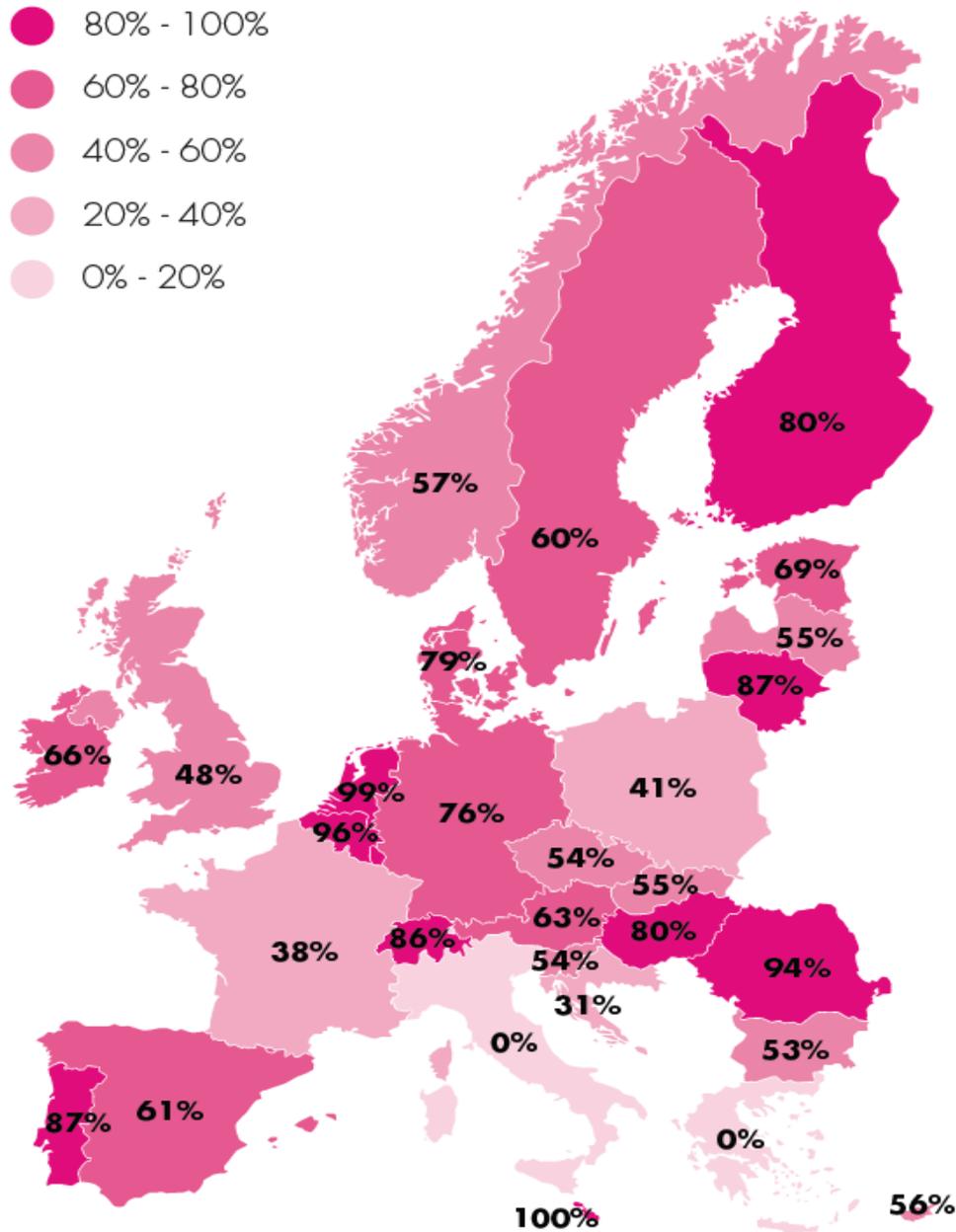
Investments into telecom markets have materialised in multiple forms. One significant area is the network infrastructure. New competing technologies entered the markets. Both cable and fibre penetration increased. Infrastructure competition is a reality in most European countries today.

Cable networks, providing Digital TV, Broadband Internet, and Telephony services, are widespread in most countries in the European Union, see Figure 3.

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<sup>9</sup> See ETNO (2016)

**Figure 3 Widespread cable penetration enables infrastructure competition**

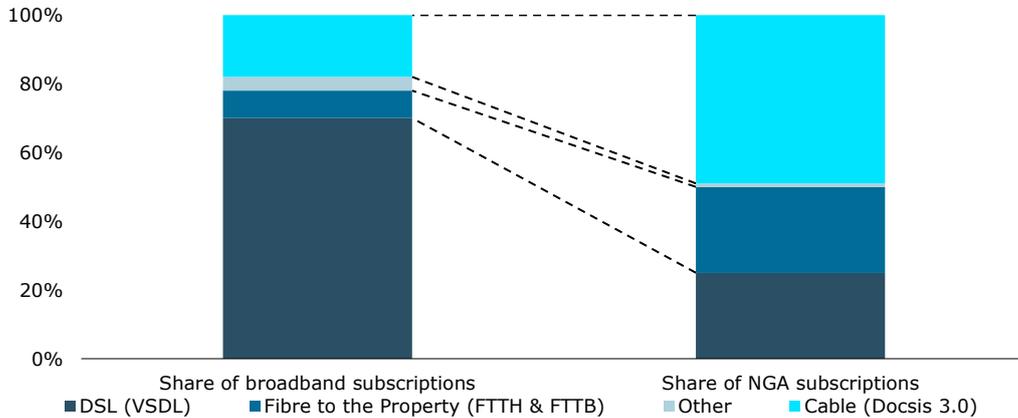


Note: Percentage of homes passed by cable networks. Data is from the year 2016.

Source: Arthur D. Little: 'Cable operators' contribution to the European Digital Landscape', prepared for Cable Europe

Cable networks are a key piece of infrastructure for broadband in general and are particularly important for high speed broadband, see Figure 4.

**Figure 4 Cable networks enable fast speed broadband**

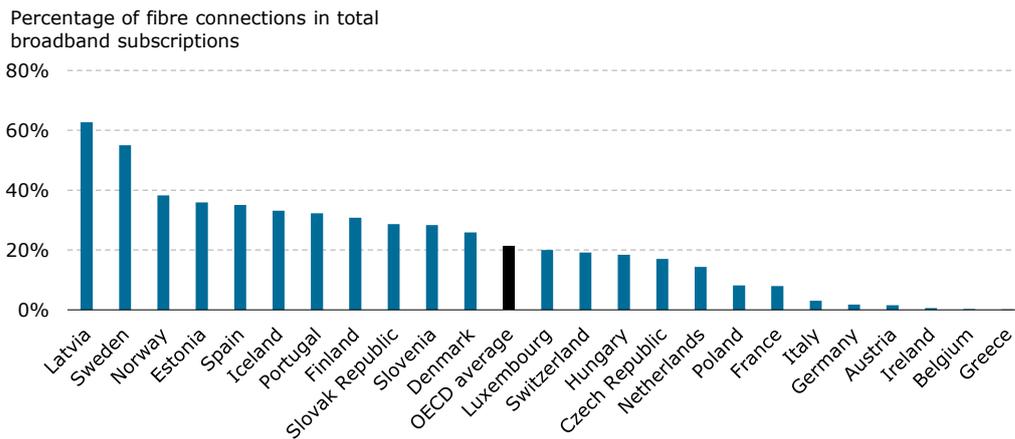


Note: Data is from the year 2016. NGA refers to Next Generation Access networks, which are networks that allow broadband access at superfast or ultrafast speed.

Source: Arthur D. Little: 'Cable operators' contribution to the European Digital Landscape', prepared for Cable Europe

Further investments took place also in the fibre technology. Fibre can also cater consumers' need for higher speed access. Besides, it accounts for a large share of the broadband market in some countries which seem to have a lower cable coverage, such as for instance Latvia, the Slovak Republic and Slovenia, see Figure 5.

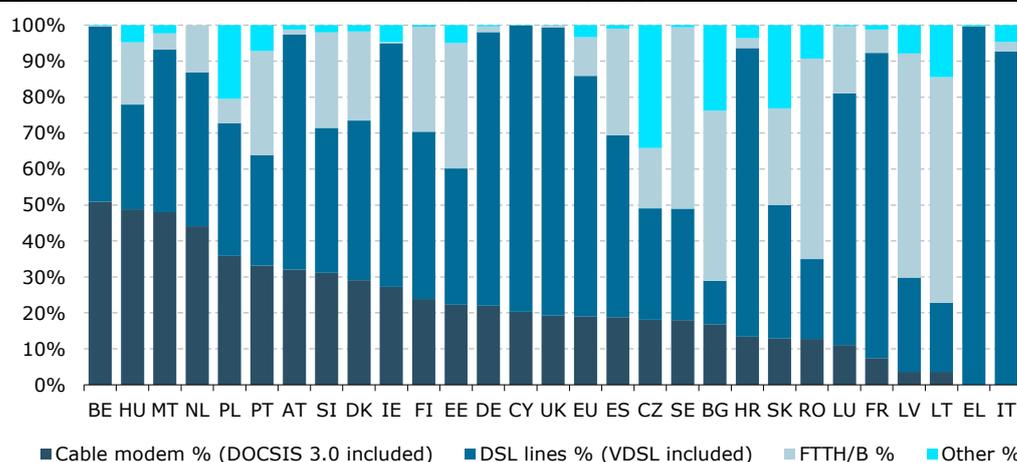
**Figure 5 Fibre penetration is material in many European countries**



Note: Data for December 2016 is the most recent period for which data is available. Only OECD member states are included.

Source: OECD Broadband Portal

In most EU countries, a significant proportion of the fixed broadband provided to consumers are from cable, see Figure 6.

**Figure 6 Fixed broadband subscriptions by type in selected case countries**

Note: Fixed broadband subscription by type in per cent in 2016

Source: EDPR country profiles - Telecom Annex. <https://ec.europa.eu/digital-single-market/en/news/edpr-country-profiles-telecom-annex>

The race between alternative infrastructures has not reached an end game. Investments are key for networks to improve the services that they deliver and the coverage and capacity provided.

Further investments are necessary before consumers can reap the benefits of both faster mobile services and also fixed broadband. For mobile, while many spectrum efficiencies have already been achieved (as pointed out by for instance HSBC analysts)<sup>10</sup> while further technology efficiencies are to come within reach thanks to the introduction of the 5G technology being imminent. As a result, mobile networks can increase their scope of services by increasing the capacity provided. To boost capacity, 5G can either rely on frequencies previously not allocated for mobile use – or entail heavy base station densification, since any additional site provides capacity. Both strategies (and especially the latter, which is expected to be key since some new frequencies would be of high range, thus less effective in terms of signal coverage and building penetration) entail that significant investments are expected.

Moreover, the continued roll-out of fibre networks to enable faster broadband to reach consumers implies that substantial investments are also needed in fixed networks – a view acknowledged also by regulators.<sup>11</sup> Besides, fibre networks are also expected to play a key role in the 5G infrastructure enabling backhaul between base stations, emphasises that investments in both fixed and mobile are key to continue progress across networks and services.

<sup>10</sup> HSBC (2017)

<sup>11</sup> BEREC (2015b)

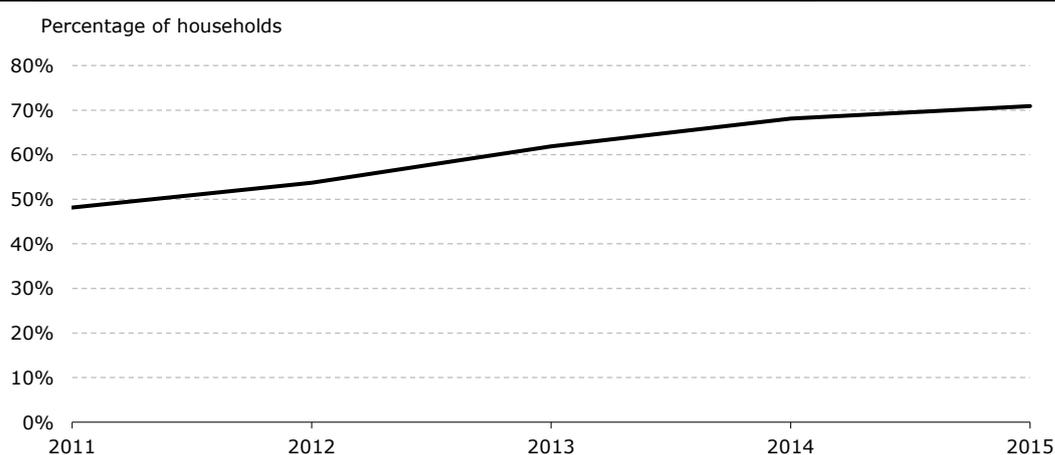
## 2.3 Innovation in services and processes

The telecom industry is a dynamic and fast changing industry, where quick adoption of the new services and solutions to the market needs are crucial. Being one of the most innovative spheres it requires considerable R&D attention and investments.<sup>12</sup>

Apart from enabling new technologies to enter the market through heavy investments, innovations triggered an unprecedented increase in the service quality that European consumers enjoy today.

High speed broadband is getting faster and more widespread as shown in Figure 7, which plots the increase in the NGA coverage in Europe in the recent years.

**Figure 7 Substantial increases in the NGA coverage**



Note: NGA refers to Next Generation Access networks, which are networks that allow broadband access at superfast or ultrafast speed. The coverage is calculated as the share of households that could be served relative to all households.

Source: Figure 4.6 in European Commission (2017), 'Economic impact of competition policy enforcement on the functioning of telecoms markets in the EU'

**Portugal Telecom**<sup>13</sup> competes in a market which shows significant increases in both cable and fibre networks, whether in terms of coverage or of market share served. Indeed, recently, the Portuguese regulator ANACOM – having observed large investments by multiple companies in both traditional fibre networks, and innovation to these – decided not to impose access regulation on fibre products, in doing so opting not to follow a Commission Art. 7 letter guidance to impose an obligation (see next section for more details).

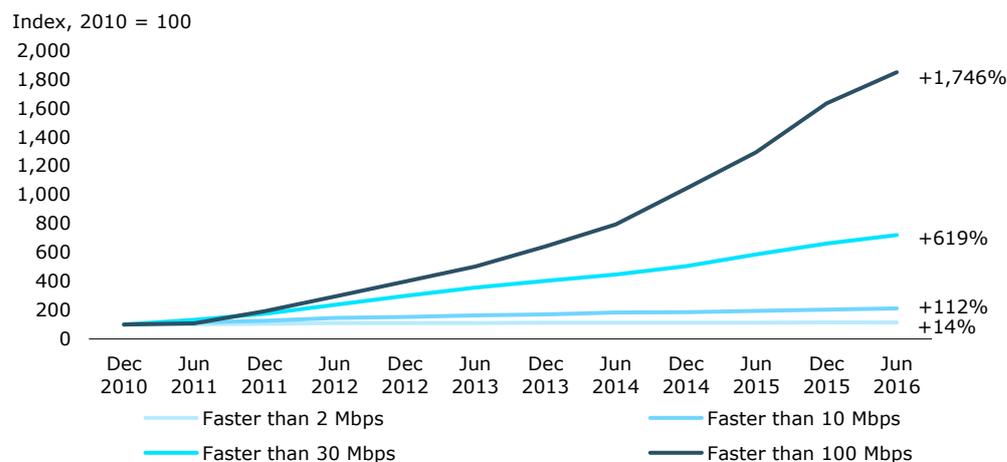
<sup>12</sup> This point is emphasized in among others, Deloitte (2017)

<sup>13</sup> See <https://www.anacom.pt/render.jsp?contentId=1401980>

**Proximus** has been proactively innovating at network and technology level, in many situations in close collaboration with technology vendors (e.g. Alcatel- Lucent).<sup>14</sup> Proximus was one of the first to launch VDSL technology, and the first in the world to launch upgraded features such as for example Vectoring. VDSL2 Vectoring was achieved in cooperation with Alcatel-Lucent, making Proximus the first operator worldwide to deploy a nationwide vectoring network. In 2015 the milestone of 10 million shipments was reached, spreading the technology to all parts of the world. VDSL2 Vectoring is a quick and economical way to deploy ultra-broadband services up to 100 mbps, complementing fibre roll-out.

The increase in the use of higher bandwidth services is illustrated in Figure 8 below. This clearly shows that the highest speed broadband is the one that grew the most in the last years.

**Figure 8 Increase in broadband speed**



Note: Data for June 2016 is the most recent period for which data is available. The figure shows indexed values of percentages of fixed broadband subscriptions of the various speeds.

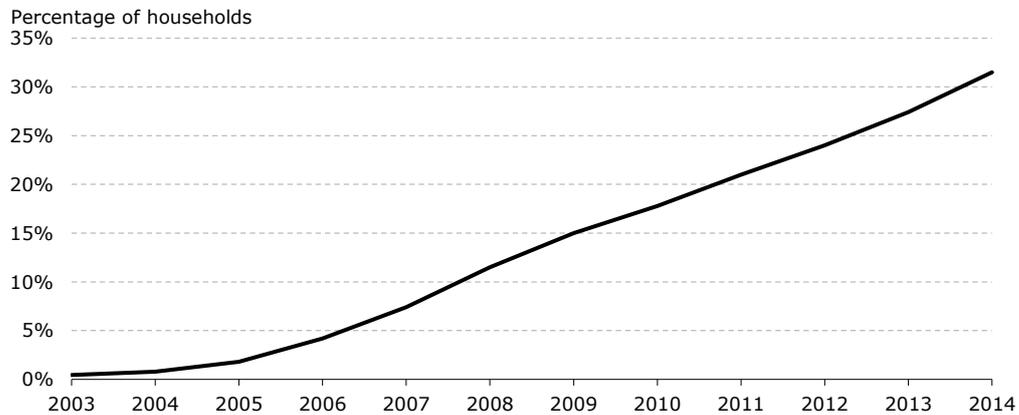
Source: European Commission's Digital Economy and Society Index (DESI) 2017

Continuous innovation enabled also technological convergence based on the Internet Protocol adoption in fixed and mobile infrastructure. This led to a more integrated offer of services: voice, data and content provided over fixed or mobile networks or a combination of those and consequently to more choice and variety for consumers<sup>15</sup>. As a consequence of this convergence, bundling and multi play offers including telephony (fixed and mobile) broadband access and television are becoming mainstream. The European Commission (2017) documents that VoIP and IPTV penetration increased, see Figure 9 and Figure 10.

<sup>14</sup> See for example <https://www.proximus.com/en/news/alcatel-lucent-and-proximus-celebrate-milestone-10-million-vdsl2-vectoring-line-shipments>.

<sup>15</sup> European Commission (2017)

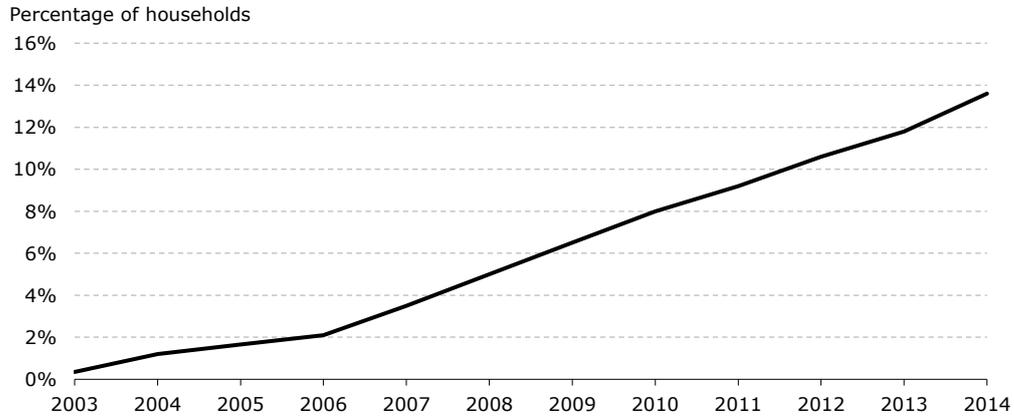
**Figure 9 Large increases in VoIP penetration**



Note: VoIP refers to voice delivered over Internet Protocol.

Source: Figure 4.12 in European Commission (2017), 'Economic impact of competition policy enforcement on the functioning of telecoms markets in the EU'

**Figure 10 Large increases in IPTV penetration**



Note: IPTV refers to TV services delivered using Internet Protocol.

Source: Figure 4.13 in European Commission (2017), 'Economic impact of competition policy enforcement on the functioning of telecoms markets in the EU'

Market operators have been working on technological convergence, combining fixed and mobile technology. A good example of that is the way several operators have tried to reach more people with broadband by combining these technologies.

**Deutsche Telekom** has been developing the hybrid router that is able to combine DSL lines with 4G (LTE) to provide hybrid access, boosting broadband speed considerably. Already today, hybrid routers leverage the best of Deutsche Telekom's fixed and mobile networks by providing speeds up to 100 Mbps. With combined coverage of LTE and DSL using a hybrid router DT expects to provide rural areas with download speeds of up to 550 Mbps.

**Telia**<sup>16</sup> had similar experience in Lithuania with the hybrid access broadband solution, where hybrid access broadband combines fixed DSL and mobile 4G internet and offers the benefits of both worlds. In doing so, it delivered to consumers internet speeds above 100 Mbps, greater connection stability, IPTV-enablement and unlimited data.

Most recently **Proximus** designed a hybrid DSL/ 4G mobile solution together with a start-up (Tessares) to increase broadband connectivity capabilities into the house by combining fixed and mobile networks.

Market operators have been also very active in setting up own innovation laboratories as well as collaborating with start-ups or R&D institutes in order to carry on research activities. Partnerships also expanded in other areas where the digital economy may make a difference.

**Deutsche Telekom**<sup>17</sup> has promoted an innovation laboratory with multiple core topics, such as: voice and video disruptions, data analytics, security, cloud disruptions, customer gateway, disruptive broadband, standardisation and licensing and network asset utilisation.

**Orange** is involved in innovative start up development all over its European footprint. Orange engagement with start-ups will be expanded with European Commission initiatives, through the Startup Europe Partnership and the European Digital Forum think-tank (launched in May 2014 – as founding partner). Orange has been involved in all the Research and Innovation Framework programmes and is also a key participant in the Future Internet PPP (Public Private Partnership) as well as a founding partner in the 5G PPP. Orange works in over 60 such partnerships with organisations such as Alcatel Lucent and Ericsson. Furthermore, it is also engaged in competitiveness clusters with more than 2000 SMEs in Technological Research Institutes to speed-up innovation as well as in the European Institute of Innovation & Technology's initiatives.

<sup>16</sup> See for example <https://www.telia.lt/pranesimai-spaudai/telia-s-innovations-the-hybrid-type-internet-and-cloud-computing>

<sup>17</sup> See <http://www.laboratories.telekom.com/public/english/pages/default.aspx>

**British Telecom**<sup>18</sup> embraces a collaborative strategy. It has developed a broad set of associations with research partners, establishing over 30 direct university research relationships.

**Proximus** has also been very active in the area of service innovation, with initiatives such as: ITSME – Belgian Mobile ID (Secure Payments), BeMobile (Smart Mobile, Traffic management), EnCo (Enabling Company, connect Telco, IoT, Cloud and Data), MyAnalytics (Big Data, people flows, tourism), Citie (Smart Retail), SmartCities (Parking, Permits, Monitoring), Davinsi Labs (Security).

**Telefónica** has created a global platform “Open Future” designed to connect entrepreneurs, start-ups, investors and public and private partners around the world to capture innovation and business opportunities. Its goal is to support talent at all stages of growth through a comprehensive model for acceleration that is designed to connect talent with organisations, investors and companies. The programme incorporates all of Telefónica Group's open innovation, entrepreneurship and investment initiatives through a global network that is open to participation by external partners that wish to develop their own entrepreneurial and investment strategies, and connect to large corporates. To date, more than 51,000 proposals have been analysed, over 1,700 start-ups have been accelerated and in more than 750 invested. Telefónica Open Future is present in 17 countries.

Telecom operators have been also demonstrating their innovation activity through the number of patents registered.

During the last decade, **British Telecom** was the third in the UK in terms of patent registrations, as well as the third largest investor in R&D in the UK.

**Orange** registers around 300 new patents every year.

In the context of network technology innovation, it is worth mentioning two important patents held by **Proximus**. Together with LEA-networks (a French company), Proximus developed the Stub Sniffer in 2009-2010 and holds the patent. The stub sniffer is a simple device able to detect cabling issues at the customer premises, providing quicker, better and more efficient customer service and network maintenance. Proximus also obtained a patent for developing an “Automatic Distribution Frame”. The ADF is an equipment which does automatic copper cross connect in the local exchanges where Proximus provides interconnection to its access-based competitors. Traditionally, every time a consumer switches copper-based provider, access connections are established or removed manually using a pair of copper wires (jumper). This adds to the cost of regulation. Following installation of ADF, there is no need to send technicians to do copper network works anymore, which reduces the cost of access and benefits Proximus's access buying competitors and ultimately all copper-based consumers.

<sup>18</sup> See more on BT's innovation site: <http://www.btplc.com/Innovation/>

Overall, the EU Industrial R&D Investment Scoreboard shows that telecom operators are amongst the top firms in Europe in terms of R&D expenditures. For example, in 2016 BT, Orange, Telecom Italia and Telefónica are each amongst the top 100.<sup>19</sup>

The operators catered to the customers' needs and it is a fundamental part of their business to be quick at adapting to technologies. Innovation made markets more competitive and diversified, as will be further elaborated below.

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<sup>19</sup> See <http://iri.jrc.ec.europa.eu/scoreboard16.html>

## 2.4 Differentiation

Telecommunication markets are not homogeneous. Differentiation takes place on many dimensions, both on the supply side as well as on the demand side.

As regards the supply side, the multiple levels of differentiation include technology, product, service, business levels among others. Both fixed and mobile networks are based on various **technologies** available currently in the market. Copper, cable and fibre technologies have different cost structures and different innovations patterns. At the **product** level, some key variables of differentiation are price, speed and coverage. Furthermore, telecom operators offer different customer **services** and have different marketing strategies. The development of bundled products and services has led to further differentiation. Not least it is worth mentioning the co-existence of different **business models** amongst the operators present in the same market. Some operators are vertically integrated while others operate only at retail or at wholesale level. Some players have a national or international coverage, while others are rather local or regional. Certain fixed network operators are integrated with mobile networks, offering both products. Public companies co-exist with private ones. More recently, players with core activities in other sectors (e.g. utilities) entered the telecom markets.

Demand side differentiation is equally relevant. Consumers are heterogeneous in their needs, tastes, preferences for brands, products and services (horizontal differentiation) and also in their willingness and ability to pay (vertical differentiation) for telecom products and services. This in turn triggers supply side differentiation and entry as operators strive to meet consumers demand.

Moreover, over the top (**OTT**) services have empowered consumers and reshaped how they demand telecom services, by providing additional choice in communication interfaces. For instance more than 80 per cent of all messaging traffic occurs through media such as WhatsApp, Viber and iMessage.<sup>20</sup> The European Parliament has published a study on the market dynamics and the policy challenges of brought about the OTT players<sup>21</sup>. The study explores current and emerging business models for OTT services (including Voice over IP, instant messaging services, and streaming video and music service). The following illustration is very relevant to show how internet and the many new forms of online services have enabled disruptive entry across many sectors, see Figure 11.

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<sup>20</sup> PwC (2017)

<sup>21</sup> European Parliament (2015)

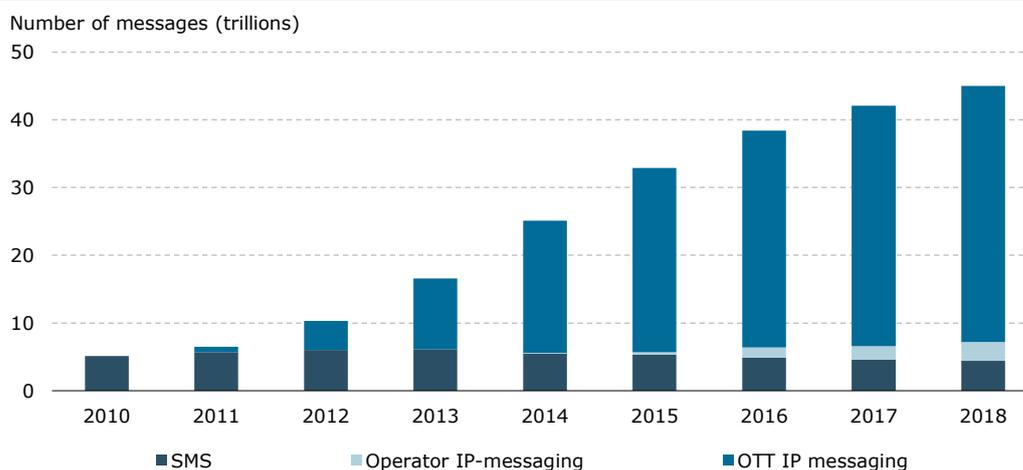
**Figure 11 Online services have enabled entry in many sectors**

Source: [ottsource.com/ott-blog](http://ottsource.com/ott-blog)

Source: Figure 1 in European Parliament (2015), 'Over-the-Top Players (OTTs)'

The implication for SMP Guidelines descend from the fact that OTTs have provided a strong set of tools for consumers to exercise even greater discipline on telecoms suppliers – for instance by choosing to use OTT messaging apps instead of paying telecoms operators for services like SMS or voice calls. In competition economics terms, this implies that telecom operators – thanks to advent of OTTs – face a stronger demand-side constraint, which provides a check against market power.

The Parliament's study clearly identify online services as substitutes to some degree for traditional media and telecom services. Figure 12 shows how the growth of online messaging applications has apparently impacted the volumes of SMS, with consequences for the pricing power and voice and messaging revenues for traditional telecom operators.

**Figure 12 Volume of messages from mobiles**

Note: The figure shows the number of messages worldwide.

Source: Figure 3 in European Parliament (2015), 'Over-the-Top Players (OTTs)'

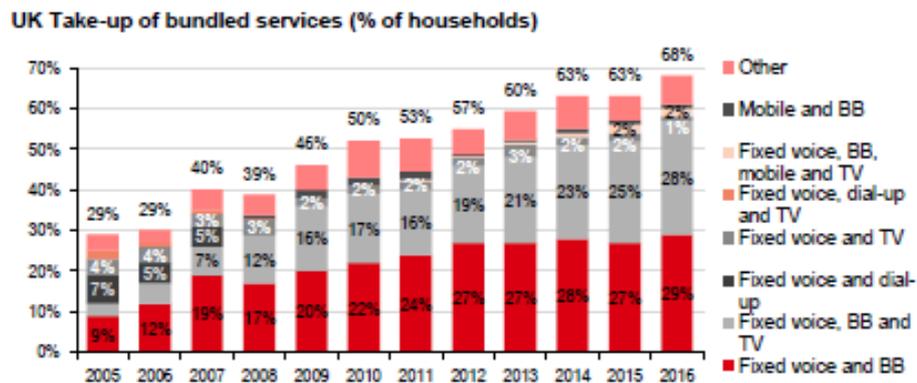
In 2017 IPSOS conducted a consumer survey commissioned by ETNO to address differentiation and variety of offers among other issues<sup>22</sup>. Based on data from 10 European countries, the survey showed that consumers feel there is a good level of choice, fair prices in telecoms and that changing provider is easy. In particular, the survey found that consumption patterns have significantly changed, with Europeans increasingly taking-up internet services and young generations re-shaping preferences. Key messages of this survey include:

- Communication services are crucial for citizens and will remain so in the years to come, and online messaging and calling will gain further importance;
- When choosing a mobile or fixed broadband provider, while prices are crucial to consumer choice, quality is equally, if not more important than price;
- 68% of consumers prefers bundles rather than individual contracts;
- The large majority of respondents considers there are sufficient broadband providers available (79% indicates they can choose between at least 2; 81% indicates there are enough or too many to choose from). The number of providers available is also by majority considered comparable or even more comfortable when compared to other sectors;
- Changing broadband provider is first driven by the offer, then by price or a specific problem: the majority indicates they already changed broadband supplier (61%); a better offer is a more important churn driver than price for all generations.

A complement to the assertion that the majority of customers prefer bundled services could be an example of the multitude of bundles available to consumers. In the UK for example, in 2016 more than two thirds of households subscribing to bundled services, see Figure 13. The figure is also demonstrating visually a clear message about the significant rise of bundled services in the last decade.

<sup>22</sup> See <https://etno.eu/news/etno/2017/906>

**Figure 13 Most consumers demand broadband through bundles**



Source: Ofcom, UK OMR 2016

Source: HSBC (2017), 'FT5G, What the telecoms sector needs is a new acronym'

In conclusion, both supply and demand sides of the market have developed in a competitive way. The competitiveness of the telecom markets today is clearly seen in all parameters of competition. Consumers of telecommunication services have currently more choice, greater variety and higher quality than two decades ago when telecom markets were opened to competition.

## Chapter 3

# Regulatory developments, looking back on the application of the 2002 SMP Guidelines

## 3.1 The road to the 2002 SMP Guidelines

### **The EU telecoms regulatory framework was enacted to enforce competition**

The start of liberalisation of the EU telecom services dates back to the 1980s. Through a step by step approach, the EU liberalised all segments of the telecoms market: terminal equipment, value-added services, satellite equipment and services, cable TV networks and mobile communications. This process culminated in 1998 with the liberalisation of voice telephony and infrastructures. This process was fundamentally powered by the competition provisions in the EU Treaties. According to Herbert Ungerer:

“A major innovation and a unique feature of the EU telecommunications liberalisation drive were the extensive use of Article 86 powers by DG COMP. Based on the positions set out in the 1987 Telecommunications Green Paper the Commission adopted in 1988 respectively 1990 two directives based on Article 86(3) with a view to implementing the major liberalisation goals of the Green Paper. [... subsequently the Court of Justice] had confirmed the Commission's power to adopt directives under Article 86(3) in order to clarify obligations of the Member States deriving from this article. It had also confirmed that the Commission could clarify the obligations of the Member States in a specific sector and that this power could go as far as requiring Member States to withdraw special and exclusive rights [... and] the Commission could also set out the conditions in order to make the abolition of special and exclusive rights effective”<sup>23</sup>

In other words, the rationale for the precursor to the current telecom regulatory framework was ensuring that no unlawful public protection or special rights would underpin the business of national incumbents by blocking liberalisation and entry, especially at the time when new technologies (mobile), services and business models were setting off.

### **The SMP Guidelines: a tool to ensure closer alignment between NRA practice and consistency with competition case law**

Some commentators consider that the 1998 framework had yielded too much heterogeneity in national policies and thus market outcomes – in other words, excessive subsidiarity and divergence between NRAs' approaches. The 2002 EU new Regulatory Framework strategy addressed these challenges by seeking:<sup>24</sup>

- A gradual shift to ex post intervention;
- An increase in harmonisation

<sup>23</sup> Ungerer, H. (2001) Use of EC Competition Rules in the Liberalisation of the European Union's Telecommunications Sector sp2001\_009\_en, [http://ec.europa.eu/competition/speeches/text/sp2001\\_009\\_en.pdf](http://ec.europa.eu/competition/speeches/text/sp2001_009_en.pdf)

<sup>24</sup> See Gual & Jodar-Rosell (2008)

- A reduction in the scope left to member states

Indeed, in the run up to 2002, EU institutions concluded that the 1998 regulatory framework should be improved. In the Commission's own words:

“under the 1998 regulatory framework, NRAs had the power to designate undertakings as having significant market power when they possessed 25 % market share, with the possibility to deviate from this threshold taking into account the undertaking's ability to influence the market, its turnover relative to the size of the market, its control of the means of access to end-users, its access to financial resources and its experience in providing products and services in the market.”<sup>25</sup>

In particular, the 2002 regulatory framework introduced the SMP Guidelines as a key “interconnector”, linking the market definition, market power assessment and SMP designation process in telecoms regulation to the established case law in the domain of competition. By doing so, two important effects were to:

- Withdraw the ability for NRAs to impose regulation only on the basis of the finding of a 25% market share;
- Enable SMP designation and relative obligations only where the relevant firm is in a position of dominance, as defined under EU competition law.

### **NRAs were mandated to impose SMP remedies only when lack of effective competition is caused by dominance**

It is worth remarking that the SMP Guidelines are underpinned by an explicit basis that regulatory intervention in telecoms should only be possible in markets on the basis that those markets are being subverted by dominance:

“On all of these markets, NRAs will intervene to impose obligations on undertakings only where the markets are considered not to be effectively competitive as a result of such undertakings being in a position equivalent to dominance within the meaning of Article 82 of the EC Treaty(8). The notion of dominance has been defined in the case-law of the Court of Justice as a position of economic strength affording an undertaking the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.”<sup>26</sup>

In other words, the 2002 SMP Guidelines are not specified so to constitute a tool for the promotion of a theoretical competition benchmark. For the Commission, lack of effective competition is the outcome corresponding to dominance. On this basis, the SMP Guidelines are focused on enabling regulatory intervention:

- Only in the markets in the EC Recommendation on relevant markets or defined by NRAs consistently with the three criteria test; and
- Only where these markets are not “effectively competitive”; and

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<sup>25</sup> SMP Directive, §3.

<sup>26</sup> SMP Guidelines, §5.

- Only where this lack of effective competition is the “result of such undertakings being in a position equivalent to dominance”

In conclusion, the rationale for the 1998 EU telecoms regulatory framework was to prevent and dispel unlawful public protection or special rights, enable liberalisation and entry; the purpose of the 2002 SMP Guidelines was to pre-empt ex ante significant losses in competition due to dominance.

Both these rationales reveal that the current SMP-based regulation in telecoms is not intended to be the pursuit of a theoretical competition benchmark or the countering of any type of effects of conducts deemed to affect market outcomes. Thus present-day SMP regulation in telecoms in the EU is not a general purpose tool.

Rather, the current regulatory framework – and the SMP Guidelines within it – is a specific and powerful instrument to intervene ex ante in situations that otherwise would have to be tackled via either Art 102 or Art 106 TFEU. Nothing more and nothing less. Using this tool, “NRAs must seek to achieve the policy objectives identified in Article 8(2), (3) and (4) of the framework Directive.”.<sup>27</sup>

### **Developments after the 2002 SMP Guidelines**

The EU’s regulatory framework for electronic communications was then updated in 2009 to take into account the developments in this area and transposed into national legislation in the Member States in 2011. This reform continued to hold the principles that NRAs should seek simple, flexible, technology-neutral regulatory decision and aim at deregulation in the longer term.

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## **Box 1 Telecommunications regulation –EU legislation**

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The current EU regulatory framework for electronic communication services is composed of a package of 5 Directives and 2 Regulations:

- The Framework Directive
- The Access Directive
- The Authorisation Directive
- The Universal Service Directive
- The Directive on Privacy and Electronic Communications
- The Regulation on the Body of European Regulators for Electronic Communications
- The Regulation on roaming on public mobile communications networks

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Source: European Commission, DG Connect

The current telecoms rules are under review, via the so-called "connectivity package" launched on September 2016. The Commission proposed a new European Electronic Communications Code including forward-looking and simplified rules that are supposed to make it more attractive for all companies to invest in new top-quality infrastructures, everywhere in the EU, both locally and across national borders.<sup>28</sup>

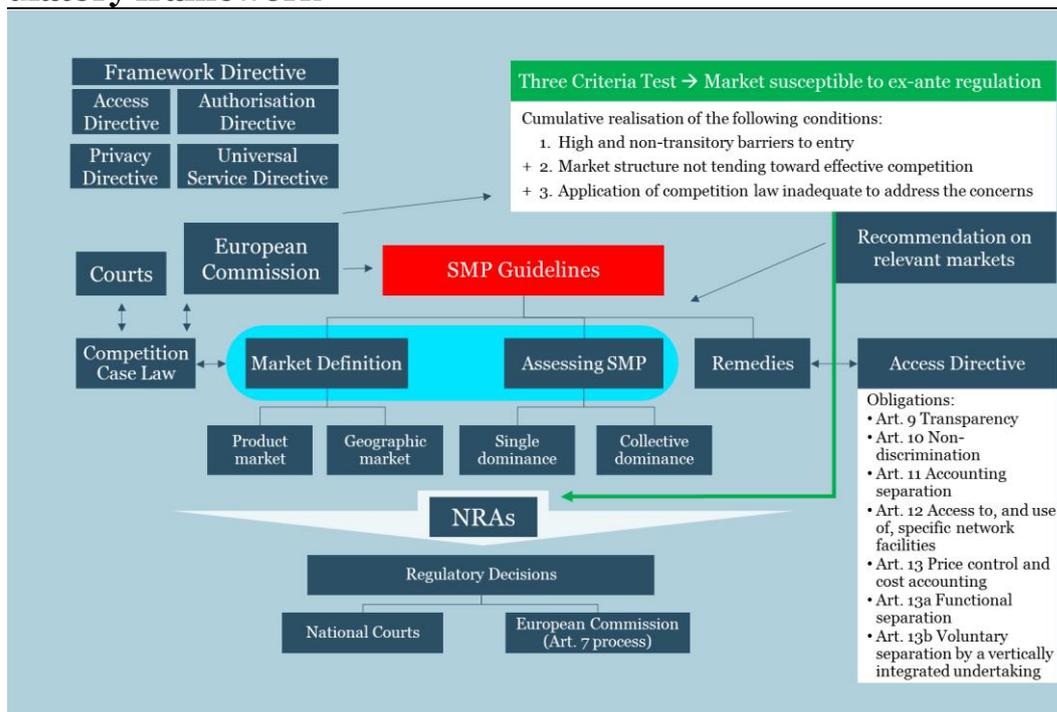
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<sup>27</sup> SMP Guidelines, §15.

<sup>28</sup> <https://ec.europa.eu/digital-single-market/en/telecoms-rules>

In this context, the Commission is considering a review of the SMP Guidelines. This exercise will deal with two relevant areas of revision, namely those related to single or joint SMP and to market definition.<sup>29</sup>

**Figure 14 The role of the SMP Guidelines in the EU telecoms regulatory framework**



Source: Copenhagen Economics

### 3.2 The workings of the SMP Guidelines

#### Relevant features of the competition and regulatory statutes

We have noted the strong linkage of the EU telecoms regulation to **competition law**. Article 15 of the Framework Directive requires that both market definition as well as the assessment of significant market power in regulation should be in accordance with the principles of competition law.

EU competition law provides a set of tools to promote sustainable competition and to preserve a market environment in which such competition can flourish. In practice, competition law bestows upon competition authorities and national courts powers to respond to anti-competitive behaviour (i.e. abuse of dominant position and anti-competitive agreements) once it has occurred. This represents a form of *ex post* intervention, except for mergers and acquisitions that are assessed *ex ante*.

<sup>29</sup> [https://ec.europa.eu/info/consultations/public-consultation-review-significant-market-power-smp-guidelines\\_en](https://ec.europa.eu/info/consultations/public-consultation-review-significant-market-power-smp-guidelines_en)

Possible remedies under the EU telecoms regulatory framework have been specified by the legislator in a way appropriate to the sector: these are the SMP obligations set out in the Access Directive. These are thus specific to the regulatory statute.

There is one way in which the regulatory concept of SMP is distinct from the antitrust concept of dominance – a specificity of the regulatory statute. The evolution of regulatory case has clarified that SMP should be assessed on a “modified greenfield” basis. This is the “what if” prognosis of market functioning in the situation where any SMP regulation currently in place in the focal market should be lifted. It is logical that an *ex ante* intervention (as is the imposition or renewal of regulation remedies) benefits from an assessment based on a counterfactual scenario: this allows to focus on the added value of regulation in the market being reviewed.

To do so, the NRAs have been already granted a margin of discretion (as is the case in any counterfactual analysis). This comes at a risk of open ended logics leading to tautological results. Thus *ex ante* intervention requires a much more cautious approach than *ex post* enforcement, due to the uncertainty connected with the prognosis of future market developments. A cautious regulatory approach based on modified greenfield and forward look on market developments can be fruitfully complemented by prescriptive Guidelines on the analytical tools for market definition. This is especially relevant for the establishment of collective dominance.

One area where the regulatory and competition statutes are aligned is joint dominance / SMP. The SMP Guidelines refer to collective (i.e. joint) dominance, thus the regulatory statute is constantly “interconnected” with the evolution of competition case law. The SMP Guidelines cover in a relatively extensive way collective dominance, via 21 paragraphs over three pages (out of 21 pages of main text). It is thus not a conceptual area that one may imagine to have been overlooked or underappreciated in 2002.

As we show in Chapter 4 there have been some developments in the application of joint dominance in competition cases, since. For example the cornerstone *Airtours* CJEU judgment was issued soon after the publication of the SMP Guidelines.

Intervention under joint dominance is a provision at the edges of the current statute, being characterised by a relatively high degree of intrusiveness, compared to other provisions. Art. 102 single dominance limitations imposed on conduct of firms apply to entities that are expected to appreciate their own situation as a dominant undertaking and thus the “special responsibility” that comes along with it. Firms who hold single dominance in one or more markets can seek advice and ensure compliance – avoiding conduct that is instead allowed for non-dominant firms.

As to collective dominance, it is arguably harder for firms to appreciate under which situations / which markets they are likely to fall within a collective dominant status. By logic, collective dominance cases generally apply in circumstances where single dominance is not expected. Thus, absent the collective dominant status, firms would hold themselves to

be non-dominant and conduct accordingly. Thus, as a form of intervention of policy-makers on the functioning of markets, policy intervention underpinned by joint dominance is particularly intrusive.

Finally, it is commonly known that the number of regulatory cases (SMP obligations imposed or even just proposed) based on joint dominance is limited. However, to test whether this is a suspicious pattern, the next logical step in the enquiry is to check whether – across all sectors – competition cases based on joint dominance are commonplace. In particular, since the SMP Guidelines concern dominance, the relevant comparison is Art. 102 cases. As it turns out, joint dominance Art 102 cases are few and far between. This dispels any notion that joint dominance is a telecoms-specific blind spot.

Besides, the industrial and market characteristics conducive to joint dominance, as captured in the Annex II of the framework Directive and SMP Guidelines §97 (see also Ivaldi et al., 2003) do not seem such that telecoms markets should a priori be a hotspot of joint dominance. We analyse this in greater detail in Chapter 3.

#### **Analytical issues remaining open in the application of the SMP Guidelines**

As part of this study, we have reviewed a series of regulatory cases across Europe, with a focus on the countries identified in this study. Our research question was to identify how the competitive interplay between different infrastructures has been appraised and whether the analytical tools necessary for NRAs to take decisions have bedded down into a consistent approach.

We find that, 15 years after the introduction of the SMP Guidelines, several analytical areas remain open for contention. In particular, we have identified the following as issues where approaches diverge fundamentally and conflicts arise that the 2002 SMP Guidelines has not been able to settle:

- The definition of relevant geographic markets
- The role of indirect constraints in market definition

We start by providing a set of cases that in our view are worth highlighting and we will proceed afterwards. The cases are drawn from a range of countries which includes Austria, Netherlands, Portugal, and United Kingdom.

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## **Box 2 Conflict on the implications of constraints of mobile on copper-based services (wholesale broadband access): AT**

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Regulator TKK has consistently found that, in the retail market, mobile broadband is a close substitute for fixed broadband for residential customers and both mobile and cable networks exert strong competitive pressure on the SMP operator (A1TA). TKK has thus adapted the set of remedies accordingly.

The European Commission issued its recommendations to amend the draft measure by the Austrian regulator TKK. Previously, the Commission had issued a "Serious doubts letter" to the draft measures for markets 4 and 5, proposing regulation for the wholesale fixed-broadband provider A1TA. The recommendation was founded on two main critiques of TKK's analysis.

First, the Commission found that mobile and cable operators at the retail level exerted a strong competitive pressure on A1TA. However, this pressure was mostly felt for residential customers, who, as opposed to non-residential/business customers, foremost demanded services served by both infrastructures. On that basis, the Commission saw the need for TKK to investigate whether a market delineation between residential and non-residential customers was necessary. If indeed this was the case, this should suggest to TKK that price control on the residential segment may be redundant.

Second, on the basis of above, the Commission considered that the approach by TKK to define geographic submarkets might be inappropriate, due to nationwide presence of mobile infrastructure.

In its 2009/2010 market analysis, TKK concluded that the retail residential market tends towards effective competition mainly due to the competitive pressure exercised by mobile operators. Consequently, only the non-residential wholesale broadband market was further assessed and regulated.

BEREC was involved in the conflict resolution process and concluded that the Austrian market is exceptional (due to the mobile and cable constraints on copper) and thus lighter touch price regulation is more appropriate, so to induce optimal investment

Indeed, also the Commission considered the Austrian market a "very specific situation", with infrastructure competition driven by mobile (rather than fixed) networks, which have a different cost structure than the fixed network of A1TA (or any potential NGA network).

The Commission stressed that the degree of inter-platform competition (in particular: the retail level mobile substitution) could change in the short- to medium term with NGA deployment enabling the provision of new and enhanced services. The Commission is concerned that mobile would not continue being a substitute in light of NGA roll-out.

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Sources: COMMISSION RECOMMENDATION of 22.11.2013 in Cases AT/2013/1475-1476: Wholesale broadband access and wholesale (physical) network infrastructure access markets in Austria, C(2013) 8132 final. See also (Market 4) case AT/2008/0835 (C(2008)8828) and AT/2010/1084 (C(2009)4208) and (Market 5) AT/2009/0970 (C(2009)8003) and AT/2010/1136 (C(2010)7515).

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### **Box 3 Conflict on indirect constraints in the wholesale local access market: NL**

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The European Commission expressed serious doubts on the Dutch regulator ACM's conclusions in its draft measure on the full analysis of the wholesale local access market provided at a fixed location in the Netherlands. The reason where that i) the relevant wholesale market comprised access to the copper network, where KPN was dominant, and ii) that KPN, together with UPC (cable owner), held joint dominance on the retail market.

Regarding market definition, the Commission had two main critiques. Firstly, cable may exercise a competitive constraint on copper due to demand-driven changes in the future market structure. Market definition for the purpose of regulation must be forward looking. Since there was potential demand for virtually unbundled access by cable networks, a forward-looking market definition should have accounted for this.

Secondly, self-supply for retail services implied that cable might exercise a competitive constraint, consequently widening the relevant market. Both copper and cable could be used as wholesale input for the provision of retail broadband services for consumers. UPC self-supplied its retail broadband by cable. Consequently, the reasoning by the Commission was that UPC's self-supply could effectively exercise an indirect competitive constraint on copper and KPN, through the retail level.

Regarding market power, firstly, and as a direct result of the above, ACM failed to explain why KPN was dominant on the wholesale market, when its downstream pricing was constrained by UPC/Ziggo that relied on another input.

Secondly, joint dominance on retail level was unlikely. Technical innovations were developed by third parties which neither KPN nor UPC had control of. It was therefore possible that one could surprise the other with introducing novel techniques. Further, the increasingly important competition in bundles led to high levels of product differentiation between the two, notably for access to content for their TV offerings. Consequently, requirements for joint dominance might not be met, as the possibilities to monitor deviations from a collusive equilibrium were undermined.

In light of this, ACM revised its analysis to account for the Commission's critique. The new decision applied a forward-looking market definition, considering the evolution of cable access. Further, it considered the potential for UPC's self-supply to exercise an indirect price pressure on copper through the retail level.

However, ACM maintained the same conclusion on relevant wholesale market and on that basis found KPN to hold SMP. Despite the Commission's critique, it found that overall the retail market was conducive to joint dominance, as a justification for the wholesale regulation. The decision was eventually cleared in appeal at the Trade and Industry Appeals Tribunal (CBb).

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Sources: C(2015) 3078 final, CASE NL/2015/1727; Autoriteit Consument & Markt, Marktanalyse ontbundelde toegang, ONTWERPBESLUIT VOOR NATIONALE CONSULTATIE, ACM/DTVP/2014/206057, 13.0625.36, 31 oktober 2014; Autoriteit Consument & Markt, Marktanalyse ontbundelde toegang, BESLUIT, ACM/DTVP/2015207525, 13.0625.36, 17 December 2015; College van Beroep voor het bedrijfsleven, zaaknummers: 16/70, 16/71, 16/72 en 16/80, 15334, 17 July 2017 (<http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:CBB:2017:218>), see in particular para. 3.2.2, 3.3.1, 3.3.2, and 3.4

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### **Box 4 Indirect constraints, geographic market definition underpin fibre remedies conflict (wholesale central & local access): PT**

The Commission issued an Art. 7 “serious doubts” letter, relative to ANACOM’s draft measure concerning the markets for wholesale local access provided at a fixed location, and wholesale central access provided at a fixed location for mass-market products, both in Portugal.

Notably, in its recommendation the Commission found that ANACOM had not accounted for the indirect competitive constraints of LTE accesses on the incumbent provider MEO, when defining the relevant retail market. Specifically, the Commission noted that in ANACOM’s draft measure LTE was not considered to be part of the relevant retail market and not taken into account as an indirect competitive constraint on MEO. Therefore, this limits the way in which the Commission can take this factor into account. The Commission advised ANACOM to impose regulation obligations on MEO’s fibre assets (wholesale local and central access markets, i.e. 3a and 3b).

ANACOM decided in December 2016 not to follow the Commission’s recommendation to amend or withdraw its draft measures. ANACOM found MEO to hold SMP (in parts of the country) and decided not to impose the provision of physical or virtual fibre unbundling (or access to bitstream over fibre), due to large investments by multiple companies and corresponding innovation in these markets.

In particular, ANACOM considered that relations of substitutability between services based on (fixed) LTE and those based on other broadband technologies should be assessed as data available allows more evident conclusions to be made on this matter. Consequently, ANACOM maintained its position not to include LTE-based fixed broadband accesses in the relevant market. However, ANACOM carefully considered several indicative pieces of information as to the competitive effects of LTE accesses on MEO. This included an in depth on LTE accesses and the technical limitations of LTE offers.

In conclusion, the availability of competing alternative infrastructures and the specific geographic footprint (by each administrative unit) played a fundamental role in the analysis and discussion on the merit of imposing or not a remedy on fibre infrastructure.

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Sources: ANACOM, Final decision of 29.11.2016 on cases PT/2016/1888 and PT/2016/1889, reasoned justification. Commission Decision concerning Case PT/2016/1888: Wholesale local access provided at a fixed location in Portugal Case PT/2016/1889: Wholesale central access provided at a fixed location for mass-market products in Portugal Opening of Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC, C(2015) 5095 final, COMMISSION RECOMMENDATION of 29.11.2016 in Cases PT/2016/1888 and PT/2016/1889: Wholesale local access provided at a fixed location and wholesale central access provided at a fixed location for mass-market products, both in Portugal, C(2016) 7674 final

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## **Box 5 Conflict on geographic market definition in the business connectivity (leased lines) market: UK**

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Ofcom issued a statement in 2016 setting out regulation in Market 4 (business connectivity), i.e. wholesale leased lines used by mobile operators, LLU broadband operators and business access providers. Ofcom concluded that the relevant geographic markets would be (i) a Central London area; (ii) a London Periphery, mainly to the West; (iii) Hull (relevant to KCOM but not BT) and (iv) Rest of the UK (RoUK), which includes several city business districts.

Across all areas, Ofcom applied the strongest set of remedies in the Rest of UK area. However, a disputed question was the extent to which the city business districts (Birmingham, Glasgow, Manchester, inter alia) presented sufficient competing infrastructure such that the competitive conditions would differ sufficiently from the rest of the UK to warrant a separate relevant geographic market. If so – as noted by several infrastructure-based leased lines suppliers – then these business districts would have likely constituted a no SMP area, warranting deregulation.

The 2016 decision relied on the analysis of the footprint of alternative infrastructure as the key indicator of geographic variations in competitive conditions. In doing so, Ofcom relied on a disparate set of tests measuring the presence of alternative infrastructure via different indicators, set at different (more or less stringent) parameters. The decision discussed at length the need for multiple tests and the linkage to the workings of the competitive process. One analytical test was designed to capture the presence of 6 or more operators with own infrastructure in an area (with some sub-clauses of the test). A further point of debate was how to specify the minimum distance between any network and potential customer premises – a distance besides which the infrastructure presence would not be counted in the test.

Notwithstanding evidence of variation in how the business districts were served by alternative infrastructure – compared to most areas in the rest of the UK – Ofcom interpreted the outcome of these tests to imply that the Rest of UK area was a single relevant geographic market. As a next analytical step, the entire area was deemed to hold SMP, with regulation applied throughout, including the business districts.

The Ofcom decision was appealed, with the full judiciary outcome still pending. However, in July 2017 the UK Competition Appeals Tribunal anticipated the outcome of its review and overturned the Ofcom decision inter alia by finding that “Ofcom erred in concluding that the RoUK comprises a single geographic market”.

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**Note:** The Competition Appeals Tribunal overturned Ofcom’s decision also on other aspects relating to market definition. While the appeal outcome has been published, the full reasoning of the decision is forthcoming.

**Source:** Ofcom (2016) Statement, Business Connectivity Market Review - Review of competition in the provision of leased lines, 28 April 2016; Case 1260/3/3/16 British Telecommunications v Office of Communications (BCMR) – Ruling (Market Definition) [2017] CAT 17 | 26 Jul 2017.

The above four cases cover countries with different characteristics and different histories in the evolution of telecoms services – both supply and demand. They concern retail and wholesale broadband (central & local access) as well as business connectivity (leased lines).

What these cases have in common is that in all these markets (as in many other European markets) alternative infrastructures (copper, cable, fibre, mobile) have been demonstrated to interplay significantly. Moreover, the cases show considerable regulatory uncertainty upon the application of the SMP Guidelines. In some cases, the NRA's initial decision was challenged by the European Commission or by Appeal courts. Over time, this forces the regulator to reconsider its analysis, although we do not see a clear trend towards closure or a homogeneity in the approaches and methods ultimately emerged across countries.

In other words, the regulators have not yet reached a clear, settled view on what constitutes best practice on the treatment of competitive constraints arising from the presence of alternative infrastructures. This increases dramatically regulatory uncertainty for all actors on both wholesale and retail markets – which in turn affects the business case for investments in infrastructure by either national or sub-national operators.

In our view, this uncertainty is linked to two analytical areas at the market definition stage where the SMP Guidelines are an insufficiently specified tool for regulators to apply:

- The definition of relevant geographic markets
- The role of indirect constraints in market definition

We analyse these in greater detail in the following section.

### 3.3 Application challenges in the SMP Guidelines

#### The definition of relevant geographic markets

Demand-side geographic substitution is a key competition case law factor but is not supposed to be the main driver in telecoms market definition, leaving a gap in the guidance available de facto for NRAs.

In general competition law and economics, for many types of products, the definition of the relevant geographic market can follow a SSNIP approach testing whether buyers respond to a 10% price increase by changing the location where they transact. For example in groceries markets, consumers can drive to another supermarket in the event of a price increase at their current supermarket: a SSNIP analysis measures this demand-side substitution following the price increase.<sup>30</sup>

However, as recognised in the BEREC 2014 Common Position on geographical aspects of market analysis, in fixed telecoms markets end users do not change their location (where they use telecoms services) in response to a 10% price increase. This applies also to wholesale buyers whose location of wholesale demand reflects the location of the end-users served.

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<sup>30</sup> Reliance on homogeneity of competitive conditions is only an appropriate approach to geographic market definition in this type of network industry. This does not imply that homogeneity of competitive condition is an appropriate basis for the definition of geographic markets in other industries (e.g. groceries) or for the definition of product markets. The hypothetical monopolist test described in Section 1.1 above remains the appropriate framework for market definition.

Indeed, NRAs are aware of this challenge. The BEREC 2014 Common Position on geographical aspects of market analysis states at §§15-16:

*“According to the SMP Guidelines, the starting point for the definition of the relevant geographical market is the hypothetical monopolist test. This might result in a large number of very narrow markets that are not conclusive for the purpose of market analysis (and imposition of remedies). For example, a price increase of 5-10 % for broadband access services very probably will not make a customer move home to a different part of the country or induce an operator to rollout its own infrastructure in a new area. To come to conclusive results, it might, therefore, be helpful to aggregate geographical areas into several geographical markets, with each market comprising all areas that have sufficiently homogeneous competition conditions, differing from those areas of the neighbouring market(s).”*

The SMP Guidelines provides a high-level indication of the overall aim that NRAs should achieve upon tackling the geographic market analysis, as stated at §56:

*“According to established case-law, 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.”*

In other words, telecoms NRAs are embracing a geographic market definition methodology underpinned by the concept of homogeneity of competitive conditions – yet this is only an appropriate approach to geographic market definition in this type of network industry. In general competition law and economics, the hypothetical monopolist test (i.e. SSNIP test) remains the key framework for geographic market definition.

The challenge is that considerable ambiguity remains in how NRAs can perform in practice the geographic analysis based on the concept of homogeneity of competitive conditions. The NRAs’ own issued BEREC Common Position states at §130, §131:

*“It is, therefore, likely to be appropriate to base the segmentation on a combination of several of the criteria mentioned above. A segmentation based on a single criterion (e.g. the number of operators) will usually not be appropriate. Which criteria are the most relevant will – as in an SMP analysis – depend on the circumstances and has to be decided by the NRA. The relevant criteria should be applied cumulatively and in such a way that differences in competitive conditions between different markets are large while differences in competitive conditions within a market are small. [...] for each of the criteria applied [to assess homogeneity or heterogeneity of competitive conditions], the NRA will have to define some threshold according to which a particular area is classified.”*

Yet, all that the above implies, in practice, is that NRAs have committed themselves to state clear, explicit thresholds when performing a geographic market analysis. This does not imply, for instance, that the same thresholds (or even the same mix of thresholds and criteria) will apply across different European countries. The exact same pattern and interplay between alternative infrastructures in Country A and Country B could lead to radically different regulatory outcomes in Country A vs Country B.

If a regulator were to set an unduly high threshold for counting infrastructure presence when measuring competitive conditions by geography, this would lead the regulator to conclude either that:

- there is no sufficient variation (“heterogeneity”) in the effects of alternative infrastructure to justify identifying a separate relevant geographic market; or
- there is sufficient variation to identify a separate relevant geographic market characterised by the effects of alternative infrastructure but the scope of the market identified is unduly small, compared to the infrastructure footprint

We conclude that the SMP Guidelines are underspecified in the matter of geographic market definition and much guidance is de facto delegated to the BEREC Common Position – however this does not ensure sufficient consistency in reflecting the interplay of alternative infrastructures.

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## **Box 6 Treatment of geographic variation in alternative infrastructure in the Broadband State Aid Guidelines**

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The Commission's 2013 Broadband state aid Guidelines offer a good indication of how to draw a clear linkage between the presence of alternative infrastructure and the case for public intervention. The Commission requests that broadband deployment activity supported by the state should be targeted only to those areas where there are market failures that impede private operators to invest.

State aid may be used to obtain a more desirable, equitable market outcome. However, if state aid for broadband were to be used in areas where market operators plan to invest or have already invested, this could significantly undermine the future incentives of commercial investors to invest in broadband in the first place. In those cases, state aid to broadband might become counterproductive to the objective pursued and thus lead to a loss of dynamic efficiency.

The broadband state aid Guidelines provide a direct definition that state aid in 'black areas' where two or more operators are already present is generally not considered necessary.

The two-or-more test is a simple rule that has enabled state aid decisions to progress avoiding undue policy intervention where there is already a sufficiently favourable market outcome so that no policy intervention is justified.

Given that the authorities for whom this Broadband state aid guidance include diverse (and at times small) public entities, e.g. regional development agencies, with a lower degree of specialisation in competition matters, clarity and simplicity of a rule comes at a premium.

That notwithstanding, the logic that a finding of two-or-more competing infrastructure is a strong signal that there are no market failures is a message with relevance also to the NRA decision as to whether current telecom markets (many of which present substantial areas where this criterion of two-or-more would be passed) warrant a separate relevant geographic market. This holds direct implications on the matter of whether SMP holds in those geographic markets and thus the regulatory burden imposed.

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Source: EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks, (2013/C 25/01)

### **The role of indirect constraints in market definition**

The above cases have a further key feature in common: they display very clearly that present-day regulatory analysis is only rarely incorporating in a substantive way into wholesale market definition the effects of retail competition.

At the heart of the debate between the stakeholders in these cases (NRAs, EC, courts, infrastructure-based and access-based operators) is the consideration that should be given to the evidence of interplay between alternative infrastructures. It is usually the case (as is the everyday consumer experience) that alternative infrastructures power services that are being consumed, such as broadband services based on copper, fibre, cable or mobile

networks. In many European countries and many areas within them, consumers can select multiple providers that rely on different infrastructures. This consumer choice is evident and easy to monitor and measure (as shown in the previous sections).

The question then becomes how to incorporate the effects of this retail consumer choice onto the wholesale market, i.e. how to turn it into a measurable extent of competitive pressure on a network (when considered at the wholesale basis). This is a particularly poignant matter for telecoms regulation, as highlighted in seminal academic contributions by Inderst and Valletti ten years ago.<sup>31</sup>

The essence of indirect constraints is as follows:

- when a wholesale supplier raises prices, this will...
- likely raise relevant retail services' prices, in turn, this...
- induces switching at the retail level to services based on other networks, which..
- is taken into account by the wholesale supplier (competitive constraint)

Thus the wholesale supplier faces a constraint, which is a source of discipline on pricing decision – in other words discourages a price increase.<sup>32</sup>

If an indirect constraint is strong enough to remove the profitability of a wholesale price increase, according to the established SSNIP/HMT approach, this implies a wider product market definition. In the end, the disciplining strength of an indirect constraint can be as strong as a direct constraint. Both are very relevant factors to assess what should be the appropriate relevant product market.

Thus – wherever alternative infrastructures are used to supply retail telecoms services, the evaluation of price constraints arising from retail markets is a fundamental step in the wholesale market definition.

By logic, any regulatory analysis of wholesale markets should only commence after a comprehensive analysis of the retail markets that are linked to that wholesale market. In other words, if a wholesale product is being sold as input to any retail products X, Y, Z, then competitive conditions in the retail markets comprising X, Y, Z (including any other products A, B, C) are important empirical elements for consideration – even before the product market definition at the wholesale level can be performed.

Moreover, wherever alternative infrastructure are used to supply telecom services, it is possible that the services themselves exhibit different features based on the specific technology / infrastructure underpinning them. For example, a fully (fibre to the premises, i.e. end-to-end) fibre-based broadband can be faster than a broadband service relying for some distance on a copper connection (e.g. copper local loop). According to the principle of technology neutrality, the technological specificity of any given infrastructure should not *per se* determine regulatory outcomes.

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<sup>31</sup> Inderst & Valletti (2007a; 2007b)

<sup>32</sup> More generally, in SSNIP analysis the focus is on the Hypothetical Monopolist thus conceptually this analysis applies at a level beyond a single operator but e.g. all suppliers with a same infrastructure type. The next analytical question then remains whether other infrastructures can put price pressure at the retail and thus wholesale level.

Instead, what should matter is the extent to which technology, by affecting the available product and cost characteristics, affects the pattern of substitutability between the telecoms products. In turn, that is an input to price constraints and thus the definition of the relevant product market.

Therefore, applying a consistent analysis of indirect constraints when performing wholesale market definition is a key step to ensure that the provision of technology neutrality (a cornerstone principle of the current EU framework) is maintained de facto. Indeed, according to the OECD, the EU legislators' choice to embrace technology neutrality while establishing the 2003 Framework has been a source of inspiration for jurisdictions worldwide seeking to enshrine technology neutrality precisely for the purpose of spurring inter-modal competition by alternative infrastructures (e.g. cable, mobile, fixed, satellite).<sup>33</sup>

We conclude that the SMP Guidelines are underspecified in the matter of indirect constraints, which is a major gap, given the demonstrated increase since 2002 in the competitive interplay between alternative infrastructures. As a result, this does not ensure sufficient consistency in capturing the evolved competitive pressure on wholesale markets.

### **Conclusion: a one-sided bias towards overregulation**

Our review of regulatory cases, including inter alia the example displayed in the boxes in this section, lead us to conclude that the SMP Guidelines can deliver further value added to regulatory decision making in the areas of **both geographic and product market definition** (in the latter via guidance on the treatment of indirect constraints).

Some margin of discretion for NRAs is always to be expected and is naturally appropriate given the expertise and understanding of national markets. It must be noted that on both the above analytical issues, the risk of regulatory failure is one-sided. In fact, the effect of:

- Defining a relevant geographic market in a way that is inappropriately too wide (e.g. identifying a single national market where instead in a minority of the country there is sufficient competitive pressure from alternative infrastructures) ...
  - ... leads to over-regulation in the area where alternative infrastructures are in place
- Defining a relevant product market in a way that inappropriately underplays indirect constraints (e.g. from cable, fibre, mobile) ...
  - ... leads to an unduly narrow wholesale product market definition and over-regulation therein

In our view, it is entirely reasonable and appropriate that – after 15 years – these two issues are looked into again, seeking to ensure maximum effectiveness of the SMP Guidelines.

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<sup>33</sup> See Lenain and Paltridge (2003)

First, both of the above analytical steps are made more significant by the now established patterns of significant interplay between alternative infrastructures – patterns that were perhaps unexpected when the 2002 Guidelines were conceived.

Thus the energy invested in the 2002 Guidelines on geographic market definition and indirect constraints may have been more limited – compared to the importance that these two analytical steps have gained over time, due to the changes in the dynamics of competition and market structure.

Second, while competition law and economics remains a fundamental basis that should guide regulatory practice, on the above two specific issues, telecoms markets present specific characteristics that limit the insight that can be ascribed to the body of competition case law.<sup>34</sup> As explained in the previous sections, for both geographic market definition and treatment of indirect constraints, NRAs are left in the unusual position of having a much wider margin of appreciation than on other analytical steps where the insights of competition law and economics are directly applicable. This calls for additional and more concrete guidance to inform the regulatory analysis.

Finally, we have identified a clear risk that the direction of bias is pointing towards an underappreciation of competitive constraints from alternative infrastructure – which in turn can only imply the imposition of undue regulation. For this reason, on each of the above two issues, it is unlikely that analytical errors could lean both ways and compensate each other somewhat.

Thus, we conclude that there is now a shortcoming (and room for sharpening) in the SMP Guidelines, relative to the above two analytical steps. It is therefore especially valuable that updated SMP Guidelines provide prescriptive elements to inform the regulatory analysis. We will set out related recommendations in the last chapter.

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<sup>34</sup> As is known, ex post enforcement remains applicable in any regulated industry, along the lines established in the Deutsche Telekom CJEU Case (C-280/08 P).

## Chapter 4

# The competitive process in the European telecommunications market

This chapter will start by demonstrating that the high investments needed in telecoms markets unavoidably lead to oligopolistic market structures. Such a setting is favourable to investment and innovation, enabling markets to achieve dynamic efficiencies which ultimately increase consumer welfare. Given the oligopolistic nature of the telecoms markets, we discuss the concept of dominance, in particular collective dominance, and describe in detail how competition law developments detailed the tools to address any concerns in this area. We also conclude that current telecoms markets characteristics do not make them prone to situations of collective dominance. Besides dominance, we find no other area where market power regulation may play a role. Moreover, other general market failures beyond market power are addressed by other instruments available in the regulatory kit, hence there is no gap that would make any further regulation legitimate.

### 4.1 Economic considerations of oligopolistic markets

In this section we will use theoretical and empirical economic arguments to claim that in industries with relatively high fixed costs the number of operators that can profitably provide goods and services is limited. Such a market structure can be optimal for achieving dynamic efficiencies which may not be possible otherwise. **Dynamic efficiencies** refer to firms' incentives to innovate and develop on a long-term horizon.<sup>35</sup>

In general, in oligopolistic markets, fixed costs determine to a large extent the efficient number of operators. The higher the costs to set up an infrastructure, the lower the number of firms that efficiently can serve the market. In other words, the efficient number of firms in an oligopoly is determined by its structural features. In particular, telecom infrastructures require large scale investments.

An important stream of economic theory set out by Schumpeter<sup>36</sup> has posited that perfect competition does not spur innovation and investment. Unlike in the textbook conceptual scenarios of perfect competition, in real markets successful firms have positive profits and their incentives to innovate are determined not only by the existence of competition but also by the possibility of appropriating the results of their investment by having positive profits. If competition is too strong, appropriability (i.e. the ability to realise profits) is reduced, and so is the incentive to invest and innovate.

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<sup>35</sup> See Motta (2004), specifically Chapter 2.4. Dynamic Efficiency

<sup>36</sup> See Schumpeter (1942)

Another influential paper, by Aghion et al. investigating the relationship between product market competition and innovation, finds strong empirical evidence of an inverted-U relationship.<sup>37</sup> In other words, when compared to near-monopoly market structures or near-perfect competition structures, oligopolistic structures are those that yield the strongest innovation performance.

Seminal work by Shapiro (2012)<sup>38</sup> influencing the current merger control policy in the EU and US, clearly identifies the trade-off between concentration (i.e. an increase in the number of operators) and competition when it comes to firms' incentives to innovate. Schumpeter claims that: "*The prospect of market power and large scale spurs innovation*". On the other hand, Arrow claims that: "*Product market competition spurs innovation*". Shapiro reconciles the two views and identifies the circumstances when investment in R&D is enhanced by mergers (i.e. by having fewer operators), i.e. by a more concentrated market structure. He demonstrates in a simple and intuitive way that synergies, contestability and appropriability are appropriate principles to guide merger control.

- **Synergies** rely on combining complementary assets, which enhances innovation capabilities and thus spurs innovation: firms cannot innovate in isolation, especially in systems-based industries as ICT.
- **Contestability** focuses on the extent to which a firm can gain profitable sales from its rivals by offering greater value to customers.
- **Appropriability** focuses, on the other hand, on the extent to which successful innovator can capture the social benefits resulting from its innovation. While synergies provide the ability to innovate, contestability and appropriability provide incentives to innovate.

Shapiro concludes that a concentrated industrial structure (e.g. post merger) may be non-problematic as long as it solves the appropriability problem or creates synergies sufficient to offset the basic anti-competitive effects identified using the contestability principle. These arguments help identify the rationale for why an oligopolistic market, exhibiting concentration, has beneficial efficiency features.

An academic paper authored by Prof. Tommaso Valletti (2003)<sup>39</sup> and making reference to the competitive interaction among mobile telecommunications operators has demonstrated that only a limited number of operators with possibly different coverage are likely to survive in equilibrium.

More recent empirical papers on the impact of market structure on competition in the telecom markets reinforce the finding that concentrated markets may deliver better outcomes. A paper by Hounbonon & Jeanjean (2016)<sup>40</sup> shows that the investment per sub-

<sup>37</sup> The authors develop a model where competition discourages laggard firms from innovating but encourages neck-and-neck firms to innovate. See Aghion et al. (2005)

<sup>38</sup> Shapiro (2012)

<sup>39</sup> Valletti (2003)

<sup>40</sup> Hounbonon and Jeanjean (2016)

scriber in mobile markets reached a maximum level for a ratio of EBIDTA margin on revenue in the range of 37-40%. Indeed this ratio is significantly above the current level of EBIDTA margin observed in European markets which is generally equal to or below 30%.<sup>41</sup> These two numbers indicate that the current profit margin of telecom operators may be too low to optimise investment.

In a subsequent paper, the same authors<sup>42</sup> prove that today in Europe, an increase in the number of mobile network operators per market would generate a small short-term increase but a much higher long-term decrease in investment per subscriber. Hence, the current average number of operators per market in Europe is therefore too high to optimise investment per subscriber in the long run. In other words, long term investments – and thus outcomes for future consumers – would be enhanced with a smaller number of network operators.

The references cited above support the claim that only a limited number of firms can profitably operate in telecom industries. Furthermore, this market structure is socially optimal as it provides appropriate incentives for firms to innovate and increase overall welfare in the long run.

In sum, given the particular circumstances of the telecom markets (i.e. high investments, innovation and differentiation), oligopolistic competition is socially optimal. Any likely concerns of potential market power are already addressed by the existing regulation in place in the EU telecoms markets, as will be seen further in this chapter. A potential collateral damage of attempting to increase short-term welfare through further regulation is the disruption in dynamic efficiencies that drive firms, industries and society ahead in the long run.

The following section will elaborate on the area of market power regulation in the EU telecoms markets by describing the tools that are in place and the legal developments that may confer additional power to the existing tools.

## **4.2 Regulating market power in the current EU telecom markets**

Significant market power has been interpreted by the current SMP Guidelines as dominance, in its dual form, i.e. single and collective dominance respectively. In the absence of dominance, economic theory does not offer an *ex ante* benchmark for ‘non-competitive’ markets, hence there exists no basis to extend the current understanding of SMP beyond dominance, as will be deeper examined in this part of the report. However, competition law and jurisprudence has evolved as regards the concept of collective dominance (i.e. tacit collusion) since the 2002 Guidelines were put in place and this development is worth discussing here and following with concrete recommendations for the new Guidelines.

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<sup>41</sup> As previously noted by Marc Lebourges, see Oxera (2017).

<sup>42</sup> Hougbonon and Jeanjean (2017)

## Collective dominance in competition law

Both the Framework Directive as well as the SMP Guidelines stress that market assessment should be done according to competition law principles. The current setting of competition law provides more elaborated tools to deal with joint dominance (or tacit collusion) than it was the case in 2002 when the current guidelines were written. The most robust criteria to assess potential collusive behaviour have been established by the European Courts in the context of the Airtours merger. They state three necessary conditions for tacit collusion to be **sustainable**. Firstly, coordinating firms must be able to monitor deviations from the collusive outcome. Secondly, a credible deterrence mechanism to establish retaliation in case of deviation must be in place. Thirdly, the possibility for outsiders (including both competitors and consumers) to destabilise any potential collusive outcome should be limited<sup>43</sup>.

Competition policy tackles tacit collusion mostly in the merger control area and the 2004 Horizontal Merger Guidelines (HMG) have elaborated and explained how Airtours criteria should be applied in practice. In what follows we will elaborate extensively on the interpretation of the Airtours criteria in the EC HMG and will provide two case examples to illustrate how these criteria can be applied concretely.

The first step in establishing the existence of a potential coordination is the clear **identification of the mechanism** through which firms might tacitly collude. The HMG recognize that coordination may take various forms. In some markets, the most likely coordination may involve keeping prices above the competitive level. In other markets, coordination may aim at limiting production or the amount of new capacity brought to the market. Firms may also coordinate by dividing the market, for instance by geographic area or other customer characteristics, or by allocating contracts in bidding markets<sup>44</sup>.

Furthermore, based on the Airtours judgement, the Merger Guidelines elaborate on the likelihood of coordination and on the conditions for coordination to be sustainable. Paragraph 41 states as follows: “*Coordination is more likely to emerge in markets where it is relatively simple to **reach a common understanding** on the terms of coordination. In addition, **three conditions are necessary for coordination to be sustainable**. First, the coordinating firms must be able to monitor to a sufficient degree whether the terms of coordination are being adhered to. Second, discipline requires that there is*

<sup>43</sup> T-342/99 *Airtours v Commission*, ECLI:EU:T:2002:146, para 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 [...] it is only if all the members of the dominant oligopoly maintain the parallel conduct that all can benefit. The notion of retaliation in respect of conduct deviating from the common policy is thus inherent in this condition. In this instance, the parties concur that, 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**, “to prove the existence of a collective dominant position to the requisite legal standard, the Commission 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.”

<sup>44</sup> See paragraph 40, EC Horizontal Merger Guidelines (HMG), 2004/C 31/03.

*some form of credible deterrent mechanism that can be activated if deviation is detected. Third, the reactions of outsiders, such as current and future competitors not participating in the coordination, as well as customers, should not be able to jeopardise the results expected from the coordination”.*

As regards the condition on **reaching the terms of coordination**, the Guidelines indicate that<sup>45</sup>: *“Generally, the less complex and the more stable the economic environment, the easier it is for the firms to reach a common understanding on the terms of coordination. For instance, it is easier to coordinate among a few players than among many. It is also easier to coordinate on a price for a single, homogeneous product, than on hundreds of prices in a market with many differentiated products. Similarly, it is easier to coordinate on a price when demand and supply conditions are relatively stable than when they are continuously changing. In this context volatile demand, substantial internal growth by some firms in the market or frequent entry by new firms may indicate that the current situation is not sufficiently stable to make coordination likely. In markets where innovation is important, coordination may be more difficult since innovations, particularly significant ones, may allow one firm to gain a major advantage over its rivals.”*

Furthermore, *“firms may find it easier to reach a common understanding on the terms of coordination if they are relatively symmetric, especially in terms of structures, market shares, capacity levels and levels of vertical integration. Structural links such as cross-shareholding or participation in joint ventures may also help in aligning incentives among the coordinating firms.”*<sup>46</sup>

The HMG provide the following interpretations of the three Airtours criteria:

1. As regards **monitoring deviations**, (i.e. the first condition for sustainability of collusion), the Guidelines state that<sup>47</sup>: *“Coordinating firms are often tempted to increase their share of the market by deviating from the terms of coordination, for instance by lowering prices, offering secret discounts, increasing product quality or capacity or trying to win new customers. Only the credible threat of timely and sufficient retaliation keeps firms from deviating. Markets therefore need to be sufficiently transparent to allow the coordinating firms to monitor to a sufficient degree whether other firms are deviating, and thus know when to retaliate.*

*Transparency in the market is often higher, the lower the number of active participants in the market. Further, the degree of transparency often depends on how market transactions take place in a particular market. For example, transparency 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*

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<sup>45</sup> Par. 45 of the HMG

<sup>46</sup> Par. 49 of the HMG

<sup>47</sup> Par 49, 50 of the HMG

*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.”*

2. Secondly, as regards the conditions on the **deterrence mechanism**, HMG indicate that<sup>48</sup>: “Coordination is not sustainable unless the consequences of deviation are sufficiently severe to convince coordinating firms that it is in their best interest to adhere to the terms of coordination. It is thus the threat of future retaliation that keeps the coordination sustainable. However the threat is only credible if, where deviation by one of the firms is detected, there is sufficient certainty that some deterrent mechanism will be activated.

*Retaliation that manifests itself after some significant time lag, or is not certain to be activated, is less likely to be sufficient to offset the benefits from deviating. For example, if a market is characterised by infrequent, large-volume orders, it may be difficult to establish a sufficiently severe deterrent mechanism, since the gain from deviating at the right time may be large, certain and immediate, whereas the losses from being punished may be small and uncertain and only materialise after some time. The speed with which deterrent mechanisms can be implemented is related to the issue of transparency. If firms are only able to observe their competitors' actions after a substantial delay, then retaliation will be similarly delayed and this may influence whether it is sufficient to deter deviation.*

*The credibility of the deterrence mechanism depends on whether the other coordinating firms have an incentive to retaliate. Some deterrent mechanisms, such as punishing the deviator by temporarily engaging in a price war or increasing output significantly, may entail a short-term economic loss for the firms carrying out the retaliation. This does not necessarily remove the incentive to retaliate since the short-term loss may be smaller than the long-term benefit of retaliating resulting from the return to the regime of coordination.”*

3. Finally, concerning the **reactions of outsiders**, the Guidelines establish that<sup>49</sup> “for coordination to be successful, the actions of non-coordinating firms and potential competitors, as well as customers, should not be able to jeopardise the outcome expected from coordination. For example, if coordination aims at reducing overall capacity in the market, this will only hurt consumers if non-coordinating firms are unable or have no incentive to respond to this decrease by increasing

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<sup>48</sup> See par. 52-54 of the HMG

<sup>49</sup> Par. 56 of the HMG

their own capacity sufficiently to prevent a net decrease in capacity, or at least to render the coordinated capacity decrease unprofitable.”

As described so far, in assessing the likelihood of coordinated effects in mergers, competition law takes into account all available relevant information on the characteristics of the markets concerned, including both structural features and the past behaviour of firms. Evidence of past coordination is important if the relevant market characteristics have not changed appreciably or are not likely to do so in the near future.

For the forward-looking assessment of dominance in ex ante regulation, NRAs have to rely predominantly on structural characteristics, since future behaviour by market participants is highly uncertain.

### **Collective dominance is unlikely in the current European telecoms markets**

Along the same lines, the economic literature has developed a list of factors that may facilitate collusion by contributing to both reaching and sustaining it, see Box 2<sup>50</sup>. This list, reproduced to a large extent in the HMG, is only indicative and may be used for screening cases. However it is neither exhaustive nor compulsory. The absence of some of these factors may indicate a lower likelihood of collusion.

### **Box 7 Relevant factors for collusion**

<b>Structural factors</b>	<p><b><u>Supply factors</u></b></p> <ul style="list-style-type: none"> <li>• Market structure</li> <li>• Product homogeneity</li> <li>• Symmetries</li> <li>• Degree of innovation</li> <li>• Entry barriers</li> <li>• Excess capacity</li> </ul> <p><b><u>Demand factors</u></b></p> <ul style="list-style-type: none"> <li>• Customer characteristics</li> <li>• Demand evolution</li> <li>• Switching costs and buyer power</li> </ul>
<b>Behavioural factors</b>	<ul style="list-style-type: none"> <li>• Transparency               <ul style="list-style-type: none"> <li>• reaching a common understanding</li> <li>• monitoring</li> <li>• detecting possible deviations</li> </ul> </li> <li>• Communication and exchange of information also may enhance transparency</li> </ul>

Source: Copenhagen Economics, based on Ivaldi et al. (2003)

As regards the supply side, tacit collusion is more likely when markets are more concentrated, products are homogeneous, firms are relatively symmetric in various dimensions, markets are mature without much innovation, entry barriers are low and there is excess capacity among others. On the demand side, a high degree of customer awareness as well

<sup>50</sup> Fabra and Motta (2016), Rey (2002), Ivaldi et al. (2003). These factors can also be recognized in the current SMP Guidelines (par. 97)

as low switching costs make collusion less likely and less stable. Furthermore, any characteristics that make markets more transparent in general facilitate collusion.

Along the same lines, Patrick Rey (2002)<sup>51</sup> provides an interesting classification of the market-specific characteristics that may contribute to the sustainability of tacit collusion. In the first category of factors, he lists the ‘necessary ingredients’ that have a decisive impact on the firms’ ability to sustain collusion: entry barriers, frequency of interactions and innovation. Secondly, he includes in the category ‘important factors’, the followings: number of participants, symmetries, the existence of maverick firms, structural links and cooperative agreements. Finally, he lists a third category, other relevant factors, including: market transparency, product differentiation, the characteristics of demand, multi-market contacts and the existence of particular markets such as bidding ones.

Given the EU telecom markets characteristics described in Chapter 2, many of the factors listed above are not present in telecom markets today. We will briefly describe some of them below, in very general terms, without aiming by any means to initiate a specific regulatory assessment.

First, telecom markets are highly **innovative**. Rey (2002) claims that collusion is easier to sustain in mature markets where innovation plays little role than in innovation-driven markets. As shown in Chapter 2, telecom markets today exhibit a high level of innovation at all levels of the supply chain. The last decade has represented a revolution in this industry with unprecedented changes in terms of new products and services provided by different technologies.

Second, Rey (2002) also states that collusion cannot be sustained in the absence of **entry barriers** and it is more difficult to sustain, the lower the entry barriers. While infrastructure industries (incl. energy transmission, water etc.) feature a degree of entry barriers, in the last decades we have witnessed entry in the telecom markets at all levels of the supply chain, both retail but also, to a lesser extent, at the wholesale level (even where this is on a subnational basis).<sup>52</sup> Also, the proliferation of OTTs increased immensely the array of choices consumers have to communicate through voice, data and video. They are a substitute to any voice or messaging telecoms service and they are able to provide cheap alternatives to consumers without being dependent on a specific type of network or supplier.

Third, **differentiation** and **asymmetries** in technologies, products and services offered, consumer preferences and budgets as well as operators business models hinder transparency and make reaching a common understanding difficult. They also make monitoring and detecting deviations harder. Differentiation materialises also in the countless number of bundled offers on the market that combine various services in different ways and make monitoring of a single product or price practically impossible.

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<sup>51</sup> Rey (2002)

<sup>52</sup> One of the most recent large-scale examples is operator Open Fiber in Italy, which is leveraging energy infrastructure in order to provide wholesale telecom services. <https://corporate.enel.it/en/stories/a201610-open-fiber.html>

Another factor worth mentioning is the **demand side** sophistication. By triggering innovation and product variety, consumers contribute to creating a complex environment that makes markets much less transparent.

Hence we believe that economic theory and competition policy have developed a detailed guidance on how cases of joint dominance should be approached and which are the structural and behavioural factors that regulators should assess. As European Courts have confirmed through *Airtours* and subsequent judgements, finding of tacit collusion cannot be limited to drawing up a list of factors that facilitate collusion but should include an elaborated description of the collusion mechanism together with a detailed account on the industry dynamics that would support sustainability of collusion. Fortunately, merger control has provided numerous concrete examples on the types of analysis that could be undertaken in order to prove existence of tacit collusion.

### Case studies

An overview of the competition and regulatory cases in telecom markets demonstrate that collusion is relatively rare.<sup>53</sup> In contrast to telecom markets, cases of tacit collusion have featured more prominently in other sectors where market characteristics are conducive to such behaviour (i.e. less differentiation and less innovation).

The way *Airtours* criteria are applied in merger cases constitute an accurate guidance for ex ante regulation for the following reason. Notwithstanding the fact that mergers entail a change in market structure, *Airtours* criteria are a static concept of assessing the likelihood of coordination in a given market. Merger control requires competition authorities to perform an additional step in the assessment, namely the merger specificity test. The Commission has to consider the changes that the merger brings about.<sup>54</sup> As regards coordinated effects, horizontal mergers may significantly impede effective competition where creating or strengthening a dominant position. This occurs when they change the nature of competition in such a way that firms that previously were not coordinating their behaviour, are now significantly more likely to coordinate and raise prices or otherwise harm effective competition. A merger may also make coordination easier, more stable or more effective for firms which were coordinating prior to the merger.<sup>55</sup>

Merger control cannot enforce remedies on tacit collusion unless it is proven that a transaction changes the status quo. Nevertheless, regulators can rely on the *Airtours* criteria to assess the likelihood of tacit collusion in any given market with an ex ante perspective.

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<sup>53</sup> See for example BERECA (2015a) and EC (2005), Competition Policy Newsletter, First collective dominance cases under the European consultation mechanism on electronic communications

<sup>54</sup> See par. 42 of the HMG

<sup>55</sup> See the HMG, par 22(b)

**CASE 1 (beer sector): M. 7881 – AB INBEV / SABMILLER (2016)**

The European Commission has recently investigated a merger in the beer sector that raised concerns regarding potential coordinated effects<sup>56</sup>. This case is illustrative as regards the clear application of the Airtours criteria in practice.

The proposed transaction would bring together AB InBev, the world's largest brewer, with SABMiller, the world's second largest brewer, creating a global market leader. In Europe nevertheless, ABI and SAB are respectively only number three and number four in volume (after Heineken and Carlsberg). The Commission's investigation found that the transaction as initially notified, would have likely facilitated tacit price coordination among brewers in the European Economic Area (EEA) through a reduction in the number of competitors and an increase in the number of multimarket contacts and risked leading to higher prices in essentially all the EU countries where SABMiller was previously active. To dispel Commission's concerns, AB InBev has committed to divest essentially all the European businesses that it initially planned to acquire from SABMiller. In view of the remedies proposed, the Commission concluded that the proposed transaction, as modified, would no longer raise competition concerns, as the intensity of competition in the European beer markets will remain unchanged.

A closer look into the details of the case may shed significant light on the way the Commission applies the Airtours criteria. According to the case law, in applying those criteria, 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.<sup>57</sup>

The Commission considered that some common features could be identified in the various national beer markets being affected by the transaction, including: a high degree of concentration, the repeated presence of the same multinational players ('the major brewers'), most notably including ABI, SAB, Carlsberg and Heineken, the existence of significant barriers to entry and expansion in the market, and a limited countervailing buyer power. Moreover, beer markets appear to be very transparent due to periodic price change announcements to customers, accessibility of trade reports by third party surveyors documenting price and volume evolutions at a high level of detail, and, to a certain extent, due to structural links between brewers. Numerous cartel decisions addressed to major brewers (including ABI, and its predecessors in controlled brands) have confirmed that beer markets are prone to coordination.

The Commission has identified the **mechanisms** through which brewers are likely to coordinate. The investigation revealed documents and country specific evidence in several Member States indicating that European brewers seek where possible to engage in coordinated "follow the leader" type pricing at national level. Under this approach, the market leader takes the initiative of price increases in the expectation that its rivals follow. If a rival deviates from those expectations, its competitors may then retaliate against it.

<sup>56</sup> [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=2\\_M\\_7881](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_7881)

<sup>57</sup> Case C-413/06 P Bertelsmann and Sony Corporation of America v Impala, ECLI:EU:C:2008:392

The simplicity of price coordination model based on the market leadership ("follow-the-leader") appears to be an important practical factor in successfully **reaching the coordination**.

As regards the **sustainability** of a collusive outcome, the high degree of transparency resulting from specific market conditions and contractual links, and in particular the competitors' ability to detect deviations from the expected follow-the-price-leader behaviour in a timely manner, would constitute an effective means to **monitor** whether competing major brewers adhere to the terms of coordination. Competitors are able to **detect deviations**, typically consisting in a relative price decrease with the objective to gain market share, and react speedily.

**Deterrence** is also feasible given that major brewers are present in several EEA markets and they implement and adapt to the collusive price leadership model in these markets as both price leaders and price followers. Such an alternation of roles for brewers in several common markets would increase the sustainability of coordinated price leadership. Brewers' **incentives to deviate** in markets where they are followers is reduced by the possible punishment consequences they face in markets where they are leaders. Equally, brewers' incentives to commit to prices above the competitive level in markets where they are price leaders is strengthened by the strong punishment potential they have in markets where they act as followers. Multi-market contacts therefore mutually reinforce the incentives to coordinate between price leaders and followers across markets and enhance the **stability of price coordination** in national markets.

Furthermore, the Commission has found confirmation that neither customers nor non-coordinating competitors would appear motivated to exercise sufficient constraint on the on-going coordination and therefore sustainability does not appear constrained by possible **reactions of outsiders**.

Once the likelihood of potential coordination has been established, the Commission needs to prove the merger specificity, i.e. identify the change that would be brought about as an effect of the merger. In this case, the Commission found that the transaction could likely cause the creation or strengthening of price coordination in a number of EU national markets for three main reasons including: the reduction of the number of competitors in the direct overlap countries, the creation of a structural link between direct competitors, the significant increase of multi-market contacts between ABI and its close competitors. In view of the above, the Commission considered that the Transaction increased the ability and incentives of the merged entity and its competitors to coordinate their behaviour post transaction in a number of relevant markets. Submission of adequate remedies by the merging parties dispelled the Commission's concerns and allowed the transaction to eventually go through.

This case is one of the few but most recent ones where the Commission investigated thoroughly coordinated effects. It is extremely relevant for understanding how to apply Air-tours criteria in practice and also to observe how the specificities of a case are taken into account in the assessment.

**CASE 2 (cement sector): M. 7054 – Cemex/ Holcim Assets (2014)**<sup>58</sup>

Another illustrative and hands on example for the practical application of the Airtours criteria is one of the set of mergers investigated by the European Commission in the cement sector. Unlike the beer case, the cement merger was cleared without remedies.

Firstly, as regards the **mechanism of coordination**, the Commission considered that most likely, tacit collusion would take place through customer allocation whereby competitors would refrain from approaching rivals' customers with low prices.

Secondly, the European Commission investigated at length and put forward numerous factors that would make it relatively simple for the producers to **reach a common understanding** on potential coordination (i.e.: a limited number of competitors, multi-market contacts amongst them, product homogeneity and mature technology). However, the Commission also found that competitive conditions had been unstable, in particular demand decreased considerably due to the crisis, which would provide high incentives for firms to deviate in order to ensure sufficient customer base. Moreover, there were no structural links between the major cement producers and they were highly asymmetric in their business models. Some were vertically integrated international players whereas others were present only nationally or operating through distributors. For all these reasons, the Commission concluded that there was no sufficiently cogent and consistent body of evidence that the structural features of the market would make it relatively simple for the cement producers to reach a common understanding on potential current coordination.

Thirdly, the European Commission had again found no conclusive evidence that could document satisfactorily that the degree of transparency in the market would make it relatively easy for producers to **monitor** each other in order to detect deviations. Elements that indicated a high degree of transparency included: the possibility to track market shares through industry association, high transparency in prices through price letters or price announcements, a concentrated customer base and cross-supply relationships, although limited. However, on the other hand, the Commission found that price letters were not necessarily binding hence did not provide much information on final prices and that distributors were very active in the market introducing additional layer between producers and customer and thus making it more difficult to track sales.

Fourthly, the Commission had stated that the evidence found regarding the threat of future **retaliation** that could keep any potential coordination sustainable was not sufficient.<sup>59</sup> On the one hand, certain **deterrence mechanisms** were identified: the possibility to cut prices and start a price war rapidly given the lack of long-term contracts, the possibility to stop sourcing from competitors, the targeted reductions in prices in neighbouring markets where competitors are also present. On the other hand, other elements indicated that any deterrence mechanism would not be credible.

<sup>58</sup> [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=2\\_M\\_7054](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_7054)

<sup>59</sup> See par. 250-260 of the Decision

The cross-supply of raw material was only material for some of the competitors, the volumes were small in any event, there were no indications regarding such behaviour in the past or in the Parties' internal documents.

Finally, the Commission had not found sufficient evidence either for the third condition for sustainability to be satisfied either<sup>60</sup>. Elements in favour of the lack of possible **reactions of outsiders** include: weaker competitors already taken over by past consolidations, high entry barriers, imports not easily feasible due to high transport costs and customers being locked-in to the product as cement does not have close substitutes. However, other elements indicate that it would be nevertheless possible for competitors and other market players to jeopardize the outcome expected from potential coordination. These include: the important role of distributors, the existence of competitors in further regions that could eventually provide the market concerned in the event of an increase in price, possibility of entry downstream where investments are lower and certain evidence from customers admitting that they receive competing offers.

The cement merger case is extremely relevant for the point that any market assessment needs to balance both positive and negative factors. Notwithstanding the fact that the Commission found numerous pieces of evidence supportive of potential collusion in the market, the case was cleared. This shows that competitive assessment is not a check list exercise and that enforcers undertake a thorough case-by-case analysis and weighing of the evidence in order to reach a 'fair' conclusion.

### 4.3 No case for telecoms market power regulation beyond dominance

The telecom sector has evolved to a much higher degree of competition as shown in Chapter 2 and, in this regard it should apply the spirit with which the regulatory framework was designed, envisaging the gradual removal of ex ante regulation and a greater reliance of ex post competition law in the long run. This purpose has been preserved in the proposed Code: *"The aim is progressively to reduce ex ante sector-specific rules as competition in the markets develops and, ultimately, for electronic communications to be governed by competition law only. Considering that the markets for electronic communications have shown strong competitive dynamics in recent years, it is essential that ex ante regulatory obligations only be imposed where there is no effective and sustainable competition on the retail markets concerned."*<sup>61</sup> Hence on the absence of dominance (single and collective), there is no theoretical support for the concept of anti-competitive oligopolies per se.

In support to this view, it is worth mentioning also the Commission's conclusions made at the time of its impact assessment on which the European Electronic Communications

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<sup>60</sup> See par. 261-272 of the Decision

<sup>61</sup> See Recital 28 of the Code

Code is based.<sup>62</sup> In particular the Commission analysed the possibility to regulate non-collusive oligopolies, on the basis of a unilateral effects test similar to the one used under the European Merger control regulation, and explicitly discarded it on the following basis: *“This approach has been considered by some NRAs and new entrants in the market as an alternative to the finding of joint SMP, or ‘joint dominance’, as a basis for imposing regulatory remedies to redress market failures on oligopolistic markets. It should be kept in mind that oligopolistic market structures in network industries are likely, and in certain cases efficient, market outcomes. They are also the result of the market liberalisation over the past twenty years. It is thus far not clear on what economic grounds such an additional concept could be identified, and the merger-specific concept of unilateral effects is not adequate. BEREC has raised this issue, but has recognised that the underlying economic assessment approach is not yet clear. As criteria for such a new intervention threshold are difficult to establish and therefore the risk of overregulation and further regulatory fragmentation increases, it does not seem appropriate to increase the regulatory burden by deviating from the current significant market power test.”*

Indeed, in their proposal for amending the draft Electronic Communications Code, BEREC implies that the SMP Guidelines should provide guidance on the assessment of “significant impediment to effective competition”<sup>63</sup>. The wording proposed by BEREC is the following: *“Two or more undertakings are each deemed to enjoy a position equivalent to having significant market power when they might significantly impede effective competition”*. There is no clear definition in this statement, BEREC has not articulated this proposal with any detailed analysis or evidence. Moreover, economic theory has not provided any general delineation of when an oligopoly, in the absence of significant market power or joint dominance / SMP, would (arguably) be sufficiently problematic to require ex ante regulation. Guiding NRA through loosely worded statements that leave room to arbitrary interpretations holds a clear and large risk of over-regulation, resulting in significant costs for European markets and, ultimately, to future EU consumers. The EC Guidelines should be based on thorough legal and economic grounds as well as on market reality.

The only reference to non-coordinated effects in competition law can be found in merger control. The new merger Regulation of 2004<sup>64</sup> introduces the concept of significant impediment of effective competition (SIEC) to deal with situations where mergers do not lead to dominance, nor to coordinated effects (the so-called ‘gap’ cases). Art. 2(3) of this Regulation states that: *“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 SIEC test refers exclusively to what could be the effects of the merger relative to a pre-merger situation in a given market. In the assessment of a merger in oligopolistic

<sup>62</sup> <https://ec.europa.eu/digital-single-market/en/news/proposed-directive-establishing-european-electronic-communications-code>

<sup>63</sup> BEREC (2017)

<sup>64</sup> Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation) Official Journal L 24, 29.01.2004, p. 1-22

markets, a competition authority does not and cannot assess how competitive a given market is, it just compares the post-merger situation with the pre-merger situation.

In oligopolistic industries, mergers that lead to a market structure where competition is weaker than in a premerger counterfactual (i.e. SIEC cases) are in principle considered anti-competitive and hence remedied or prohibited. Either way, this is because a remedy is readily at hand: the straightforward policy intervention is to stop a planned merger before it is completed.

The equivalent remedy is not contemplated in telecoms regulation thus this devoid the SIEC metaphor of a necessary premise to be logically consistent, thus curtailing any sound relevance for regulation.

In other words, the SIEC test is not a valid criteria for ex ante regulation as it was created for situations when market structure changes. SIEC only makes sense when there is a counterfactual such as the situation before a merger.

As opposed to Airtours criteria, that were also elaborated in the context of the merger control, the SIEC test is exclusively dealing with the effects of a merger, hence a dynamic test, based on a 'delta' between two situations (pre- and post-merger). In contrast, Airtours elaborates on conditions necessary for coordination to take place, hence a more static test. In assessing a merger, competition authorities have to complement the Airtours conditions with evidence that the merger either creates coordination or strengthens it (to show that there is a change due to the merger, i.e. the merger specificity test). Nevertheless Airtours criteria in isolation can provide a screen for the likelihood of coordination. That is why it can be used by regulators who assess the situation of a market in a given point in time.

Furthermore, a recent article<sup>65</sup> published in the Antitrust Law Blog also claims that EU Telecoms Regulation based on Unilateral Market Power would be contrary to EU Law. The reasons provided by the authors are four-folded: the continuous validity of the SMP concept, the failure to prove the need for the UMP-concept, UMP-concept would violate companies' fundamental freedoms, the use of UMP has never been considered in any other regulated network industries in the EU.

The justification for regulatory intervention in a market must be linked to a certain market failure, which should be clearly identified. Only in cases where markets fail to provide the setting for a free competition to take place, intervention through regulation may be appropriate. As it is exposed below, market failures identified in telecoms markets beyond those already tackled through the regulation related to SMP are remedied by different tools.

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<sup>65</sup> EU Telecoms Regulation Based on Unilateral Market Power Would be Contrary to EU Law, by Robert Klotz and Wim Vandenberghe on June 21, 2017, <http://www.antitrustlawblog.com/2017/06/articles/european-union/telecoms-ump-tfeu/>

### **Possible market failures in the current EU telecom markets are already addressed in the current Framework**

In light of the above, the starting point for regulation in general should be the identification of potential market failures. Economic theory identifies a set of well-defined market failures, such as externalities, public goods or imperfect information. We will discuss each key market failure in turn and provide some examples from other industries which may shed some light on the reasons for regulation to take place. Then, we explain what **instruments have been put effectively in place throughout the years to pre-empt and address such market failures in telecom markets.**

**Externalities** are consequences of a party's economic activities, which are then experienced by third parties. They can be positive or negative but they always have an economic impact of consuming or producing a good on a third party who is not connected to the good, service, or transaction. When the production or the consumption of a good or a service proves beneficial to a third party, then it is a positive externality. In this case, the social benefit is greater than the private benefit. For this reason, it is desirable that this kind of activities receive positive support through regulation or possibly state aid, in order to provide sufficient incentives to the market to deliver the social optimum. The classic example of a positive externalities is the R&D activity that may benefit other society members than the ones that are producing it. Patent protection is a way to enable R&D owners to appropriate the benefits from innovation, but nevertheless further public intervention may be needed to achieve the social optimum. Conversely, when the production or the consumption of a good or a service is detrimental to a third party, then it is a negative externality. For example, pollution is a negative externality because the party producing it is not paying all the costs that the society has to bear as a consequence of it. Intervention through taxation or other regulatory obligations is an appropriate remedy to prevent the market pollute above the socially optimal level.

In the telecom markets, externalities exist especially in the form of network externalities. They occur because the value of the service for a consumer depends on how many other consumers use the network. The more consumers use a network, the more valuable that network will become for other consumers. The Access Directive (Article 3 and further) addresses extensively this issue by imposing symmetric obligations of interoperability and interconnection. In the context of achieving a more efficient, truly pan-European market, with effective competition, more choice and competitive services to consumers, undertakings which receive requests for access or interconnection should in principle conclude such agreements on a commercial basis, and negotiate in good faith. This would impede that network effects provide excessive market power to operators that already achieved a certain scale and are more attractive to customers than other smaller networks. This is also known as tipping effect and is a feature in many internet applications such as OTTs (generally without policies remedies in place in that sector). To the extent that networks are interconnected, consumers would be able to communicate amongst themselves even if not connected to the same network. Hence, interconnection obligations eliminate the undesirable competition consequences of externalities embodied in network effects.

**Public goods** are products or services that one individual can consume without reducing its availability to another individual, and from which no one is excluded. Economists refer to public goods as "nonrivalrous" and "nonexcludable". The provision of a public good suffers from a free-riding problem: markets and private operators will not deliver public goods as long as they cannot recoup the costs and appropriate the benefits society has by using them. But nevertheless society needs them, hence regulators should intervene. Public roads, public lighting, or even in some circumstances electricity provision have characters of public goods. Historically, telecommunications services were held to have some character of public good but there is a clear question today as to whether this is still the case: as the ICT and internet value chain has expanded, the present day telecoms services may not have any prominent feature of public goods.

Given its legacy consideration as a public good, telecoms markets are addressed via long-established regulation to cover minimum service levels. The Universal Service Directive ensures the availability throughout the Community of good-quality publicly available services through effective competition and choice and deals with circumstances in which the needs of end-users are not satisfactorily met by the market.

However, compared to other communications markets, for example postal services, the prominence of public goods considerations in telecoms has virtually disappeared.

A related issue may be the economies of scale, to the extent that fixed costs enable the service provision (including any residual public goods characteristics that may be in place). Even on this aspect, specific regulation is already in place to address potential market failures. The Broadband Cost Reduction Directive which provides access to passive non-telecom infrastructures owned is a regulatory instrument addressing the issue of fixed costs.

Last but not least, **asymmetric or imperfect information** can be considered a market failure in some situations. In theory, markets should be able to hedge and price uncertainties, but sometimes it is not socially acceptable to let the society pay this price and regulation is put in place. An example of regulation based on asymmetry of information can be found in the market for the taxi services. Regulation was introduced in the first place to protect consumers from the asymmetry in information between drivers and passengers, regarding both price and quality of services. Without regulation, consumers may have not known the price of consuming a service ex ante or the quality of the driver. Both price regulation as well as various standards imposed on market operators were meant to protect consumers. Nevertheless, with the rise of apps in the transport services, these market failures may be reduced or eliminated, as transparency in the market both regarding the price as well as the quality of the supplier increased.

Asymmetries of information between consumers and operators in the telecom markets are addressed by numerous consumer protection rules that are in place to protect users from unfair practices or privacy concerns<sup>66</sup>. In particular, specific rules on consumer protection fully applicable to telecoms' services are included in the Roaming Regulation, the Misleading Advertising Directive, the Distance Selling Directive, the Unfair Commercial Practices Directive and the Regulation on cooperation in consumer protection. The EU telecoms rules ensure reasonable quality of service at affordable prices, guarantee that consumers receive a written contract including specific details, in particular on tariffs and costs, with the possibility to break the contract if the supplier changes the terms, request suppliers to give information on what services consumers subscribe to and, in particular, what they can do with those communications services and also protect personal data stored or transmitted over the telecommunication network, among other things.

Furthermore, the access Directive establishes rules for ensuring transparency of operational procedures, in particular towards other stakeholders. Article 9 of the Access Directive impose “obligations for transparency in relation to interconnection and/or access, requiring operators to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, including any conditions limiting access to and/or use of services and applications where such conditions are allowed by Member States in conformity with Community law.”

In conclusion, the telecoms sector is disciplined by a series of layers of regulation. This implies that key market failures, which theoretically may be expressed in the telecoms industry, are pre-empted via broad-ranging regulatory provisions.

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<sup>66</sup> See <https://ec.europa.eu/digital-single-market/en/users-rights>

## Chapter 5

# Recommendations for the SMP Guidelines revision

Based on the analysis provided in this report we put forward both general as well as specific recommendations for the SMP Guidelines revision.

This report has presented the broader regulatory framework in telecom markets, beyond the issue of market power. Recommendations will only address the area of market power, relevant for the SMP Guidelines revision. However, it was important to mention the regulatory environment and to see how telecom markets failures have been addressed through intervention at different levels. This report has focused on the efficiency arguments for introducing, maintaining or removing regulation, leaving aside equity / fairness consideration, which may also be relevant from the public point of view and include the concept of a regulatory compact between public policy and private enterprise.

A word of caution regarding the extent of regulation is due. Any public intervention in the functioning of a market has the potential to be distortive for other operators, markets and even other segments in the economy. Over-regulation is dangerous for a healthy development of telecom markets. The risk of irreversible damages generated by regulation, with markets affected by unintended consequences of regulation and regulation undermining investment should not be underestimated. It is all the more important, that investment in telecom is a key factor of growth and competitiveness for Europe in a digitalised world.

A comprehensive study written at the request of the European Commission in 2013 illustrates the most common methods that are currently used at national level to assess the costs and benefits of regulation, and provide an evaluation of their strengths and weaknesses, as well as guidance on when, how, and with what data they can be most usefully employed in impact assessments. Furthermore, based on these findings the authors suggest guidance on when and how to perform cost-benefit analysis of EU policy proposals.<sup>67</sup>

In the same spirit as any remedy imposed by competition enforcement, regulatory intervention should be proportionate to the problem identified in the market. Relative to this, the latest proposals for the Code highlight the need for cost benefit analysis – which is an essential element to establish proportionality:

*“When deciding on the specific remedy to be imposed, national regulatory authorities should assess its technical feasibility and carry out a cost-benefit analysis, having regard to its degree of suitability to address the identified competition problems at retail level.”<sup>68</sup>*

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<sup>67</sup> See CEPS (2013)

<sup>68</sup> Proposal for a Directive establishing the European Electronic Communications Code, §157. COM/2016/0590 final - 2016/0288 (COD)

Identifying clearly the concern enables policy makers to use the right tools at the right level for intervention. SMP Guidelines are an important reference point and it is valuable to update them after 15 years of heavy toil – yet this tool by its nature does not offer the structure to deal with issues other than market efficiencies.

### **5.1 Coherence with competition law in tackling possible concerns in oligopolistic markets**

Article 15(2) of the Framework Directive requires the Commission to publish guidelines for market analysis and the assessment of significant market power in accordance with the principles of competition law. The 2002 Guidelines explicitly state that “markets will be defined and SMP will be assessed using the same methodologies as under competition law”<sup>69</sup>. Indeed, as regards market power, regulation should align with how this concept is currently applied in EU competition law by the Commission and the European Courts. Different concepts would create uncertainty and confusion amongst operators, investors, regulators and competition authorities.

Competition law, including its grounding in economic tools and concepts, should be the starting point on any market analysis, both *ex ante*, as in the case of regulation and *ex post*, as in the case of competition policy. Competition law is grounded heavily on the field of industrial organisation, the branch of microeconomics that analyses firms and markets behaviour. Industrial organization analyses determinants of firm and market organization and behaviour as between competition and monopoly (i.e. oligopolies), including the rationale for public policy intervention. Hence, market power is an economic concept by excellence. This concept has been developed by competition law and practice and endorsed by European Court judgements. Hence, the tools exist for regulators to follow, as it was correctly established in the telecom rules at the beginning of 2002.

Rey (2002) provides an interesting insight into the complementarities between the role of national regulators and that of a community-wide antitrust supervision. Competition law has the advantage of being European wide. This community dimension facilitates the development of international comparisons, can take advantage of the substantial heterogeneity observed in national environments and promote “best practices”. Moreover, Rey points to the potential weaknesses of the regulatory regimes. He claims that regulators may be constrained by their institutional environment, may be subject to industry lobbying and political pressures and may have limited incentives and opportunities to develop inter-industry or international benchmarking. For all these reasons, Rey stresses the natural complementarities between regulators and competition ‘watchdogs’.

Having established the need to use competition law and competition economics in dealing with market power concerns through regulatory interventions, we will provide a framework to identify the issues that telecom SMP Guidelines should and should not cover. We have shown that regulatory intervention may correct certain structural market failures and telecom regulators have done so through various instruments.

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<sup>69</sup> Paragraph 24 of the SMP Guidelines

When it comes to market power of one or multiple operators, ex post competition enforcement punishes the abuse of dominance (single or collective) as enshrined in Article 102 TFEU. Enforcement of this legal provision takes place at any point in time. Dominance cases can be initiated either at the initiative of competition authorities (*ex-officio cases*) or be triggered by a complaint. In any of these cases, investigation of the conduct is taking place ex post. A natural complement for this ex post examination is the ex ante scrutiny of markets that regulators are asked to do periodically. In order to guide this regulatory checks in the European Union, the Commission published recommendations on the criteria to be used when screening the markets.

The 2014 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation provides three criteria for selecting the markets as well as a list of pre-selected suggested markets (this list has gone down from many more to 4 markets in the latest version of the recommendations).<sup>70</sup> Point 2 of the recommendation states the following:

*“When identifying markets other than those set out in the Annex, national regulatory authorities should demonstrate, and the Commission will verify, that the following three criteria are cumulatively met*

- (a) the presence of high and non-transitory structural, legal or regulatory barriers to entry;*
- (b) a market structure which 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 to entry;*
- (c) competition law alone is insufficient to adequately address the identified market failure(s).”*

These criteria provide a clear conceptual indication on the drivers that make a market problematic vs non-problematic. The three criteria perform an important filtering role and both the Commission and NRAs are expected at all times to extend regulatory oversight only in markets that – following a detailed assessment against the criteria – pass the test. To do so, it is necessary to complete (and update) an appraisal of the current market situation, identifying fundamental industry trends and potential impediments to the competitive process that could not be solved by competition enforcement.

In other words, via the current framework the EU legislators have not extended a blank cheque to enforcement bodies to impose regulatory oversight. It is rather a constrained power that requires at regular intervals enforcement bodies to demonstrate – market by market – the continued *raison d’être* of ex ante regulation, via the three criteria test. We turn to the criteria, one by one, reviewing how the rationale for telecoms regulation depends on each and highlighting aspects that could be clarified with additional guidance.

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<sup>70</sup> Market 1: Wholesale call termination on individual public telephone networks provided at a fixed location  
 Market 2: Wholesale voice call termination on individual mobile networks  
 Market 3: (a) Wholesale local access provided at a fixed location (b) Wholesale central access provided at a fixed location for mass-market products  
 Market 4: Wholesale high-quality access provided at a fixed location,  
 See <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=EN>

### Criterion 1

As regards entry barriers, the SMP Guidelines could provide detailed indications of how to assess them. Commission's Guidance on the enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings delivers thorough descriptions of possible barriers to entry: *“Barriers to expansion or entry can take various forms. They may be legal barriers, such as tariffs or quotas, or they may take the form of advantages specifically enjoyed by the dominant undertaking, such as economies of scale and scope, privileged access to essential inputs or natural resources, important technologies or an established distribution and sales network. They may also include costs and other impediments, for instance resulting from network effects, faced by customers in switching to a new supplier. The dominant undertaking's own conduct may also create barriers to entry, for example where it has made significant investments which entrants or competitors would have to match, or where it has concluded long-term contracts with its customers that have appreciable foreclosing effects. Persistently high market shares may be indicative of the existence of barriers to entry and expansion.”*<sup>71</sup>

Entry barriers are customarily mentioned in virtually every telecoms case, yet the presence of alternative infrastructures (based on different technologies) across Europe demonstrates that entry barriers are not absolute and insurmountable. Thus we recommend additional clarity on this point.

### Criterion 2

Following the second criteria, NRAs should be bound to provide a detailed assessment of the evolution of the market by identifying all relevant trends that may characterize the competitiveness of the market. The analysis undertaken in this report in Chapter 2 provides a good guidance on the parameters that could be tracked to assess the level of competition in a given market. In particular, effective competition can be measured by numerous indicators, such as price levels, quality of products and services, variety and choice, the level of investment and innovation among others. New entry has to be carefully measured also, as indicated by the first criteria. Benchmarking exercises across countries are also useful tools to assess the evolution of competition in a given industry (as long as careful consideration has been given to specific characteristics of every market). Healthy evolution of prices, of retail competition delivering consumers sufficient choice, quality and variety, as well as substantial real and potential innovation are clear indications for an NRA that markets evolve towards effective competition and a warning signal that any intervention may hamper the dynamic efficiencies that drive long-term growth. Indeed, the SMP Guidelines state:

*“NRAs will conduct a forward looking, structural evaluation of the relevant market, based on existing market conditions. NRAs should determine whether the market is prospectively competitive, and thus **whether any lack of effective competition is durable**, by taking into account expected or foreseeable market developments over the course of a reasonable period. [...] NRAs should **take past data into account** in their*

<sup>71</sup> Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, § 17. (2009/C 45/02).

*analysis when such data are relevant to the developments in that market in the foreseeable future.”<sup>72</sup>*

Thus, an important matter is that the second criterion involves a forward-look but must also be based on a review of factual evidence of past trends. The main focus of the forward look is detecting expected changes in factors affecting structure and functioning of the market. The rationale for this test in telecoms regulation is to avoid undue regulation, e.g. in the face of fast moving markets. It is precisely because the Commission has appreciated the dynamic nature of the telecommunications industry that this criterion is in place to avoid regulation to linger on without justification. In fact, over time the Commission has dropped many markets from the list of those included in the Recommendation. NRAs have so far only been in the position to add further markets for review (by performing their own three criteria test), while they have not been able to drop markets – even where the national circumstances may have been consistent that the second or other criteria would not be passed.

### **Criterion 3**

As regards the third criterion, it is well-known that competition law has a comprehensive set of tools that may be used to address failures in the free functioning of a market. Through directly enforceable decisions, competition law has been proven to be a very effective tool to restore healthy competition in a market where potential abuses or anti-competitive agreements took place.

However, competition law cases have a duration and uncertain nature that – only in some cases – may compromise market outcomes. For example, an area where ex ante powers add significant value above and beyond the discipline of ex post competition enforcement is the issue of interconnection. When telecoms entry takes place, it is vital for the business case of the entrant that interconnection is not refused. Because of the imperative to interconnect, ex post enforcement may not be timely enough to support the competitive process. This is the well-known challenge of remedying the unwelcome side effects of network effects, and indeed EU legislators have assigned a mandate to NRAs to avoid this outcome (as shown in the previous chapter).

Yet, the use of ex ante over ex post this cannot be a generic feature that implies that ex ante regulation is always justified – otherwise, by the same logic legislators would assign ex ante regulation across the entire economy. Therefore, in taking the decision to intervene through ex ante regulation, NRAs should carefully assess whether the issue at stake cannot be covered by the wide realm of competition law and bring forward clear arguments specifying those potential impediments to the competitive process that could not be solved by competition enforcement in a broadly equivalent way.

### **Further remarks**

Once the need for intervention has been established, the SMP Guidelines should provide further indications on how to assess particular cases of potential dominance (single or collective). Before getting to further recommendations in this area, an important word on the scope of the SMP Guidelines is due. Leaving aside mergers and explicit agreements,

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<sup>72</sup> SMP Guidelines, §20.

competition law does not identify any other areas of unilateral concern apart from the abuse of dominance (single or collective). This is the ultimate reason why a guidance document addressing market power such as SMP is not conceptually suited to extend the remit for regulatory intervention beyond issues of dominance.

As is logical, any new policy proposals must be linked to a clearly identified problem, i.e. an identification of specific outcomes that are both suboptimal and amenable to be ameliorated via a related policy measure. The burden of proof should be on those claiming the existence of a problem – rather than an expectation that industry can test for and exclude any possible problem.

Were there to be clearly identified and demonstrated issues that are not related to dominance, public policies can and should use different instruments that tackle failures on the supply or the demand side of the market. This is indeed what the European legislators have achieved already by a broad set of regulations that directly address the different types of market failures that, as is known, telecoms markets can express. In Chapter 3 we have shown how these different layers of existing regulation address and pre-empt the market failures already identified.

The following section will provide more detailed recommendations in the areas of market definition and of dominance, in particular collective dominance, where the advances of competition law since 2002 have been more prominent.

## **5.2 Recommendations on more prescriptive guidance on market definition in the SMP Guidelines**

We have presented and analysed in this study how telecom markets have evolved towards multiple competing infrastructure – abandoning the historical monopoly setup.

The regulatory analysis of wholesale markets has therefore gained new elements to analyse and new complexity – compared to the past, when a single infrastructure was the key reference point (as was the case in the run-up to the 2002 SMP Guidelines). In particular, we identify two market definition issues that have emerged in regulatory practice, such that the application of the SMP Guidelines has led to ambiguous outcomes and risks of over-regulation – these are the issues of:

- Identification of relevant geographic markets: the presence of new and complex pattern of overlaps between multiple networks (e.g. over ten fibre-based operators competing in urban areas in the Netherlands for the provision of business services or city-network competition in many major UK cities' business districts)<sup>73</sup> should imply a greater degree of competitive constraints and a narrower geographic scope for SMP, yet this has not always transpired from regulatory decisions

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<sup>73</sup> See Telecompaper (2017) for a detailed analysis of key competitors in The Netherlands (11 listed, including an industry association featuring further competitors); for the UK, see the set of players mentioned in the latest Ofcom review of Market 4

- Indirect constraints from retail onto wholesale markets: the ability of retail consumers to substitute in full or part broadband services backed by copper networks with broadband services backed by cable or mobile networks is unequivocally a source of competitive constraint at the wholesale level, yet these constraints have rarely been quantified or appraised consistently in regulatory decisions

What we see as key is that:

- both the above issues bring with them some complexity yet they both point in the direction of more competitive pressure at the wholesale level; and
- both issues have a regulatory specificity or prominence that is not equally high in general competition law and economics (where geographic markets and indirect constraints generally feature less prominently as a sensitive issue); thus the evolution of competition case law alone may not be enough to provide clarity in these pivotal issues for the electronic communications sector.

Without clearer, up-to-date guidance from the Commission in the updated SMP Guidelines, the risk is that NRAs' practice may diverge further and that the existing tools of geographic market definition and indirect constraints may fail to ensure the correct balance between competitive situation and regulatory remedies being imposed.

We provide a series of direct recommendations on how the evolution in infrastructure-based competition should be met by a more consistent assessment of the competitive constraints arising from multiple infrastructures. With the benefit of hindsight, in 2017 we can now conclude that the degree of prescriptiveness in the SMP Guidelines on **geographic market definition** is insufficient. Telecom markets have well known features that diverge from many other markets (e.g. limited demand-side substitution between locations) and a stable toolbox for the geographic definition of these market has not emerged, which leads to curtailed regulatory certainty and counterintuitive regulatory outcomes. We recommend the Commission to provide additional, more hands-on guidance in the SMP Guidelines, so to be able to shape the regulatory practice and regulatory case law.

Equally, a retrospective look at the past experience of regulatory application of the SMP Guidelines leads us to remark considerable uncertainty over time on the appropriate treatment of **indirect constraints**. This is the competitive pressure in wholesale markets which arises out of retail market demand substitution between services based on alternative infrastructures. Even when infrastructures (and the services they underpin) have distinct features, it is well known that for many consumers there is actual choice between distinct services. According to the technology neutrality regulatory principle, technical differences cannot drive policy outcomes per se. Thus, the competitive interplay arising from all alternative telecom infrastructures should be considered in depth.

We observe different views in relatively recent cases as to whether the rightful place for indirect constraints analysis is within the market power (SMP) assessment. We believe that market definition is the appropriate analytical step where to identify and appraise (incl. quantitatively) those constraints – the rationale being that what is key, in the first

place, is the interplay at the retail market. This is efficient, since when these constraints are strong enough and a broad relevant product market is the right reflection of the interplay of alternative infrastructure, then the SMP analysis is consequently simplified.

That notwithstanding, even if the settled position were to become that the right “home” for indirect constraints is the SMP assessment, then we recommend that the SMP Guidelines are revised with additional direction. It is pivotal to pre-empt the risk that the analysis of any indirect constraints from alternative infrastructures is in practice deprioritised in regulatory decisions – perhaps because in early regulatory practice monopolistic structures were the norm.

As in the case of geographic market analysis the implication is an application of the regulatory framework that likely underappreciates the extent of competitive constraints arising from multiple infrastructures (i.e. oligopolistic competition) and thus yield a bias towards over-regulation.

Thus we recommend that the SMP Guidelines provide more in depth guidance to NRAs on both the treatment of geographic markets and the inclusion of indirect constraints in the market definition stage.

For these reasons we recommend the following for consideration of the European Commission, upon updating the SMP Guidelines:

#### Geographic market definition

1. More granular guidance on geographic market definition within the SMP Guidelines, so to pre-empt the ambiguity that the current case law and BEREC Common Position on geographical aspects of market analysis enable.
2. Geographic analysis should be designed as bottom-up, with the market delineation arising from local conditions of competition, avoiding a top-down starting points such as a single national market by default or a national-minus market.

#### Indirect constraints (product market definition)

1. Clearer guidance on the analysis of indirect constraints within wholesale market definition, including on a quantitative and comprehensive assessment of the cumulative effect of multiple strands of indirect constraints from retail onto wholesale markets.
2. A stricter implementation of the principle of technology neutrality, specifically in the appraisal of indirect constraints from retail markets (underpinned by different technologies) onto wholesale markets
3. The wholesale market definition should mandatory descend from the analysis of the competitive situation (and any market failures) in corresponding (down-stream) retail markets – especially where the wholesale markets are a creature of past regulatory remedies or notional markets

### 5.3 Dominance and the Airtours criteria

As explained in Chapter 3, **Airtours criteria** used in competition policy make a good test for tacit collusion in general, by setting clear principles that can be applied also in regulation. Regulation should align with how this concept is currently applied in EU anti-trust law by the Commission and the European Courts. Airtours and related case-law, provide for clear and workable criteria to identify the presence of collective dominance and nothing else or different should be required.

However, beyond the general support for the Airtours criteria as such, we recommend a nuanced application. Regulation has a much longer time horizon than merger control where Airtours criteria were applied initially (in mergers potential anti-competitive effects are immediate following the implementation of a transaction). Hence, the application of the Airtours criteria in regulation should be adapted to a long-time perspective. Regulators should take into account all dynamic efficiencies stemming from investment and innovation in telecommunication markets that may take years to materialise.

In practice, since ex ante regulation is to set out a prospective forward-looking analysis, applying the Airtours test for establishing dominance for regulatory purposes should both:

- embed thoroughly all qualitative and quantitative factors that contribute to market developments; and
- balance static considerations of potential tacit collusion against dynamic efficiencies that, in this industry, are very likely to destabilise any attempt of the existing operators to collude, as analysed in Chapter 4 of this report.

Below, we will provide detailed recommendations for every step of the assessment of a collective dominance case.

The first step in establishing potential collective dominance is for an NRA to pinpoint very concretely the most likely **mechanisms** firms would use to coordinate in a certain market. Horizontal Merger Guidelines, drawing on economic analysis, identifies at least three main ways in which firms could coordinate, related to various parameters of competition. There are: 1) agreements to maintain prices above the competitive levels, 2) coordination on limiting the production or capacity and 3) market sharing through different mechanisms such as customers' allocation, geographic split or contracts allocation in bidding markets. Without a clearly identified potential mechanism of coordination, NRAs cannot convincingly pursue a concrete case. In a dynamic industry such as telecoms, some forms of behaviour are more plausible than others, and NRAs should screen out those that cannot be achieved with the current market characteristics. For example, a differentiated product market is less prone to price coordination. Equally, when innovation represents a big stake in the activity of operators, limiting technological advances for example would not be easily accepted by consumers.

Secondly, the Horizontal Merger Guidelines require establishing how **reaching a common understanding** is made possible. As shown in Chapter 2, some market characteristics make coordination easier than others. This report has listed various legal and academic sources that may provide an indicative lists of structural and behavioural factors that NRAs should consider in assessing the likelihood of collusion. We will briefly report the most important of them again here in the recommendations:

- Concentration and the number of firms in an industry: it is easier to coordinate among a few players than among many
- Asymmetries in market shares, costs, capacity and other dimensions hinder collusion
- Degree of product differentiation: it is easier to coordinate on a price for a single, homogeneous product, than on hundreds of prices in a market with many differentiated products
- Entry barriers: the higher the barriers to enter a market are, the easier coordination for operators in the market will be
- Demand and supply conditions: it is easier to coordinate on a price when demand and supply conditions are relatively stable than when they are continuously changing
- Degree of innovation in the market: in markets where innovation is important, coordination may be more difficult since innovations, particularly significant ones, may allow one firm to gain a major advantage over its rivals
- Market transparency and frequent interactions facilitate collusion
- Structural links such as cross-shareholding or participation in joint ventures may also help in aligning incentives among the coordinating firms

This list of factors is not exhaustive but only indicative. As shown in Chapter 2, telecom markets are by excellence innovative and differentiated. Without pre-judging the outcome of any regulatory review, we recommend a careful consideration of these two market characteristics in view of establishing correctly the facts and the weight of these factors in the final outcome. We continue with specific recommendation as regards the three conditions requested in the Airtours judgement for the sustainability of collusion.

**Monitoring deviations** is mainly about market transparency. Factors that can be relevant in assessing transparency include: the number of market participants (at all levels of the supply chain), the stability or instability in market conditions (such as market maturity, cost or demand stability, etc.) and the nature of the transactions among others. In general product and service differentiation make markets less transparent and so do market dynamics. NRAs have the market knowledge to assess concretely how these factors influence firms' ability to monitor each other's actions.

The **deterrence mechanism** is about finding possibilities to retaliate against possible deviators from a potential collusive outcome. Ultimately transparency plays an important role in firms' possibilities to detect deviations, hence previous arguments apply in this case also. Additionally, NRAs should establish the credibility of the deterrence mechanism, i.e. the incentives firms may have to retaliate. There are losses from retaliation, at least on a short term, as retaliation most often means a price war, but nevertheless these losses may be lower than the long term benefit of returning to a collusive outcome. In a dynamic market, returning to a stable collusive outcome may not be straightforward, as

deviation may take place not only as regards the price but also through a disruptive innovation for example, in which case market conditions change and returning to a status quo may not be realistic.

Finally, establishing the likelihood that **outsiders** may destabilise a collusive outcome does not seem to be extremely difficult, given that NRAs are the best placed to have information about entry (actual or potential) in the market as well as about customers' bargaining position vis-à-vis the operators which may attempt to establish 'unfair' market terms.

Overall, as acknowledged by the Court in *Airtours*, finding tacit collusion or collective dominance should not be a mechanical exercise, as was acknowledged by the Court in *Airtours*. A regulatory review is a more complex exercise than ticking a few boxes on a list. Every market is different and has peculiarities that have to be taken into account.

Moreover, in many markets (and telecoms is one of them) it is very unlikely that most of the conditions are fulfilled; hence a balancing exercise is necessary. As we have shown based on the two merger cases example, for every step of the assessment the Commission found both positive and negative evidence. Although the analysis was not one-sided, the Commission provided solid arguments for taking its decision to clear the merger despite finding numerous indications of potential collusion.

## 5.4 Conclusions

This report has put forward evidence and arguments to support a balanced revision of the SMP Guidelines that would not undermine the long-term development of the European telecoms markets. Overall, regulation and competition law should remain tightly linked and convergent as it is already specified in the current legislative Framework.

Moreover, the telecoms regulatory framework includes several layers of provisions that already pre-empt and address well-known market failures. As a result, there is no gap to be covered by further regulation, especially in view of the market developments over the past 15 years.

The overarching philosophy of the EU telecoms policy from the outset has been to establish regulation for as long as competitive forces would not emerge. Indeed, as shown in Chapter 3, the framework was introduced as a tool to enable liberalisation and entry in a consistent way across EU Member States and refined to avoid uneven and divergent regulatory intervention. Thus, the observed increase in competition calls for the scope of regulation to become narrower.

As it turns out, the SMP Guidelines are a key document to ensure consistency in regulation and the application of best practice in regulatory market analysis, linked to the evolution of competition case law. We have identified recommendations for a focused update of

the SMP Guidelines to fulfil fully this purpose of regulatory consistency – in particular on analytical issues related to capturing the interplay of alternative infrastructures.

In the sphere of the SMP Guidelines, Airtours criteria developed by competition law are an efficient tool to address joint dominance. In the particular case of the telecoms markets, dynamic efficiencies represent an industry feature that plays an important role when applying the Airtours criteria. Furthermore, there is no economic or legal support for regulating oligopolies beyond dominance.

Finally, for a better harmonisation of NRAs work, more granular guidance must be given on geographic market definition – to be based on a bottom up approach, and on indirect constraints – to be taken into account at the market definition step following the technological neutrality principle and given that any wholesale market assessment must start by an analysis of the competitive interplay in the corresponding retail market(s).

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