



DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT **A**
ECONOMIC AND SCIENTIFIC POLICY

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The Contribution of Competition Policy to Growth and the EU 2020 Strategy

STUDY



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Abstract

This study researches the link between competition policy and economic growth. In particular, the authors investigate the contribution from the competition instruments – antitrust, merger control, sector specific measures, liberalisation and State aid – to achieve the goals of the EU 2020 Strategy. The analysis is based on ten case studies of practical application of competition instruments in various sectors, such as energy, postal, telecommunication, transport, manufacturing and financial services. The authors conclude that competition policy contributes significantly to the EU 2020 Strategy and to economic growth, and the authors make recommendations for improvements of competition policy to further strengthen that contribution.

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CONTENTS

LIST OF ABBREVIATIONS	5
LIST OF TABLES	7
LIST OF FIGURES	8
LIST OF BOXES	8
EXECUTIVE SUMMARY	9
1. OVERVIEW AND THEORY	13
1.1. Competition and economic growth	13
1.1.1. The resource efficiency channel	15
1.1.2. The entry/exit channel	16
1.1.3. The innovation channel	17
1.2. The use and scope of competition instruments	19
1.3. Competition policy and growth	21
1.3.1. Competition policy and the Flagship Initiatives	21
1.3.2. Competition policy and growth drivers	23
2. COMPETITION INSTRUMENTS AND CASE STUDIES	25
2.1. The EU 2020 Strategy and the Flagship Initiatives	25
2.2. Introduction to the case studies and their selection	26
2.2.1. Choice of cases	28
2.3. The link between competition instruments and Flagship Initiatives	28
2.3.1. Antitrust	31
2.3.2. Merger control	31
2.3.3. State aid	32
2.3.4. Liberalisation	32
2.3.5. Sector specific measures	33
3. IMPLICATIONS AND PERSPECTIVES	35
3.1. General points from the recommendations	35
3.1.1. Keeping national interests in place	37
3.1.2. Applying the right instruments at the right point in time	38
3.1.3. Wider economic implications	39
3.2. Recommendations	39
3.2.1. Clarifying framework around standard essential patents	39
3.2.2. Create a Single Market for reserve capacity for energy	40
3.2.3. Avoid abuse of interconnector management of energy infrastructure	41
3.2.4. Bringing the USO up to date	41
3.2.5. Better access to funding for rollout of high speed internet	43
3.2.6. Moving away from price caps on roaming charges	43

3.2.7. Liberalisation of the aviation sector - allocation of slots	44
3.2.8. A more balanced approach to merger control	46
3.2.9. Safeguarding the leniency system	47
3.2.10. Consistent crises rules for State aid to the banking sector	48
3.3. Conclusions	49
REFERENCES	51
LIST OF QUOTED DECISIONS	59
ANNEX A: CASE ASSESSMENT TEMPLATE	61
ANNEX B: STANDARD ESSENTIAL PATENTS	62
ANNEX C: ABUSE OF ENERGY INFRASTRUCTURE	66
ANNEX D: SECURITY OF ENERGY SUPPLY AND CAPACITY PAYMENTS	72
ANNEX E: UNIVERSAL SERVICE OBLIGATION IN THE POSTAL SECTOR	77
ANNEX F: WIDESPREAD AND AFFORDABLE ACCESS TO HIGH SPEED INTERNET	82
ANNEX G: CAPS ON INTERNATIONAL ROAMING CHARGES	86
ANNEX H: LIBERALISATION OF THE AVIATION SECTOR	90
ANNEX I: MERGERS IN THE AIRLINE INDUSTRY	95
ANNEX J: RECENT CARTEL CASES	101
ANNEX K: STATE AID IN THE EUROPEAN BANKING SECTOR	106

LIST OF ABBREVIATIONS

ACER	Agency for the Cooperation of Energy Regulators
Art.	Article
CRD	Capital Requirements Directive
CRM	Capacity Remuneration Mechanisms
EBA	European Banking Authority
ECB	European Central Bank
ECON	Committee on Economic and Monetary Affairs in the European Parliament
EEA	European Economic Area
ECOFIN	Economic and Financial Affairs Council
EMU	European Monetary Union
ENTSO-E	European Network of Transmission System Operators for Electricity
ERGEG	European Regulators' Group for Electricity and Gas
ESM	European Stability Mechanism
EU	European Union
EUR	Euro
EWEA	European Wind Energy Association
FICORA	Finnish Communications Regulatory Authority
FRAND	Fair, Reasonable and Non-Discriminatory (paradigm)
GDP	Gross domestic product
ICT	Information and Communications Technology
ISP	Internet service provider
LCC	Low Cost Carrier

Mbps Megabits per second

n.d. no date

OECD Organisation for Economic Co-operation and Development

Ofcom Office of Communications (UK regulator for telecommunication)

OJ Official Journal of the European Union

para. paragraph

R&D Research & Development

SAM State aid modernisation

SGEI Services of General Economic Interest

SIFI Systemically Important Financial Institution

SME Small and medium sized enterprise

SRM Single Resolution Mechanism

SSM Single Supervisory Mechanism

SvK Svenska Kraftnät (Swedish electricity TSO)

TEU Treaty on the European Union

TFEU Treaty on the Functioning of the European Union

TSO Transmission System Operator

UK United Kingdom

US United States

USO Universal Service Obligation

USP Universal Service Provider

VAT Value Added Tax

WiFi Wireless Fidelity (= wireless internet)

LIST OF TABLES

Table 1:	Empirical evidence of the relationship between competition and growth	18
Table 2:	Examples of merits and limits of competition	22
Table 3:	Growth drivers	24
Table 4:	Case overview	27
Table 5:	Effect of competition instruments on the Flagship Initiatives	29
Table 6:	Summary of recommendations	36
Table 7:	Standard essential patents: Link between competition instruments and growth	64
Table 8:	Abuse of energy infrastructure: Link between competition instruments and growth	70
Table 9:	Member States with Capacity Remuneration Mechanisms	73
Table 10:	Capacity payments: Link between competition instruments and growth	75
Table 11:	Postal service obligation: Link between competition instruments and growth	79
Table 12:	USO costs of banking services in Norway and Sweden	80
Table 13:	Widespread and affordable access to high-speed internet: Link between competition instruments and growth	84
Table 14:	Caps on international roaming charges: Link between competition instruments and growth	88
Table 15:	Liberalisation of the aviation sector: Link between competition instruments and growth	92
Table 16:	Post-merger market shares in the Ryanair/Aer Lingus and Olympic/Aegean merger cases	96
Table 17:	Airline mergers: Link between competition instruments and growth	98
Table 18:	Cartel cases: Link between competition instruments and growth	103
Table 19:	Overview of State aid communications and 2012 legislative proposal	107
Table 20:	State aid for the European banking sector: Link between competition instruments and growth	111

LIST OF FIGURES

Figure 1: The resource efficiency channel	15
Figure 2: The entry/exit channel	16
Figure 3: The innovation channel	17
Figure 4: Effects of competition policy to growth	21
Figure 5: Stakeholders' interests in cross-border energy trade	66
Figure 6: Transmission capacity between Germany and Western Denmark, 2010-2011	68
Figure 7: Guidelines for State aid to roll-out of broadband	83
Figure 8: Eurotariff maximum roaming charge per minute in Euros (without VAT)	87
Figure 9: Affected routes in Ryanair/Aer Lingus cases	96
Figure 10: Change in resident Banks' holding of total outstanding government debt, 2005-2012	109
Figure 11: Resident Banks' holding of total outstanding government debt 2012	110
Figure 12: Funding interest rates for SMEs 2013	111

LIST OF BOXES

Box 1: Theories on economic growth	14
Box 2: Competition instruments	19
Box 3: Flagship Initiatives in the EU 2020 Strategy	26
Box 4: Case assessment template	61
Box 5: Key points: Standard essential patents	65
Box 6: Key points: Abuse of energy infrastructure	71
Box 7: Key points: Security of energy supply and capacity payments	76
Box 8: Key points: Universal service obligations in the postal sector	81
Box 9: Key Points: Widespread and affordable access to high-speed internet	85
Box 10: Key points: Caps on international roaming charges	89
Box 11: Key points: Liberalisation of the aviation sector	94
Box 12: Key points: Mergers in the airline sector	100
Box 13: Key points: Recent cartel cases	105
Box 14: Key points: State aid for the European banking sector	114

EXECUTIVE SUMMARY

In 2008, the global financial crisis sent shock waves through the financial systems that soon spread to the real economy as well. In the EU, the crisis was long-lasting and economic growth stalled.

The crisis pushed stimulating economic growth to the top of the political agenda. In 2010 the European Commission presented a new strategy for economic recovery which includes a set of ambitious targets for the EU to achieve by 2020, the Europe 2020 Strategy.¹

The President of the European Commission, José Manuel Barroso, expressed the need for action in the preface to the new strategy: *'2010 must mark a new beginning. I want Europe to emerge stronger from the economic and financial crisis... The flagship initiatives set out in this paper show how the EU can make a decisive contribution.'*²

The strategy contains seven so-called Flagship Initiatives³ which highlight areas of special economic, social, or political significance. Each Flagship Initiative serves as a manual for action in particular areas – research and development (R&D), job creation, resource efficiency etc. – to contribute to the overall goal of stimulating economic growth.

In this report, we examine how competition policy fosters the Flagship Initiatives and economic growth. We show how current competition policy has already contributed and how future developments in competition policy can contribute even more.

The study builds on economic theory along with ten case studies picturing the practical application of competition policy in different sectors. In practice, competition policy involves one or more of five different competition instruments: Antitrust, merger control, State aid, liberalisation, and sector specific measures.

We analyse the link between competition policy and growth from two parallel perspectives. The first perspective is the EU 2020 Strategy, where we analyse how competition policy affects the Flagship Initiatives. The second perspective is economics, where we examine how competition policy affects economic growth drivers. The fundamental growth drivers are the same for the two perspectives, even though the terminology differs.

Our main conclusion is that competition policy provides a significant contribution to the achievement of the Flagship Initiatives from the EU 2020 Strategy, and, ultimately, to economic growth. We demonstrate that competition plays a crucial role in promoting productivity and innovation as drivers of economic growth. This requires well-functioning competition policy, which ensures intervention if, and only if, effective competition is impeded.

The main conclusion coincides with the views of the European Commission. In 2012, the Vice-President of the European Commission, Joaquín Almunia, commented on competition policy as a means to achieve the EU 2020 Strategy: *'It is the policy of the Commission to mobilise all available resources to turn Europe 2020 into a success – and competition policy can do a great deal in this respect'*⁴.

¹ European Commission (2010a), 'Europe 2020: A strategy for smart, sustainable and inclusive growth', <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC2020:EN:NOT>.

² European Commission (2010a), 'Europe 2020: A strategy for smart, sustainable and inclusive growth', p. 2-3.

³ European Commission (2010a), 'Europe 2020: A strategy for smart, sustainable and inclusive growth', p. 5-6. The Flagship Initiatives include: *Innovation Union*, *Youth on the Move*, *A Digital Agenda for Europe*, *A Resource efficient Europe*, *An industrial Policy for the globalisation era*, *An agenda for new skills and jobs*, and *European platform against poverty*.

⁴ Almunia, J. (2012), 'Competition policy for the post-crisis era', *Speech presented at lecture series by Antitrust Division of the US Department of Justice, Washington*, http://europa.eu/rapid/press-release_SPEECH-12-249_en.htm.

The main conclusions are based on three findings:

- Competition plays a crucial role, which is also theoretically well-founded, in promoting productivity and innovation as drivers of economic growth. This means that competition policy, which intensifies competition, will stimulate growth.
- The ten case studies show that the practical application of competition instruments in a wide range of sectors delivers a positive impact on most Flagship Initiatives. Consequently, competition policy stimulates growth by supporting the Flagship Initiatives.
- The ten case studies also show that the contribution from competition towards achieving the Flagship Initiatives and economic growth can be improved by strengthening competition policy and its application.

First, economic theory shows that competition provides incentives for businesses to be more efficient in their use of resources leading to lower costs, lower prices, and higher sales. This effect is increased by competition driving less productive businesses out of the market while allowing more efficient businesses to expand or new businesses to enter. When productive businesses replace less productive ones, overall efficiency in a sector rises. Increased efficiency means that the sector can reduce prices and thus sell and produce more. When the buyers are other businesses, the lower prices make these businesses more competitive, which in turn enables them to expand. When the buyers are private consumers, the lower prices will imply higher real income and potentially increased consumption. For example, increased competition in the aviation sector has reduced costs and led to cheaper fares. This has enabled the airline industry to expand and sell more tickets, but it has also benefitted other industries by making business travelling less costly, see Annex H. Also, competition provides an incentive for businesses to innovate in order to differentiate themselves from competitors by offering more attractive products and services. New products can open up new markets and induce economic growth. In sum, the behaviour of companies seeking to expand their market share and earn higher profits through increased efficiency and innovation creates economic growth.

Second, our case studies demonstrate how competition policy is applied in practice to remedy market inefficiencies and allow competition to become more effective. The ten case studies cover the practical application of each of the five competition instruments in such diverse sectors as energy, postal, telecommunication, transport, manufacturing and financial services.

The case studies show that the practical application of competition policy has led to a direct impact on a number of Flagship Initiatives. In particular, the Flagship Initiative *An industrial policy for the globalisation era* is affected in practically all case studies. The reason is twofold. *First*, when competition policy strengthens competition and leads to lower prices, other businesses will benefit from cheaper supply and become more competitive. This happens when competition policy leads to e.g. cheaper airline tickets, postage, energy or bank loans. *Second*, competition policy ensures a level playing field for all market participants, including SMEs, which means that the most effective businesses can gain market share, benefit from economies of scale and become more competitive. The EU is in a position to secure this level playing field across national borders and thus strengthen the Single Market, thereby further harnessing the benefits from competition and economies of scale. *Third*, our case studies also reveal shortcomings in the application of competition instruments. We offer a series of recommendations for how competition instruments can be applied better to achieve the Flagship Initiatives and economic growth. A few examples are:

- **Energy infrastructure: Avoiding abuse of interconnector management**
Interconnectors link electricity networks and enable electricity flows between Member States. The capacity of interconnectors is sometimes 'managed' by national regulators to limit the inflow of cheap electricity from other Member States. We recommend a more active stance to combat such practices either through a traditional antitrust approach or sector specific measures.
- **State aid in the banking sector: consistent crisis regime**
State aid has been applied differently in the banking sector throughout the EU, which has led to uncertainty and uneven treatment of investors. Uncertainty causes risk premiums, which increase funding costs for banks. High funding costs are passed on to bank customers as higher interest rates which in turn inhibits investments and ultimately economic growth. An EU wide regime on bank resolution has been proposed, but it will not be fully implemented until 2018. We argue that the more stringent bail in requirements proposed, but yet not implemented, could have been put in place at an earlier stage and should be moved forward to 2015.
- **Standard essential patents: Clarifying framework**
Patent rights and the right to intellectual property ensure important incentives for businesses to innovate. Innovation in turn is an important driver of growth. Royalty payments to utilise a standard essential patent are to be consistent with the FRAND paradigm, which states that royalties must be **Fair, Reasonable and Non-Discriminatory**. Compliance with this paradigm and setting a FRAND-compatible royalty is, however, left for the licensor. This potentially creates hold-up situations for licensees who are dependent on access to standard essential patents to be able to compete in the market place. Clarification from the EU Commission on the FRAND paradigm would reduce uncertainty, ease the use of standard essential patents and possibly stimulate innovation, competition, and growth.

We also propose recommendations for future policy on seven other topics which are: security of energy supply and capacity payments, universal service obligation in the postal sector, widespread and affordable access to high speed internet, caps on international roaming fees, liberalisation of the aviation sector, mergers in the airline industry, and recent cartel cases. The detailed recommendations are presented in section 3.2.

In general, most recommendations aim at either keeping potentially harmful national interests at bay, see section 3.1.1, or creating larger cross-border markets with increased benefits from competition, see section 3.1.3. In this way the proposals correspond to traditional Single Market policy ensuring the free movement of goods and services between Member States.

Other common points of interest from the recommendations concern the importance of choosing the right blend of competition instruments. In several cases, more than one competition instrument, e.g. liberalisation and sector specific measures, may supplement each other, and the challenge is to choose the right blend of instruments. However, there are also instances where competition instruments are substitutes and the initial choice of competition instrument, e.g. antitrust or sector specific measures, may have a significant bearing on the effectiveness and timeliness of competition policy. Finally, the point of choosing the right level of intervention is also a key issue. Our recommendations are tailor-made, they correspond to the different scenarios and call for more as well as for less intervention respectively. See section 3.1.2 for more on these points.

The report is divided into three chapters.

Chapter 1 develops the relationship between competition and growth. Economic theory on competition as a growth driver, especially through stimulating productivity and innovation, is explored, and the role of competition policy to broaden the beneficial effects of competition is outlined.

Chapter 2 analyses the usefulness of each of the five competition instruments in achieving the seven Flagship Initiatives set out in the EU 2020 Strategy, and, ultimately, in stimulating economic growth. The analysis is based on the ten case studies which are briefly presented in the chapter. The in-depth analysis of each of the ten case studies is placed in a series of **Annexes A to K** to the report. The study focuses to prove the causal link of competition to growth and the EU 2020 strategy, it does not offer any quantification of the found contribution.

Chapter 3 concludes with the general policy implications derived from the case studies. Additionally, ten concrete policy proposals, with inspiration from the case studies, are presented.

Several of the case studies concern areas undergoing continuous change. For this reason close monitoring of new developments was maintained for a couple of months approaching 1 July 2013, which served as a cut off-date after which no new developments were included in the report.

1. OVERVIEW AND THEORY

Competition policy is closely linked to the EU goal of creating a Single Market for goods, services, capital, and labour. The powers conferred on the European Commission and the European courts to decide issues of competition policy are central to European Policy.⁵

This report discusses how competition policy can contribute to economic growth by stimulating productivity and investment. This chapter provides a theoretical overview of how competition may stimulate economic growth in section 1.1. This is followed, in section 1.2, by a presentation of the competition instruments available to form effective competition policy, aiding the competitive process. Finally, in section 1.3., the theoretical link between competition policy, the Single Market, and the Flagship Initiatives of the EU 2020 strategy is established.

1.1. Competition and economic growth

The term economic growth describes the increase in the production of goods and services in an economy, accompanied by an increase in incomes and jobs.

The conventional measure to describe the magnitude of economic growth in a comparable fashion is gross domestic product (GDP); a currency equivalent of all recognised production in an economy over a specified timeframe.

On a household level, positive, inflation-adjusted economic growth per capita usually translates to higher incomes and increased purchasing power.⁶ In such a growing economy, average households are able to afford the purchase of more or higher quality goods and services, going hand in hand with an increase in the standard of living.

Several processes may, in combination or alone, drive economic growth. Prominent factors, such as increasing productivity⁷ and investments⁸ that may be induced by competition, enable economies to grow.

A brief account of the development of the theory on economic growth and on the role of productivity and investment as drivers of growth is presented in Box 1.

⁵ See TEU Art 3 para. 3 where the responsibilities of the Union in establishing a Single Market, including working for '*... sustainable development of Europe based on balanced economic growth ...*' and working for a '*... highly competitive social market economy ...*', are laid down. See also TFEU Art 3 para. 1 where the competence of the Union to establish the '*... competition rules necessary for the functioning for the internal market ...*' are laid down. See also Protocol No. 27 of the TEU and of the TFEU where the importance that '*competition is not distorted*' is emphasised.

⁶ However, inflation-adjusted or *real* growth per capita is not necessarily equally distributed across an economy. Even in an economy with sound economic growth some households or individuals may experience a reduced ability to purchase goods and services. For instance this might be due to unemployment.

⁷ Productivity is a measure of the amount of inputs needed to produce a certain output. For instance, an output could be an automobile and the inputs required could be labour, energy and raw materials. In this example, higher productivity would entail that an automobile could be produced with fewer inputs of either labour, energy or raw materials.

⁸ Additional growth drivers will be elaborated on in section 1.3.

Box 1: Theories on economic growth

Classical growth theory was propagated by thinkers such as Adam Smith, David Hume, and David Ricardo. The focus of early theory explaining growth was on the benefits of trade and specialisation, being regarded as main drivers of growth. The central ideas were those of *absolute advantage* introduced by Adam Smith and *comparative advantage* propagated by David Ricardo, as well as the fact that different countries or regions are endowed with different levels of capital and labour. Even if a country produces all goods using less capital and labour than another (absolute advantage), the ratio of capital and labour required in production of goods may differ. When the ratio differs, goods that require either more labour or more capital in production can be produced relatively more efficient in the countries with respectively higher endowment of either labour or capital (comparative advantage). Hence, through trade, exchanging efficiently produced goods allows countries to specialise in their relative strengths and make the best use of, perhaps, unevenly distributed endowments of capital and labour. This frees domestic resources to foster other parts of domestic production, generating economic growth.

Neo-classical growth theory was developed in the 1950s with a focus on the relationship between labour, capital and technological progress. An important result was that increasing the capital stock, by investing in e.g. buildings and machinery, would create economic growth, because labour could be used more efficiently. Another result was that technological progress, an exogenous variable in this model, would lead to economic growth by allowing a more efficient use of both labour and capital, i.e. boosting productivity. Neo-classical growth theory is often ascribed to Robert Solow and Trevor Swan for their Solow-Swan model.

Endogenous growth theory was developed in the 1980s and 1990s with a focus on explaining, or *endogenising*, the sources of technological progress and productivity increases. A new element was human capital, i.e. the knowledge and experience which makes labour efficient. The theory offered a better understanding of the effects on growth from the accumulation of traditional capital, e.g. buildings and machinery, as well as human capital. This is essential in explaining the drivers of growth in modern knowledge-based economies. The economists Paul Romer and Robert Lucas made major contributions to the development of the endogenous growth theory.

Source: For an introduction to the classical growth theory see for instance Persson, K. G. (2010), 'An Economic History of Europe. Knowledge, Institutions and Growth, 600 to the Present', *Cambridge University Press*. For more on neo-classical growth theory see for example: Solow, R. M. (1956), 'A Contribution to the Theory of Economic Growth', *Quarterly Journal of Economics (MIT Press)*, Vol. 70 (1), pp. 65–94 or Swan, T. W. (1956), 'Economic Growth and Capital Accumulation', *Economic Record*, Vol. 32, pp. 334–361. In regards to more information on endogenous growth theory see : Romer, P. M. (1994), 'The Origins of Endogenous Growth', *The Journal of Economic Perspectives*, Vol. 8, No. 1., pp. 3–22 or Lucas, R. E. (1988), 'On the Mechanics of Economic Development', *Journal of Monetary Economics*, Vol. 22, pp. 3–42. For a more recent publication analysing the relationship between competition and growth see for example: Office of Fair Trading (2011), 'Competition and Growth', *OFT 1390*.

Increased productivity allows more goods and services to be produced with the same resources. For example, the same amount of labour, i.e. hours of work, can be used to produce more output. More investments, which lead to an accumulation of capital, allow labour to be utilised more efficiently. An accumulation of capital can be, for instance, better infrastructure in the form of new and better roads or better telecommunication networks. At the company level capital accumulation can be, for instance, new and better production facilities, e.g. more efficient factories.

Competition leads to efficient use of resources and hence is a pre-requisite for growth. The effect of competition is normally divided into three categories:

- *Productive efficiency*: Competition drives firms to use their inputs in the most efficient way in order to supply goods and services at the lowest possible costs. Hence, competition effects productivity through a **resource efficiency channel**.

As a result of resource efficiency, competition will drive inefficient companies out of business and allows efficient companies to enter markets and/or gain market share. Hence, competition replaces inefficient with efficient production through an **entry/exit channel**.

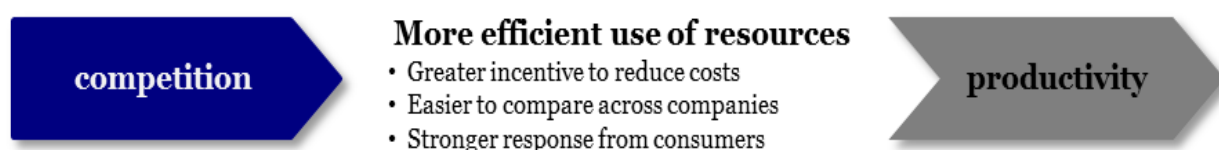
- *Dynamic efficiency*: Competition drives companies to innovate and create new products and services to gain market share. Hence, competition leads to technological progress through an **innovative channel**.
- *Allocative efficiency*: Competition drives firms to only produce the goods and services that consumers demand. Efficient allocation also means that consumers who values the goods or services at least as much as the true cost of producing the product will be the consumers buying the product in the end.⁹

Productive and dynamic efficiency are, at face value, more important to economic welfare and growth than allocative efficiency.¹⁰ Therefore, for the remainder of this analysis of links between competition, productivity and investment, and ultimately growth we focus on the resource efficiency channel, the entry/exit channel, and the innovation channel. The three channels are explained in further detail below.

1.1.1. The resource efficiency channel

The resource efficiency channel shows how competition prompts companies to optimise their use of resources, see Figure 1.

Figure 1: The resource efficiency channel



Source: Copenhagen Economics.

In a competitive market firms constantly face the challenge of being at least as productive as their competitors in order to maintain or gain market share.

When competition is effective, consumers choose the cheapest products at the quality they desire. Companies must engage in a constant struggle to keep costs down and make the best use of available resources. Otherwise, they face the very real risk of suffering losses and having to leave the market (see entry/exit channel below). This risk is diminished without effective competition, meaning that competition ensures a greater incentive to reduce costs.¹¹ An important element in keeping down costs is, of course, to have low input prices. Hence, competition leading to lower prices in one product market will have a

⁹ For a description of allocative efficiency see for instance Cabral, L. M. B. (2000), 'Introduction to Industrial Organization', MIT Press, Cambridge, Massachusetts, pp. 26-27.

¹⁰ See for instance Vickers, J.S. (1995), 'Concepts of Competition', *Oxford Economic Papers*, New Series, Vol. 47, No. 1, p. 7.

¹¹ Schmidt M. K. (1997), 'Managerial Incentives and Product Market Competition', *Review of Economic Studies*, Vol. 64(2).

positive spill-over effect on other markets where the product is used as an input. Moreover, lower prices will stimulate demand and economic activity.

The presence of competitors under effective competition makes it possible to compare products or services across companies with respect to performance and price. This puts pressure on managers and encourages incentives to increase productivity or lower prices.¹²

Finally, companies facing effective competition will experience stronger responses from consumers/customers following changes in price or quality. For instance, by introducing special offers and discounted products, retailers experience an almost immediate effect on their market share under effective competition. Consequently, the incentive to increase productivity is fostered by competition.¹³

1.1.2. The entry/exit channel

The second channel through which competition can stimulate productivity and investments, is the entry/exit channel, see Figure 2.

Figure 2: The entry/exit channel



Source: Copenhagen Economics.

Performance driven market entry and exit of companies increases overall productivity. If a firm facing effective competition is not adequately productive, it will lose market share to typically more productive competitors and will eventually have to exit the market. Over time and with continuous innovation, only the most productive firms will survive, making the entire economy more productive. In the absence of effective competition, companies with low productivity would be far more likely to remain on the market.

New companies managing to gain a foothold in the market usually do so because of a competitive advantage in the form of high productivity. This means that the expansion or entry of efficient companies will contribute to the overall productivity in the economy. In the absence of effective competition, less efficient companies would be more likely to enter, or to remain in the market, or even to expand their production, which would lead to lower overall productivity.¹⁴

In this way, the exit of inefficient companies along with the entry of efficient companies are important contributors to increased productivity and to economic growth.¹⁵¹⁶

¹² Nalebuff, B. J. & Stiglitz, J. E. (1983), 'Information, Competition and Markets,' *The American Economic Review, Papers and Proceedings*, Vol. 73(2).

¹³ Willig R. D. (1987), 'Comparative Governance and Market Structure', in Rasin, A. & Sadka, E., *Econometric Policy in Theory and Practice*, Macmillan, London.

¹⁴ Entry by companies into a particular market may also be prompted by the introduction of new products (innovation, see innovation channel, 1.1.3. below) or financial backing from a mother company wanting to diversify. However, given effective competition such entrants are unlikely to remain on the market if they cannot match the productivity of existing competitors.

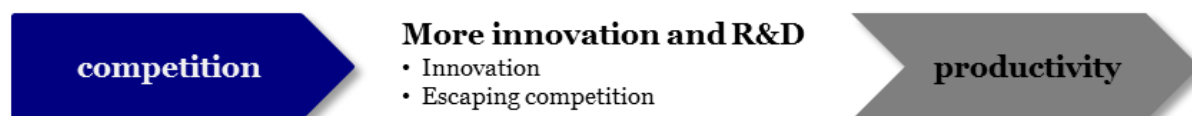
¹⁵ OECD (2004), 'Understanding Economic Growth', *OECD Publishing*.

¹⁶ However, at a local level the exit companies, albeit inefficient, may cause (temporary) disruption through loss of jobs. But the alternative would be to preserve inefficient companies, e.g. through State aid or protectionism, which would maintain the affected local communities at a low productivity level and gradually lead to the deterioration of the overall productivity in the economy. Maintaining local communities at a low productivity level would be contrary to sustainable development and growth and also the EU 2020 Flagship Initiative *An*

1.1.3. The innovation channel

Finally, competition can also stimulate productivity and investments through the innovation channel, see Figure 3.

Figure 3: The innovation channel



Source: Copenhagen Economics.

Competition gives companies an incentive to develop new technologies and better products, i.e. to invest in innovation. Faced with effective competition, innovative products and services may provide companies with an opportunity to escape competition temporarily, gain market share and profitability – until competitors catch up. Consequently, an additional benefit from competition may be the development of new products, services, and markets with more diverse choices for consumers. Without competition there is usually no need to innovate. At best, a monopolist would, so to speak, be using costly innovation to out-compete its own existing products rather than out-competing competitors.¹⁷

However, maintaining incentives to innovate in response to competition requires a certain legal framework. Without regulation in place to protect the proceeds from innovation, the link between competition, innovation, and growth remains fragile. Returns from innovation can be diminished quickly, when competitors adapt their products to incorporate such innovative changes without incurring any significant R&D cost.¹⁸ A well-functioning patent system mitigates such mechanisms.

In sum, competition makes a significant contribution through the resource efficiency channel, the entry/exit channel, and the innovation channel to productivity, investments, and, ultimately, to economic growth. A considerable range of literature aims at quantifying the effects of competition on productivity and growth. See Table 1 for a selection of results.

Empirical studies by Jorgensen and Nomura,¹⁹ Baldwin and Gu,²⁰ Asplund and Nocke²¹ and Aghion, Blundell, Griffith and Prantl²² show a robust link between competition and productivity for a variety of different sectors, see Table 1.

agenda for new skills and jobs, which focuses on modernising labour markets and developing skills, see section 2.1.

¹⁷ Tirole, J. (1988), 'The Theory of Industrial Organization', MIT Press, Cambridge, Massachusetts.

¹⁸ Schumpeter, J. A. (1942), 'Capitalism, Socialism and Democracy', Harper & Row, New York.

¹⁹ Jorgenson, D. W. & Nomura, K. (2007), 'The Industry Origins of the US-Japan Productivity Gap', *Economic Systems Research*, Vol. 19(3), pp. 315-341. Jorgensen and Nomura investigate which factors explain the difference in productivity levels between Japan and the United States. They find that the Japanese industries which are sheltered from international competition (e.g. agriculture, forestry and fishery and retail trade) account for more than 40 per cent of the productivity gap between Japan and the US in 2004.

²⁰ Baldwin, J. R. & Gu, W. (2006), 'Competition, Firm Turnover and Productivity Growth', *Economic Analysis Research Paper Series*, No. 42, Statistics Canada. Baldwin and Gu find that competition can explain up to 70 per cent of productivity growth in a sample of Canadian production companies over the period from 1973 to 1999 suggesting that competition is a key driver for productivity and may even be one of the main explanations why productivity varies across countries.

²¹ Asplund, M. & Nocke, V. (2006), 'Firm Turnover in Imperfectly Competitive Markets', *Review of Economic Studies*, Vol. 73(2), pp. 295-327. Asplund and Nocke examine the effect of market size on entry and exit. They look at hair salons in Sweden on local geographic markets of varying size, and they find that on average the life span of companies on small markets exceeds that of companies on large markets, and they conclude that competition is more intense on larger markets forcing companies to be more efficient.

²² Aghion, P., Blundell, R., Griffith, R., Howitt, R. & Prantl, S. (2004), 'Entry and Productivity Growth: Evidence from Micro-Level Panel Data', *Journal of the European Economic Association, Papers and Preceedings*, Vol. 2

Table 1: Empirical evidence of the relationship between competition and growth

Conclusion	Data
Jorgensen and Nomura conclude that open markets and competition from abroad increase productivity.	42 sectors in the US and Japan from 1960-2004.
Baldwin and Gu conclude that competition contributes with up to 70 per cent to productivity growth.	28.000 Canadian production companies from 1973-1999.
Asplund and Nocke conclude that competition increases with market size and allows more efficient companies to replace less efficient companies.	Statistical data and interviews/surveys from 1.030 Swedish hair salons.
Aghion, Blundell, Griffith and Prantl conclude that market entry increases growth and productivity.	3.827 companies in 166 different sectors from 1980-1993.

Source: Copenhagen Economics.

(2/3), pp. 265-275. Aghion, Blundell, Griffith and Prantl investigate the effect on productivity growth generated by the entry of foreign workers into the United Kingdom. They compare sectors with high and low shares of foreign workers and conclude that entry has a positive and significant effect.

1.2. The use and scope of competition instruments

Policy makers have a wide range of competition instruments available to form an effective EU competition policy. These instruments include antitrust, merger control, State aid, liberalisation, and sector specific measures, see Box 2.

Box 2: Competition instruments

Antitrust

Antitrust measures are used to stop anti-competitive agreements between undertakings, such as cartels and the abuse of a dominant market position as well as other restrictive practices.

Merger control

Merger control is used to remedy or block mergers which may impede effective competition.

State aid

State aid is used to remedy temporary market failures, e.g. if sound businesses cannot get access to capital or to change socially or politically undesirable market outcomes, e.g. if particular regions lag behind in economic growth.

Liberalisation

Liberalisation is used to unlock the benefits of competition in the form of higher productivity and growth in regulated sectors.

Sector specific measures

Sector specific measures are used to create a foundation for competition in areas where competition cannot, or cannot yet, function on its own. Sector specific measures are particularly pervasive in industries characterised by strong economics of scope and scale, e.g. infrastructure, utility and network industries, and include regulation of energy production capacity and regulation of the universal service obligation (USO) in the postal sector. Typically, such areas may be newly liberalised.

Source: Copenhagen Economics.

Note: Antitrust decisions, Merger control, and State aid control are regular competition instruments functioning in a well-established enforcement regime, whereas liberalisation and sector specific measures are policy instruments which may include a number of different initiatives to reach a specific goal.

This report examines the channels through which each of the competition instruments, as part of the overall competition policy, can affect sectors to create economic growth and, contribute to the Flagship Initiatives of the EU 2020 Strategy. The strategy and the Flagship Initiatives are described in further detail in chapter 2.

In recent history, all competition instruments have found application:²³

- **Antitrust:** The importance of antitrust legislation to address anti-competitive practices such as cartel activity and abuse of dominance, as laid down in Article 101

²³ An overview of recent application of the five competition instruments can be found European Commission (2012a), 'Report on Competition Policy 2012', <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0257:FIN:EN:PDF>, European Commission (2011a), 'Report on Competition policy 2011', http://ec.europa.eu/competition/publications/annual_report/2011/part1_en.pdf, and editions from previous years. Further in European Commission (2012b), 'Report from the Commission on Competition Policy 2012', Commission staff working paper, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2013:0159:FIN:EN:PDF> and European Commission (2011b), 'Report from the Commission on Competition Policy 2011', Commission staff working paper, http://ec.europa.eu/competition/publications/annual_report/2011/part2_en.pdf, including editions from previous years.

and 102 TFEU, has been demonstrated in a series of large, high-profile cartel cases. Most recently, in 2012, the companies involved in the so-called monitor tube cartel were found to have engaged in price-fixing and were fined nearly EUR 1.5 billion by the Commission.²⁴ Also, in 2012 the European courts upheld significant Commission decisions in the antitrust area: A 2007 Commission decision against MasterCard concerning cross-border inter-bank fees which were found to restrict competition and raise the costs for merchants, was upheld by the General Court.²⁵ The Court of Justice upheld a 2005 Commission decision against AstraZeneca for abusing its dominant position with an anti-ulcer drug.²⁶

- **Merger control:** The number of merger cases addressed by the Commission over the past ten years amounts to around 300 cases per year. However, the overwhelming majority, typically more than 90 per cent, of the mergers are cleared without any intervention. For instance, a recently approved merger between the record companies Universal and EMI cleared after adjustments to the merger proposal disabled all concerns about negative effects on consumers of digital music, and innovation in the market.²⁷ Another big merger that was cleared by the European Commission, however subject to conditions, was the 2009 merger between the Swedish and Danish incumbent postal operators, Posten and Post Danmark.²⁸ The merger was found not to impede effective competition and not to risk liberalisation of the postal market in Denmark, which, at the time, was not yet fully opened to competition. All in all, 2012 saw 272 merger cases and fewer than 20 interventions by the Commission. Merger activity is directly influenced by the economic climate. At the onset of the economic crisis, many mergers were so-called 'rescue mergers', whereas fewer mergers were part of a long-term growth strategy. Over the past couple of years, the Commission has handled potentially problematic cases in sectors such as air transport, supermarkets, financial services, delivery services and pharmaceuticals.²⁹ Proposed mergers between Ryanair and Air Lingus, or between Aegean and Olympic would have most likely resulted in a quasi monopoly service structure on many Irish and Greek airline routes, to the detriment of European businesses and consumers. Both mergers were blocked to maintain a competitive market with diverse and competitively priced services.³⁰
- **State aid:** For the past five years, State aid activity has to a large degree been influenced by the on-going economic crisis. The main objective has been to ensure financial stability through crisis packages, ensuring access to capital for banks by providing guarantees on liabilities. By the end of 2011, the Commission had

²⁴ Decision of 5 December 2012 in the case COMP/39437 — TV and computer monitor tubes and DG Competition (2013), Note on 'Cartel Statistics', <http://ec.europa.eu/competition/cartels/statistics/statistics.pdf>.

²⁵ Decision of 24 May 2012 in the case T-111/08 — MasterCard and Others v Commission, <http://curia.europa.eu/juris/document/document.jsf?text=&docid=123081&pageIndex=0&doclang=en&mode=req&dir=&occ=first&part=1&cid=1092301>.

²⁶ Decision of 6 December 2012 in the case C-457/10 — AstraZeneca v Commission, <http://curia.europa.eu/juris/document/document.jsf?text=&docid=131490&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=1092196>.

²⁷ Decision of 23 March 2012 in the case COMP/M.6458 — Universal Music Group/EMI Music, OJ C93 30.3.2012, p. 15 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:093:0015:0015:EN:PDF>.

²⁸ European Commission (2009a), 'Mergers: Commission approves merger between Posten and Post Danmark, subject to conditions', press release, http://europa.eu/rapid/press-release_IP-09-612_en.htm

²⁹ European Commission (2011b), 'Report from the Commission on Competition Policy 2011', Commission staff working paper, pp. 17-18.

³⁰ European Commission (2013a), 'Mergers: Commission prohibits Ryanair's proposed takeover of Aer Lingus', press release, http://europa.eu/rapid/press-release_IP-13-167_en.htm and European Commission (2011c), 'Mergers: Commission blocks proposed merger between Aegean Airlines and Olympic Air', press release, http://europa.eu/rapid/press-release_IP-11-68_en.htm.

employed around EUR 1.6 trillion of State aid to stabilise European banks since 1 October 2008.³¹

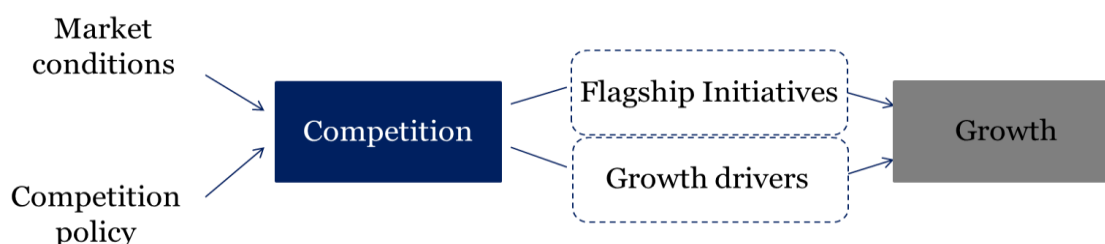
- **Liberalisation and sector specific measures:** Opening markets for competition is an on-going effort within the European Union to achieve and maintain a European Single Market for goods and services. However, liberalisation initiatives take a long time in the making; implementation is often gradual over several years and the results of liberalisation may take even longer to materialise. Also, liberalisation is typically linked to sector specific measures needed to create a level playing field for deregulated industries. Relevant sectors are, for instance, postal services, where the challenge is to combine competition with service obligations, or aviation, where the 'open skies' initiative leads to a new step forward. Further examples of liberalisation include the energy sector, where the political objective of introducing more renewable energy sources into increasingly deregulated and open energy markets marks a regulatory challenge. In addition, rulings from the European courts have contributed to increased competition in the health sector.

1.3. Competition policy and growth

The effect of competition policy on growth can be described in different ways. One way is to describe the link between competition policy and the Flagship Initiatives. This is a policy oriented description. Another way is to describe the link between competition policy and drivers of economic growth. This description is in line with economic theory. However, the fundamental growth drivers are the same in both cases, so it is merely a matter of two different ways to describe the same relationships. Moreover, the first step in both descriptions is to describe how competition policy affects and strengthens competition.

In this report, we use both descriptions (Flagship Initiatives and growth drivers) to examine the relationship between competition policy and growth, see Figure 4.

Figure 4: Effects of competition policy to growth



Source: Copenhagen Economics.

1.3.1 Competition policy and the Flagship Initiatives

Competition policy plays a central role in stimulating productivity and innovation by improving and restoring competition in the market place (see section 1.1.). However, the desirable effects of competition may be compromised by the presence of externalities, e.g. the harmful effects of pollution, which are not traded on market terms, and market failures, e.g. the potential underinvestment in education, where education investments may not be taken, despite positive payoffs.³² Table 2 illustrates this point in relation to the seven EU 2020 Flagship Initiatives.

³¹ European Commission (2012b), 'Report from the Commission on Competition Policy 2012', p. 3.

³² A market failure arises if the allocation of goods and services on a free market is inefficient. In this context, inefficiency means that the market allocation could be altered making at least one market participant better off, whereas no market participants would be made worse off. Market failures can occur in connection with public goods, e.g. fresh air or national defense, which have an external positive effect, an externality, not traded on market terms. In the absence of intervention this can lead to underinvestment in the public good

The Flagship Initiatives form a comprehensive set of goals for EU development, closely connected to fostering economic growth and achieving the EU Single Market (see Table 2.). Key aspects of the initiatives, such as innovation and resource efficiency, are inextricably linked to competition. Innovation and efficiency boost growth with tangible effects such as low prices, better product quality, and more variety, enabling EU citizens to achieve a higher standard of living. Other Flagship Initiatives, such as industrial policy, refer to the more technical aspects of competition instruments as growth drivers. With the help of concrete examples and case studies Chapter 2 will demonstrate how the use of competition instruments can contribute to the Flagship Initiatives and to economic growth.

Table 2: Examples of merits and limits of competition

Flagship Initiative	Economic keywords	Positive effects from competition	Issues not solved by competition
<i>Innovation Union</i>	Finance for innovation	Desire to innovate	Access to finance
<i>Youth on the Move</i>			
<i>A Digital Agenda for Europe</i>	Digital Single Market	High-speed internet	Coverage
<i>Resource efficient Europe</i>	Green energy	Efficient resource utilisation	Security of supply
<i>An industrial policy for the globalisation era</i>	Cross-border communication	Access to roaming	Low roaming prices
<i>An agenda for new skills and jobs</i>	e-Jobs in rural areas	High-speed internet	Coverage in rural areas
<i>European platform against poverty</i>			

Source: Copenhagen Economics.

Note: The link from competition to *Youth on the Move* and *European platform against poverty* is indirect and difficult to capture in a simple example. Nonetheless, the study will mention indirect links to this initiative and provide insights on how the initiative contributes to European growth, see chapter 2.

The table above shows that competition is not always enough to ensure that a politically desirable market outcome is achieved. The column titled 'Issues not solved by competition' indicates where competition alone cannot ensure the achievement of the objectives laid out in the Flagship Initiatives. In such instances the application of competition instruments is required to fully utilise the benefits from competition.

An example is the provision of important services to EU consumers, such as delivery of mail in rural areas, which would likely not be provided on market terms alone, because postal companies cannot earn profits by providing such services. By making these services a policy objective as Services of General Economic Interest (SGEI), governments may ensure continuous service provision.

Market failures and externalities may also require sector specific measures or other competition instruments to realise the full benefits of competition. An example are high-speed internet connections, where competition, through its pressure to innovate, has contributed to the technological progress of making high-speed internet connections

making all market participants worse off. For more on market failures, public goods and externalities see, for instance: Tirole, Jean (1988), 'The Theory of Industrial Organization,' MIT Press Cambridge Massachusetts.

available. However, competition does not ensure that coverage is always widespread, especially in rural areas.

Another example is cross-border communication. Competition between deregulated telecommunication companies and the opening of national networks has led to the development of the technology to allow international roaming. However, competition has not managed to exert a downward price pressure on international roaming in any significant way.

These examples show why a more tailored competition policy may be needed to reap the full benefits from efficient markets. European businesses, competing across borders, rely on effective competition policy as a prerequisite for a functioning market and economic growth. However, ultimately there may be synergies as well as trade-offs between competition policy and the Single Market:

- The more effective the Single Market, the larger the potential economies of scale and scope to be reaped by companies competing in specific product markets. However, the larger the markets,³³ the larger the firms can be before obtaining a dominant position, potentially threatening effective competition.
- Wider markets hold the potential for more intensive competition and more benefit from specialisation and trade. Single Market policies widen markets by removing barriers to trade. Consequently, Single Market policies enhance the effects of competition policy.
- But also a trade-off: Industrial policy with emphasis on creating large European firms to compete against companies from China, Japan and the US may threaten effective competition within the Single Market.

1.3.2 Competition policy and growth drivers

Competition policy plays an important role for economic growth by promoting growth drivers such as productivity, innovation, investments, and low prices (see also Table 3). We have shown how competition stimulates growth through three channels: Resource efficiency, entry/exit, and innovation. We also discussed how competition can stimulate incentives to *invest* – and we have argued that all these effects are enhanced when competition takes place on *wider markets*. Finally, we have argued that competition leads to lower *prices*, including lower input prices, lower costs, and more economic activity in follow-on markets.

Despite the benefits of competition, some policy objectives under the Flagship Initiatives cannot be achieved by competition alone. This is the case for policy objectives that involve outputs which would not be produced by free markets or at least not at politically acceptable prices (so-called Services of General Economic Interest, SGEI). The analysis in chapter 2 is based on ten case studies, see Annexes B-K, where we will apply the growth drivers outlined in Table 3 to assess the impact of the competition instruments on the achievement of the EU 2020 Flagship Initiatives, and economic growth.

³³ By markets we here mean relevant market in the legal sense, which is the relevant term when analysing dominance and potential abuse of a dominant position.

Table 3: Growth drivers

Growth drivers	Description
(1) Resource efficiency effect	Competition provides an incentive to cut costs and remain competitive.
(2) Replacement effect	Competition allows efficient companies to replace inefficient competitors.
(3) Innovation effect	Competition gives companies the incentive to innovate, to differentiate themselves and their products from competitors, and to gain a competitive edge.
(4) Investments	Investments are necessary to innovate and to build capital, including human capital, all leading to economic growth.
(5) Public goods	A Service of General Economic Interest may be underprovided for in a market with effective competition, because investment decisions are made without taking positive externalities, e.g. the effects of reducing pollution or providing education, into account.
(6) Price effect	Lower prices mean in general higher real wages and a higher standard of living.
(7) Market widening	Competition on a wider market, e.g. on a better functioning Single Market, is likely to be more effective and enhance the beneficial effects from competition.

Source: European Commission (2012a), 'Report on Competition Policy 2011'; Monti, M. (2010), 'A New Strategy for the Single Market. At the Service of Europe's Economy and Society' and OECD (2004), 'Understanding Economic Growth', *OECD Publishing*. Additionally, the presentation of growth drivers relies on the insights from section 1.1.

2. COMPETITION INSTRUMENTS AND CASE STUDIES

This chapter contains an analysis of carefully selected case studies. We will use the case studies to explore how competition instruments, such as antitrust and merger control, State aid, liberalisation, and sector specific measures contribute to economic growth and the achievement of the goals of the Flagship Initiatives from the EU 2020 Strategy.³⁴

2.1. The EU 2020 Strategy and the Flagship Initiatives

A central element of the EU 2020 Strategy is to give priority to smart, sustainable, and inclusive growth in all policy fields. To pursue these priorities the European Commission has proposed five targets with respect to employment, R&D, climate, education, and poverty - all to be achieved by 2020. The Commission set out seven so-called Flagship Initiatives to serve as catalysts in achieving the overall growth strategy. The initiatives are *Innovation Union*, *Youth on the move*, *A digital agenda for Europe*, *Resource efficient Europe*, *An industrial policy for the globalisation era*, *An agenda for new skills and jobs*, and *European platform against poverty*, see Box 3.

³⁴ European Commission (2010a), 'Europe 2020: A strategy for smart, sustainable and inclusive growth'.

Box 3: Flagship Initiatives in the EU 2020 Strategy

Innovation Union

to improve framework conditions and access to finance for research and innovation so as to ensure that innovative ideas can be turned into products and services that create growth and jobs.

Youth on the move

to enhance the performance of education systems and to facilitate the entry of young people to the labour market.

A digital agenda for Europe

to speed up the roll-out of high-speed internet and reap the benefits of a digital single market for households and firms.

Resource efficient Europe

to help decouple economic growth from the use of resources, support the shift towards a low carbon economy, increase the use of renewable energy sources, modernise our transport sector and promote energy efficiency.

An industrial policy for the globalisation era

to improve the business environment, notably for SMEs, and to support the development of a strong and sustainable industrial base able to compete globally.

An agenda for new skills and jobs

to modernise labour markets and empower people by developing their skills throughout the lifecycle with a view to increase labour participation and better match labour supply and demand, including through labour mobility.

European platform against poverty

to ensure social and territorial cohesion such that the benefits of growth and jobs are widely shared and people experiencing poverty and social exclusion are enabled to live in dignity and take an active part in society.

Source: European Commission (2010a), 'Europe 2020: A strategy for smart, sustainable and inclusive growth', pp. 3-4.

Note: More information on each of the Flagship Initiatives can be found at dedicated Commission web sites; *Innovation Union*: http://ec.europa.eu/research/innovation-union/index_en.cfm, *Youth on the Move*: http://ec.europa.eu/youthonthemove/index_en.htm, *A digital agenda for Europe*: <http://ec.europa.eu/digital-agenda/>, *Resource efficient Europe*: http://ec.europa.eu/resource-efficient-europe/index_en.htm, *An industrial policy for the globalisation era*: http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/index_en.htm, *An agenda for new skills and jobs*: <http://ec.europa.eu/social/main.jsp?langId=en&catId=958>, and *European platform against poverty*: <http://ec.europa.eu/social/main.jsp?catId=961&langId=en>.

The purpose of using case studies to explore the links between competition instruments and the EU 2020 Flagship Initiatives is to go beyond the mere theoretical benefits of competition and competition policy. Rather, the aim is to provide actual evidence by evaluating how each competition instrument has been applied in practice in a number of different cases and what the effect has been on the Flagship Initiatives and, ultimately, on economic growth.

2.2. Introduction to the case studies and their selection

Ten case studies have been chosen and analysed in detail. They are presented in a series of Annexes (Annex B-K) to this report. A brief introduction to each of the case studies is given in Table 4 and section 0.

Table 4: Case overview

Case	Sector	Issue	Competition instrument
Standard essential patents	Technology, intellectual property rights	Lack of or expensive access to standard essential patents prevents progress and innovation to the detriment of businesses and consumers	Sector specific measures
Abuse of energy infrastructure	Energy	Varying interests of consumers, suppliers, and regulators in bilateral energy transfers obstruct market liberalisation and competition	Antitrust
Security of energy supply and capacity payments		Capacity payments, aimed at ensuring stable supply of electricity, prevent the implementation of a Single Market for energy	State aid, Sector specific measures
USO in the postal sector	Postal	Ensuring commercial viability of USO services in a liberalised, competitive market while adapting to technological progress	Liberalisation, State aid
Widespread and affordable access to high speed internet	Telecommunication	Long-term benefits of extending web access to remote areas do not necessarily incentivise short-term investments	State aid
Caps on international roaming charges		Caps on roaming charges and lack of customer information disincentivise price competition at a level below the cap	Sector specific measures
Liberalisation of the aviation sector	Transport	Non-competitive airtravel market due to dominant national flagship carriers and bilateral transport agreements	Liberalisation
Mergers in the airline industry		Proposed mergers create monopoly conditions on some markets to the detriment of businesses and consumers	Merger control
Recent cartel cases	Electronics, manufacturing	Cartel Agreements among players in different industries distorted competition to the detriment of businesses and consumers	Antitrust
State aid in the European banking sector	Financial	Effective application of State aid to rescue financial institutions, while limiting government liability and expenditure to maintain a fair market environment	State aid

Source: Copenhagen Economics.

2.2.1. Choice of cases

The case studies have been chosen to match three criteria. *First*, the case studies must be representative and show the effect on the EU 2020 Flagship Initiatives and growth. Hence, the case studies do not focus on a single competition case or court ruling, for instance a single cartel case. Rather, the case studies focus on an entire sector, e.g. aviation or energy, or a group of similar cases, e.g. recent airline mergers or recent cartel cases. The purpose is for the case studies to clearly show the impact of various competition instruments, being antitrust, merger control, sector specific measures, liberalisation and State aid, on the EU 2020 Flagship Initiatives and on economic growth.

Second, the case studies must offer a diverse insight into different sectors of the European economy. Hence, the chosen case studies cover sectors such as financial services, electronics, manufacturing, transport, telecommunication, postal, energy and technology. In some instances, the conclusions from the case studies may be generalised to other sectors. This is certainly the case for the case studies about merger control and cartel enforcement. In this manner, the case studies offer a comprehensive, yet not exhaustive coverage of the European economy.

Third, the cases have been chosen to be relevant to the current political agenda, e.g. such topics as SMEs, climate, innovation, productivity and inclusion.

In sum, matching these three criteria ensures that the case studies are suitable to provide a varied and representative understanding of the links between competition instruments and Flagship Initiatives.

2.3. The link between competition instruments and Flagship Initiatives

The case studies provide an empirical analysis of many concrete links between competition instruments and the achievement of the Flagship Initiatives from the EU 2020 Strategy.

The ten case studies demonstrate that effective competition can have a significant impact on a market by boosting productivity and innovation, thus stimulating long-term growth. This benefits European businesses and consumers, and lies at the core of the EU 2020 Strategy for smart, sustainable, and inclusive growth.

The application of a competition instrument will, directly or indirectly, have a positive impact on the economy, and consequently contribute to the achievement of the EU 2020 Flagship Initiatives.

The focus in this section is on the *direct*, rather than *indirect*, links between competition instruments and the EU 2020 Flagship Initiatives. Our findings are illustrated in the summary matrix below, indicating which competition instruments can reasonably be expected to contribute to the achievement of specific Flagship Initiatives, see Table 5. For instance, antitrust will affect the initiative *Innovation Union* directly, while the *European platform against poverty* is affected only in an indirect way. We analyse and describe the links in more detail below.

Table 5: Effect of competition instruments on the Flagship Initiatives

Competition instrument Flagship Initiative	Antitrust	Merger control	State aid	Liberalisation	Sector specific measures
<i>Innovation Union</i>	X			X	X
<i>Youth on the move</i>					
<i>A digital agenda for Europe</i>			X		X
<i>Resource efficient Europe</i>	X	X	X		
<i>An industrial policy for the globalisation era</i>	X	X	X	X	X
<i>Agenda for new skills and jobs</i>				(x)	
<i>European platform against poverty</i>	(x)	(x)	(x)	(x)	

Note: Every link identified in a case study in the Annexes B-K is marked with either an X, indicating a clear and direct link, or an (x), indicating an unclear or indirect link.

Source: Copenhagen Economics.

There are multiple findings from the case studies regarding the link between competition instruments and the achievement of the EU 2020 Flagship Initiatives. The main findings are summarised below:

- Most Flagship Initiatives are affected by competition policy**
Innovation Union, A digital agenda for Europe, Resource efficient Europe, An industrial policy for the globalisation era, and European platform against poverty have all been shown to be *directly* affected by one or more competition instruments. Competition policy thus has a significant role to play in the EU 2020 Strategy and in the achievement of the Flagship Initiatives. Furthermore, we find that several of the five competition instruments have proven to be effective to benefit Flagship Initiatives. This shows the versatility of competition policy as well as the importance of using the right mix of competition instruments and understanding the often widespread effects of those instruments.
- Some Flagship Initiatives are only indirectly affected by competition policy**
An agenda for new skills and jobs and *European platform against poverty* are only indirectly affected by the competition instruments. Nonetheless, indirect effects can add important contributions to the achievement of the EU 2020 Strategy.
- Not all Flagship Initiatives are affected by competition policy**
Youth on the move has not been demonstrated to be directly affected by any

competition instrument. This means that there are limits to the effects of competition policy and its usefulness in the achievement of the EU 2020 Strategy.

The findings are based on the ten case studies, but the reasoning behind the findings is consistent with the insights concerning competition and economic growth from chapter 1, and, consequently, the findings apply more generally than to the case studies alone.

The gains from competition and the contribution to the EU 2020 Strategy may be unevenly distributed among different players in the economy. However, the theoretical framework explaining economic growth, see section 1.1, as well as our case studies, demonstrate undeniable overall gains from competition that outweigh losses among individual players in the economy. Many of the ten case studies show how competition policy improves the functioning of markets by restricting or even harming the position of incumbents, monopolists, cartelists, and other dominant entities. Harming such entities in the process of introducing competition benefits European businesses and consumers overall, and it is this overall benefit that boosts the Flagship Initiatives.

No *direct* link has been found between any of the competition instruments and the Flagship Initiative *Youth on the move*. This is in line with the theoretical understanding of the kind of changes that competition instruments can affect. Hence, effective competition policy on a European level may not be a suitable instrument to improve conditions for a distinct group of the population, e.g. young people. This is because competition instruments are designed to foster a level playing field, rather than to favour a particular group of individuals or businesses. An exception may be State aid, but we have not covered a case where a direct link from State aid to *Youth on the move* could be established.

A *European Platform against poverty* and an *agenda for new skills and jobs* have only proved to be *indirectly* or unclearly affected by competition instruments.

For a *European Platform against poverty* there may well be an impact from several competition instruments, if not of all them, which improve economic conditions in general, and leave more room to fight poverty. But this is an indirect link, and competition instruments and competition policy are unlikely to be suitable instruments in a dedicated fight against poverty.

With respect to an *agenda for new skills and jobs*, it is beyond doubt that individual competition instruments may have an effect on job creation. This is seen in the broadband case, see Annex F, where a distinct objective of providing State aid is the creation of jobs in rural areas. For the EU as a whole, increased competitiveness, as may be achieved through competition policy, may be pivotal in preserving European jobs and in creating new jobs in the future.

However, competition instruments have both positive and negative effects on job creation, because increased competition will imply that some businesses expand while other businesses shrink. An example would be that more effective competition, perhaps supported by one or more competition instruments, would lead to more cross-border trade within the EU. In response, jobs of a certain type, e.g. manufacturing, financial services, or pharmaceuticals, would gather at the most attractive locations, i.e. in some Member States domestic production would be replaced by import from other EU countries. This would lead to job creation in some Member States, whereas other countries would lose jobs.

In the following sections, the conclusions on *the direct* and *indirect* links from each of the five competition instruments to the Flagship Initiatives will be accounted for and references will be made to the case studies for further detail.

2.3.1. Antitrust

The purpose of antitrust rules is to prevent anti-competitive practices, e.g. the abuse of a dominant position, cartels or other restrictive activities as described in Art. 101 and 102 TFEU. Cartels or market players with a dominant position have an interest in distorting competition and the ability to do so. Distortions of competition manifest themselves in higher prices and profits, and lower quantities sold. The lack of competition diminishes incentives to innovate and to increase productivity for firms already active in the market, while preventing new firms from entering the market. The more innovation and efficiency incentives are reduced, the more negatively growth will be affected. Removing or diminishing anti-competitive practices through antitrust enforcement induces economic growth by restoring the incentives to innovate and produce more efficiently with higher production volumes and lower prices. Lower prices will have positive spill-over effects on businesses in other sectors in the economy, because their inputs become cheaper, which makes them more competitive and able to expand their production.

Antitrust measures *directly* affect three Flagship Initiatives while indirectly affecting one Flagship Initiative. *First*, antitrust affects the Flagship Initiative *An industrial policy for the globalisation era* by ensuring cheaper inputs for businesses in other sectors and by creating a level playing field among all market participants, which allows the most efficient businesses, including SMEs, to gain market share. The case study on recent cartel cases, see Annex J, delivers evidence on the harmful effects of cartels. The cartels analysed in the case study show how collusion led to higher prices and, thereby, imposing unnecessarily high burdens on the customers of the cartelists. Economic growth is harmed by this upward price effect, because it reduces competitiveness of European enterprises and reduces the real income for end consumers. *Second*, antitrust will also support the Flagship Initiative of *Resource efficient Europe*, as competition provides incentives for more efficient use of resources meaning that the same output can be produced by use of fewer resources. *Third*, antitrust *directly* affects the Flagship Initiative *Innovation Union* by enhancing incentives for innovation which are present under effective competition.

Third, antitrust enforcement contributes *indirectly* to the initiative *European platform against poverty*, as antitrust prevents high prices caused by cartels or anti-competitive practices. Empirical evidence from the case study on recent cartel cases shows price effects from collusive agreements with a median overcharge of roughly 20 per cent. Such figures are significant and may result in a serious reduction of goods and services affordable on a low budget. Hence, antitrust measures have significant effects on prices, with important benefits, especially, for consumers with lower incomes.

2.3.2. Merger control

The purpose of merger control is to prevent significant impediments to effective competition which may arise after a merger, e.g. as a result of the creation or strengthening of a dominant position. Merger control may prevent mergers that would reduce competition before any damage is done to prices, innovation, and economic growth. In other words, merger control can prevent many of the same problems as antitrust, but before the damage is done. However, the application of merger control as a competition instrument is faced with the challenge that mergers can reduce prices and increase productivity and innovation through economies of scale. In fact, most mergers are not anti-competitive. Hence, it is important to have a well-functioning merger control regime, which only prevents mergers that will have a negative impact on competition.

Effective merger control affects three Flagship Initiatives. *First*, *An industrial policy for the globalisation era*, is affected directly as merger control ensures that markets remain competitive and enables the most efficient businesses to grow. The case study of mergers

in the airline Industry, see Annex I, underscores how potential mergers could obstruct the entry/exit channel, see section 1.1.2, thereby limiting growth by hindering replacement and market widening effects. At the same time, upward price effects of anti-competitive mergers harm businesses and customers that are dependent on air travel. This price effect lowers real wages and the standard of living. *Second*, the price effect from anti-competitive mergers might also indirectly affect *European platform against poverty* due to a risen price level. *Third*, the Flagship Initiative *Resource efficient Europe* will benefit directly from merger control, because merger control supports innovation and efficiency.

2.3.3. State aid

As a political and economic measure State aid may ensure desirable market outcomes by solving inefficiencies or incentivising politically desirable actions. Correctly applied State aid may create incentives for businesses to innovate, invest, or to provide public goods which are not commercially viable. All of these effects drive economic growth. However, only correctly applied State aid has the potential to improve market outcomes, and the danger of doing more harm than good by distorting competition is always a real risk. Balancing the two contradictory effects of State aid, namely the positive effect of enabling the provision of a service or activity which is not commercially viable, and the negative effect of potential distortion to competition, poses a key challenge for the application of State aid.

We find that three initiatives are affected directly while one indirectly by State aid. As a first initiative affected by State aid, *An industrial policy for the globalisation era*, proves that well-applied State aid can ensure well-functioning input markets for businesses. The case study of State aid to the Banking Sector, see Annex K, shows how State aid prevented the financial sector from collapse in the aftermath of the financial crisis in 2008. Such government intervention allowed businesses in the real economy, including SMEs, to access capital and other financial services to continue their business operations. Here, State aid prevented a potential collapse of great parts of the economy.

As a second Flagship Initiative affected by State aid, *Resource efficient Europe*, may benefit from correctly applied aid. However, when State aid is provided to ensure national interests it may distort competition and result in less efficient use of resources. The case study on security of energy supply and capacity payments, see Annex D, shows how State aid based on national interests may interfere with cross-border energy trade. In this case, State aid to ensure the provision of supply capacity to be used when input from wind energy is low (i.e. due to unfavourable weather conditions) may distort prices in other Member States. This makes it difficult to achieve market widening and a Single Market to the benefit of all consumers.

A third Flagship Initiative affected by State aid is *A digital agenda for Europe*. The case study on broadband, see Annex F, shows how State aid serves an important function in the expansion of high speed internet that will include rural areas in the digital economy and ultimately generate further economic growth. More indirectly, widespread web access may contribute to alleviating poverty and promote *A European platform against poverty* by ensuring access to key digital services in all parts of Europe.

2.3.4. Liberalisation

Liberalisation removes regulation and opens markets for competition. Liberalisation allows new participants to enter a market, to add ideas and to bring new concepts and strategies to the table. Former market incumbents are challenged and need to respond by making their products and services more attractive and by streamlining the operations of their companies. As described in section 1.1, such competitive behaviour encourages firms to use resources more efficiently and to develop their products to make them more attractive to consumers.

Liberalising markets has a positive and direct impact on two of the Flagship Initiatives. *First*, liberalised markets contribute to *An industrial policy for the globalisation era* and *second* to the *Innovation Union*. This happens by setting favourable conditions for all three channels through which competition affects productivity and investments, that is the resource efficiency channel, the entry/exit channel, and the innovation channel, see section 1.1.

Liberalisation is a prerequisite for *the entry/exit channel* to boost growth, because only on liberalised markets do inefficient firms exit and efficient ones enter. The case on liberalisation of the aviation Sector, see Annex H, demonstrates how liberalisation has allowed new point-to-point carriers to enter the market and grow, while at the same time providing sought after and cheap flights.

Liberalisation also affects *the innovation channel*, as liberalisation helps create the competitive pressure which stimulates innovation, because companies facing competition constantly need better products and services in order to maintain or gain market share.

Finally, market liberalisation contributes to growth through *the resource efficiency channel*. Again, liberalisation creates the competitive pressure which makes it a necessity for companies to constantly ensure that they operate as efficiently as possible. This happened in the aviation sector, where airlines became more resource efficient through liberalisation, see Annex H. In the liberalised airline sector, new business models with point-to-point carriers as well as airlines with larger networks allowed for greater economies of scale. Market liberalisation also creates at least two *indirect* contributions to the EU 2020 Strategy. By boosting innovation, research, and development, liberalised markets help to create new jobs and areas of research. This kind of growth supports *An agenda for new skills and jobs*, as well as potentially *Youth on the move*.

2.3.5. Sector specific measures

Sector specific measures address specific shortcomings on individual markets. Often, sector specific measures provide a means of incentivising competition and growth.

Owed to their versatile nature, sector specific measures may affect almost any Flagship Initiative. We find that especially three initiatives are affected directly by sector specific measures.

The case study on standard essential patents, see Annex B, shows how a carefully crafted legal framework can promote growth through new technologies while keeping different interests in balance. Standard essential patents apply to innovations that serve as a foundation for entire industries. Without access to such patents, competitors can no longer provide truly up-to-date products, a precondition for growth through efficiency and innovation effects. At the same time, interests of patent holders require attention, because a lack of compensation for new and better technologies will impede growth by making it unattractive to improve one's products with the goal of increasing revenue and market share. An obligation for owners of standard essential patents to make their patented technology available has been achieved through the European Commission's release of revised rules and guidelines for the assessment of horizontal cooperation agreements.

Ensuring access to standard essential patents on conditions conducive to effective competition contributes to the *Innovation Union* (by allowing all firms to use standards as basis for their R&D) and to *A digital agenda for Europe*, because many standard essential patents arise from new developments in the digital economy. Moreover, the Flagship Initiative *An industrial policy for the globalisation era* promotes the competitiveness of businesses in the European Union, with a particular focus on standardisation. Ultimately,

standard essential patents solve a market failure that arises when breakthrough innovations inhibit competition, thereby slowing economic growth.

The case study on caps on international roaming charges, see Annex G, serves as a second example of sector specific regulation aimed at stimulating growth. The case study explores why traditional market forces do not cause sufficient competition and downward pressure on roaming charges. Customers fail to consider roaming charges in their purchasing decisions, because of a lack of information and/or interest. This market outcome is inefficient, because high charges impose an unjustified burden on many international travellers using mobile services. As a sector specific measure, caps on roaming prices in the EU addresses this issue. Adjusting roaming prices to equal national tariffs is part of the *digital agenda for Europe* because it facilitates the Digital Single Market with price benefits for European travellers. Roaming rules *directly* benefit mobile service consumers, both private and businesses, including SMEs. They add to Europe's competitiveness by overcoming barriers for European businesses to work cross-border, thereby moving Europe one step closer to a Single Market for mobile charges. This process of market widening and cost cutting provides mobile customers with an opportunity to save and invest, thereby stimulating growth.

3. IMPLICATIONS AND PERSPECTIVES

In this chapter, we use the theoretical insights from chapter 1 and the empirical evidence from chapter 2 to develop recommendations for improving competition policy to achieve an even larger contribution to the EU 2020 Strategy and economic growth.

The recommendations are based on the shortcomings which were identified for every case study, see in detail Annexes B-K. In some instances, the recommendations are closely tied to the particular sector and issue from the case study, and in other instances, the recommendations are more general.

3.1. General points from the recommendations

The ten recommendations along with an indication of the target of each recommendation – national framework, EU framework or enforcement – is presented in Table 6.

Table 6: Summary of recommendations

Recommendation	National frame-work	EU frame-work	Better enforce-ment
Clarifying framework around standard essential patents to reduce uncertainty for licensors as well as licensees.			X
Create a Single Market for reserve capacity for energy to better incorporate renewable energy sources into a liberalised Single Market for energy		X	X
Avoid abuse of interconnector management of energy infrastructure to improve allocative efficiency and lead power from regions with excess supply to regions with insufficient supply.	X	X	
Bringing the postal USO up to date and rethinking the need for postal deliveries and broadband connectivity, thereby cutting costs and providing more user oriented services.	X	X	
Better access to funding for rollout of high speed internet will not just contribute to the growth of the internet economy, but also provide tangible benefits to rural areas.		X	X
Moving away from caps on international roaming charges by either abolishing roaming altogether or by removing the caps as the roaming market matures.		X	
Liberalisation of the aviation sector - allocation of slots on the runway in a more resource efficient way to the firms valuing them the most instead of historical allocations.		X	
A more balanced approach to merger control allowing competition authorities to carry out a balanced evaluation of pros and cons of proposed mergers, can add an important contribution to overall European competitiveness.		X	
Safeguarding the leniency programme by closely monitoring the implementation of the proposed directive concerning damages under national law for infringements of the competition law.	X	X	
Consistent crisis rules for State aid to the banking sector to reduce uncertainty for investors and thereby risk premiums paid by already troubled banks and their customers.		X	X

Source: Copenhagen Economics.

In nine of the ten cases, we point to possible changes in the EU framework, e.g. in the form of new regulation, to address shortcomings. This stresses the importance of an active competition policy at the EU level. The importance of EU legislation is natural for two reasons:

First, many shortcomings arise when Member States follow their national interests which may differ from the interests of the EU as a whole. This was evident in the case about abuse of energy infrastructure, see Annex C, and in the case about State aid to banks, see Annex K.

Second, many competition cases concern cross-border activities and require cross-border enforcement of competition policy. This was evident in the discussion of recent cartel cases, see Annex J, as well as airline mergers, see Annex I.

3.1.1. Keeping national interests in place

Making concessions to national interests in competition policy may damage effective competition, lead to an unlevel playing field across Member States and, ultimately, obstruct economic growth. In this manner, national interests in competition policy may diminish the overall contribution from competition policy to the achievement of the Flagship Initiatives and the EU 2020 Strategy. Below, we describe two areas where initiatives at the EU level are important to prevent national interests from distorting competition.

One area where national interest may lessen the effectiveness of competition policy is merger control. In his 2010 report, Mario Monti argues in favour of abolishing the so-called 'two-thirds' rule, which grants jurisdiction to a national competition authority in merger cases, even when the EU turnover thresholds (more than two thirds of the merging companies' turnover is realised in a single Member State) are met. Because there is a risk that national authorities could veto mergers to protect domestic champions, Monti thinks if merger control were instead executed consistently and at a centralised level, Europe would gain better instruments to foster European champions.³⁵

State aid is another area, where national interests may work against common interests and distort competition, thus leading to less economic growth. A number of our case studies have shown the importance of State aid as an instrument for effective competition policy.³⁶ State aid to European banks is an especially important instruments in the on-going efforts to lift Europe out of the economic crisis. Controlling such State aid at the EU level ensures that State aid is well targeted and proportionate, so as not to distort competition and waste resources, see Annex K.³⁷

In his 2010 report, Monti argues that a more lenient approach to State aid in Europe could lead to a race between Member States, which could tear the Single Market apart and waste public funds. This highlights the significance of State aid and the importance of keeping national interests at bay.³⁸

The EU Commission is in the process of reforming State aid control with the so-called EU State aid modernisation package (SAM).³⁹ The Commission has outlined three main objectives with the reform:

³⁵ Monti, M. (2010), 'A New Strategy for the Single Market. At the Service of Europe's Economy and Society', p. 86.

³⁶ The role of State aid was evident in the security of energy supply case, see Annex D, and the broadband case, see Annex F.

³⁷ European Commission (2012c), 'EU State aid Modernisation (SAM)', <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0209:FIN:EN:PDF>.

³⁸ Monti, M. (2010), 'A New Strategy for the Single Market. At the Service of Europe's Economy and Society'

³⁹ European Commission (2012c), 'EU State aid Modernisation (SAM)'.

- *'Foster growth in a strengthened, dynamic and competitive internal market*
- *Focus enforcement on cases with the biggest impact on the internal market*
- *Streamlined rules and faster decisions*⁴⁰

The fact that the Commission emphasises State aid as a means to stimulate economic growth corresponds perfectly with our conclusion that State aid is an important competition instrument in the achievement of the EU 2020 Strategy.

Additionally, several of our case studies and recommendations are in line with the main objectives behind State aid Modernisation. For instance, this applies to our recommendation concerning funding for broadband rollout, see Annex F, which is directly targeted at fostering growth in rural areas.⁴¹ Another example is the case concerning State aid in the form of capacity payments, see Annex D, which is a central issue with a likely big impact for a Single Market for energy. Finally, our recommendation concerning State aid to banks, see Annex K and section 3.2.10, is precisely about streamlining processes and enabling faster decision making.

3.1.2. Applying the right instruments at the right point in time

The case studies and recommendations also show the importance of choosing the right blend of competition instruments. In some cases, a combination of several competition instruments is needed to complement each other. In particular, liberalisation often needs to be accompanied by sector specific regulation to protect a fragile and emerging competitive environment and to ensure policy objectives. This has been the case in the telecommunication and the postal sector, see Annex G and Annex H. A recent illustration of the fact that competition instruments sometimes overlap is the current public consultation by the European Commission on merger control.⁴² One issue of the consultation is a possible extension of the EU merger regulation to include acquisitions of minority shareholdings which may give rise to collusion or cartel activity. This shows how antitrust and merger control can be complementary.

In other cases, the competition instruments are substitutes. This means, for instance, that a shortcoming can be addressed either through general competition law enforcement or through sector specific measures. One advantage of sector specific measures is that it allows for fast intervention to remedy market failures, i.e. so-called ex ante regulation targeting problems before they cause too much damage. However, the case studies show that the process of designing sector specific regulation may take several years, hence general competition law enforcement can often remedy shortcomings faster, because the legal framework is already in place. For example, sector specific regulation of State aid to the financial sector combined with a specific resolution mechanism for banks is only foreseen to be fully implemented by 2018, but a consistent application of State aid control including resolution if necessary could have provided a common policy faster, see Annex K. The case studies concerning standard essential patents, see Annex B, and abuse of energy infrastructure, see Annex C, are also examples where the choice of either sector specific measures or general competition law enforcement is a central issue.

Finally, our case studies also stress the importance of choosing a right level of intervention. In many cases, there is a fine line between pro-competitive and anti-competitive actions.

⁴⁰ Monti, M. (2010), 'A New Strategy for the Single Market. At the Service of Europe's Economy and Society'

⁴¹ SAM stipulates that aid needs to address market failures and public interests without being distortive, see European Commission (2012c), 'EU State aid Modernisation (SAM)', para. 12, The lack of broadband rollout through private companies poses a market failure, expansion of rollout is in the public interest, and a balanced rollout scheme on a European level does not distort competition.

⁴² The consultation documents are available at http://ec.europa.eu/competition/consultations/2013_merger_control/index_en.html.

On the one hand, this means that there is a risk of too little intervention, which can result in weaker competition. For example, we note that cross-border competition does not always exist in energy markets due to the lack of regulation of reserve capacity markets and interconnection management at the EU level, see Annexes C and D. On the other hand, there is also a risk of too much intervention, which also results in weaker competition. For example, we note that there is a risk that merger control will prevent mergers that may have an overall positive contribution to competition, see Annex I. We also note that sector specific measures in some cases may place unnecessary burdens on businesses. This may well be the case for the postal USO, see Annex E, where the required service level has not been adjusted to account for increasing e-substitution.

3.1.3. Wider economic implications

Our demonstration of the use of competition instruments to contribute to the Flagship Initiatives and economic growth in ten case studies, see Annexes B-K of chapter 2, has wider implications. The fundamental economic drivers are similar across sectors and not limited to the ten cases examined. Consequently, our findings can be generalised and applied to other sectors.

First, the case studies show the interdependence of competition policy and the Single Market. For example, the case on energy reserve capacity, see Annex D, showed that further market integration towards the Single Market would be beneficial for effective competition and economic growth. The case on energy infrastructure, see Annex C, stressed the reverse effect, namely that competition policy enhances the benefits of the Single Market. This finding is a general economic concept.

The reasoning is that wider markets, e.g. EU-wide rather than national in scope, will lead to more competition, because companies face competitors from other Member States. This will enable the most efficient and most innovative firms to expand further and exploit economies of scale. Moreover, market dominance will be more difficult to attain when the relevant geographical markets are wider.

Second, our case studies show that competition policy needs to strike a balance between partly conflicting objectives. For example, the case on standard essential patents, see Annex B, showed that the conditions for access to patents should balance between an efficient use of existing innovations (facilitated by low access prices) and incentives to innovate (facilitated by high access prices). Such trade-offs between ensuring innovation incentives and the efficient use of innovations exist in many sectors.

3.2. Recommendations

3.2.1. Clarifying framework around standard essential patents

Patent rights and the right to intellectual property insure important incentives which are needed for businesses to innovate.⁴³ Improvements to the current practice concerning standard essential patents will contribute to two Flagship Initiatives – *Innovation Union*, and *A digital agenda for Europe*.

As a first step, more explicit guidance on the interpretation of the FRAND⁴⁴ paradigm would reduce uncertainty for owners of standard essential patent rights, see Annex B. Knowing about the potential profitability of their R&D investments would secure a future incentive to invest. Additionally, explicit guidance, e.g. in the form of guidelines, would allow licensees of standard essential patent rights to become active market participants, thereby

⁴³ See the description of the innovation channel to productivity and economic growth in section 1.1.3.

⁴⁴ FRAND is short for Fair, Reasonable, And Non-Discriminatory.

stimulating effective competition without hold-ups due to excessive royalties. Clarification of the terminology might be a guide to help industry participants. 'Fair' may refer to non anti-competitive licensing terms, 'reasonable' may refer to the size of royalties not leading to an un-competitive industry environment, while 'non-discriminatory' may refer to the fact that licensors should treat each licensee in an equal manner. Clarification from the EU Commission on these fundamental points would already contribute to less uncertainty in the interpretation of the FRAND paradigm.

As a second step, additional clarification and guidance for the determination of FRAND compatible licensing rates would be of value. Here, two aspects leading to a competitive market environment should be distinguished, the legal terms and conditions, and the amount of the royalty fee. To determine the size of royalties, guidance might build on one or more of the existing methods, as described in Annex B, to calculate royalty rates. By optimising the process of determining such rates, a good balance between the interests of both parties may be obtained. Knowing how the process of determining standard essential patents and royalties works, enables companies to innovate with fewer worries about long and costly legal issues. Consequently, creating a stable framework around standard essential patents would contribute to the achievement of the Flagship Initiative *Innovation Union*.

3.2.2. Create a Single Market for reserve capacity for energy

The increased need for reserve capacity is caused by the rapidly increasing share of electricity production coming from sources with volatile supply, e.g. wind power, which is not always available. This threatens the economic viability of stable production from coal and gas. Transmission System Operators (TSOs) and regulators at national and EU level increasingly recognise that dealing with irregular electricity production requires instruments that can encourage the supply of reserve capacity. There is, however, a risk that relying on national action alone leads to a muddle of national support schemes focused on domestic producers, unwinding some of the already harvested gains from a more Single Market-oriented electricity sector, and creating new sources of distortions affecting a cross-border supply of electricity.

The EU Commission has indicated that it will come out with its view on how to deal with the problem in June 2013. Bearing in mind, that energy policies will continue to promote much higher levels of wind power in the EU energy system, energy stemming from these volatile supplies will continue to increase its share of electricity production. Policies to encourage stable energy are therefore needed. The key is to promote market based options, consistent with lowest costs to consumers and the functioning of the Single Market. This, in our view, calls for two basic principles to be observed:

First, open 'auction' based systems should be established to identify the economic operators producing and using electricity who will supply balancing power at the lowest costs. This principle is already being applied in the spot forward market⁴⁵ and could be applied as well in the area of supporting capacity for producing electricity.

Second, such schemes should, to the extent possible, be operated across national borders. To the extent that schemes limit access to such capacity payments to operators in more narrow geographical areas, they should be based on the structure and limitations of energy grids and not national borders per se. The basic point is that the aim of having stable power in a given Member State or region, can also be addressed by activating sources of stability across borders, particularly if the market integration within the EU continues.

⁴⁵ The spot forward market is a market for selling electricity over the next 24 hours. There exists a market for every hour during the next 24 hours, for instance the hour between 1 and 2 pm is a separate market.

3.2.3. Avoid abuse of interconnector management of energy infrastructure

Another challenge, which is also driven by the increasing share of wind power in the grid system, is the management of interconnectors. Interconnectors are infrastructural bottlenecks connecting energy infrastructures in for instance different Member States. There is some evidence that the management of interconnectors is used to reduce the inflow of power in situations where an inflow would otherwise increase the supply of electricity and put substantial downward pressure on domestic electricity prices. This phenomenon is linked to internal pressures in some countries as for example Germany, where the internal grid infrastructure is insufficient to deal with large internal imbalances in energy production and consumption in different regions. This means that some regions of the country can experience an excess supply of power, while others experience an insufficient supply. A more developed infrastructure would help equate these imbalances and bring down prices. The consequence of insufficient infrastructure is a loss to consumers who are denied access to imports of lower priced electricity, loss of earnings for producers in countries where exports are being artificially depressed and, for the EU as a whole, higher costs of electricity production.

Going forward, we see three different approaches:

- a 'straightforward' application of classic competition policy, i.e. applying antitrust instruments dealing with potential abuse of dominance ex post. This corresponds to the approach taken in the Svenska Kraftnät case ('Swedish Interconnectors') referred to in Annex C.⁴⁶
- a sector inquiry reviewing the extent to which the problem of interconnection management has a more general nature, requiring a more systematic approach to ensure full access of cross-border capacity.
- to solve the problem of interconnection management in the context of the on-going process of agreeing on network codes, which, inter alia, include guidelines on how to allocate cross-border capacity efficiently.

In practice, a combination of all three approaches could be envisaged.

3.2.4. Bringing the USO up to date

In Annex E we discuss how technological developments will change the use of and need for postal services in the future. Future developments in the postal sector affect several Flagship Initiatives, and a smart implementation of changes to the competitive framework may add a significant contribution to growth and its benefits for all Europeans.

To avoid disproportionately large costs associated with providing postal services within the scope of the USO to a small number of users, the USO needs to be adjusted according to the changing needs of the users. A reformed USO may take Europe a big step towards achieving the Flagship Initiative *A digital agenda for Europe*.

The regulatory framework should ensure the USO definition according to contemporary needs, taking the rapid development of information technology into account. This requires clarity about the net costs of the USO, as well as an analysis of the demand for USO services. The challenge can be handled both at national and EU level.

At the national level, Member States should ensure an evaluation of costs and benefits of the USO and implement resulting adjustments within the possibilities given by the

⁴⁶ Both the background and the decision is explained in Case COMP/B- 1/39.351 — Swedish Interconnectors, OJ C239, 06.10.2009, p. 9-10, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39351/39351_1223_2.pdf.

minimum requirements in the Postal Directive. For some Member States this would, for example, imply reducing the minimum number of delivery days per week from six to five.

This happened, for instance, in the Netherlands, where PostNL estimated the net cost of the USO to be over EUR 100 million annually. When PostNL requested reimbursement for these costs from a compensation fund, it sparked a political debate about user needs and possibilities for reducing the net cost of the USO by reducing the required number of delivery days from six to five.⁴⁷ This shows that a cost-benefit analysis at the national level can lead to revisions of the USO, which generate significant cost savings for the designated postal operator.

On the EU level, challenges of a potentially too comprehensive USO with too high service requirements could, as a first step, be handled via an update of the Postal Directive. In preparation for such an undertaking, costs and benefits of universal services as a service of general economic interest (SGEI) should be examined, and the requirements for a USO should be adjusted accordingly. Reducing USO requirements does not mean that some geographical areas should no longer receive mail. Rather, the frequency of delivery in some areas would be reduced, for instance mail could be delivered twice a week in some rural areas but five times a week in urban areas. It is very unlikely that postal operators would choose to not deliver to all households, as coverage is one of their most important selling points.⁴⁸

As a second step, we recommend that the USO be more thoroughly revised to take into account the increasing reliance on electronic communication instead of physical mail. As an example, a USO on broadband would be a more efficient approach to meet the communication needs of users. In such a scenario, resources spent on maintaining a costly postal USO could be used for investment in broadband connections instead. A pilot study from Finland demonstrates the feasibility of such an approach.⁴⁹

In 2010, the Finnish postal incumbent, Itella, launched a geographically limited, voluntary e-delivery trial in the village of Anttila in Porvoo, in rural Finland. In the experiment, Itella opened and digitised letters for delivery. The scanned versions were electronically sent to the recipient's personal NetPosti service-account. After digitisation, the letters were resealed and sent again to the recipient for physical delivery. However, Itella only delivered physical mail twice a week to the village instead of five times per week as required in the USO. Many of the participants were satisfied with only receiving their paper mail twice a week in their physical mailbox. However, the experiment also received criticism for breach of privacy of correspondence.⁵⁰

The Dutch example of a national USO revision shows how savings benefit the *industrial policy for the globalisation era*, by providing effective and cheap communication links. In accordance with the growth theory of chapter 1.1, cutting costs in this manner leads to a more efficient use of resources and, ultimately, economic growth. But the EU can do even more than that. A USO for broadband would take the Flagship Initiative *A digital agenda for Europe* a big step forward. The Finnish example may serve as a powerful inspiration for an innovative delivery system that not only cuts costs and boosts growth, but also takes Europe a further step towards digital integration. Throughout this process, a decrease in

⁴⁷ Post and Parcels (2013), 'Dutch government preparing universal postal service reforms', <http://postandparcel.info/54759/news/regulation/dutch-government-preparing-universal-postal-service-reforms/>.

⁴⁸ Frontier Economics (2013), 'Methods to estimate the net cost of the USO', p. 193, http://ec.europa.eu/internal_market/post/doc/studies/2012-net-costs-uso-postal_en.pdf.

⁴⁹ The E-invoicing Platform (2011), 'Electronic delivery in Finland: Conclusions from a field study', <http://eeiplatform.com/6757/electronic-delivery-in-finland-conclusions-from-a-field-experiment/>.

⁵⁰ Parliamentary Ombudsman (2012), 'Digitisation of letter post is legally problematic', <http://www.oikeusasiamies.fi/Resource.phx/pubman/templates/5.htm?id=892>.

costs will boost *A European platform against poverty*, by making a service of general economic interest more affordable.

3.2.5. Better access to funding for rollout of high speed internet

Access to the internet is not just essential to provide a strong basis for the growth of the online sector, but also to enable people to communicate easily and effectively and to gain knowledge and new skills as well as finding employment opportunities. The Flagship Initiatives *A digital agenda for Europe*, and *An agenda for new skills and jobs* are inherently connected to the challenge of access to high speed internet for all.

The EU funds targeted directly at broadband rollout have been spent, see Annex F. This raises doubts as to whether the objectives of broadband rollout in the Flagship Initiative *A digital agenda for Europe* can be realised. By reintroducing funding targets, the EU can directly contribute to a growth of the internet economy with all its beneficial side effects.

Another issue is State aid. A special regime has been implemented to serve the purpose of avoiding crowding out of private investment in broadband rollout by State aid. However, the State aid regime and its enforcement does not solve the problem of lack of private broadband investments.

In 2010, the EU Commission carried out an open consultation on universal service principles in e-communications. In part, the consultation dealt with the issue of introducing a USO in the broadband area, and the conclusion of the EU Commission was that '*at this stage, it would not be appropriate to include mobility or mandate broadband at a specific data rate at EU level [in the scope of universal service under Article 15 of the Universal Service Directive 2002/22/EC]*'.⁵¹

It can be argued that compensation to companies offering high-speed broadband in sparsely populated areas, i.e. akin to a payment for a service obligation in the postal sector, would attract more private investors. First of all, the compensation would allow companies to receive a reasonable rate of return on broadband investments in rural areas where such a return would otherwise not be possible. Secondly, such an approach would reflect the significant shift from physical letters to electronic communication. The funding could be generated over the state budgets or through industry mechanisms, for example by using revenues from auctions for this purpose.⁵² Using State aid as a means of providing access to the internet, will not just contribute to the growth of the internet economy, but it will also provide tangible benefits to rural areas. E-substitution in the postal sector serves as just one example of how web access can contribute to the achievement of the EU 2020 strategy – many more might follow.

3.2.6. Moving away from price caps on roaming charges

High roaming prices have been a burden to many European businesses and consumers, see Annex G. After the introduction of a price cap, EU Commissioner for Digital Agenda, Neelie Kroes, recently called upon members of the European Parliament to abolish roaming charges altogether.⁵³ Abolishing roaming charges has significant potential to enhance European growth by bolstering the Flagship Initiative *A digital agenda for Europe* and creating a Single Market for phone services in the EU. This would not just lower prices for

⁵¹ European Commission (2011d), 'Universal service in e-communications: report on the outcome of the public consultation and the third periodic review of the scope in accordance with Article 15 of Directive 2002/22/EC', http://europa.eu/rapid/press-release_IP-13-167_en.htm.

⁵² Finland has already adopted a broadband USO, see Budde, P. (2010), 'Finlands broad USO an inspiration for Europe', Circle ID, Retrieved on 03.07.2013 from http://www.circleid.com/posts/20100707_finlands_broadband_uso_an_inspiration_for_europe/.

⁵³ Kroes, N. (2013a), 'The politics of the completing the telecoms single market', Speech given at the Internal Market and Consumer Protection (IMCO) Committee, European Parliament, Brussels.

consumers, leaving them money to spend on other goods, but also create a more diverse mobile economy.

The current price caps on roaming charges have, albeit successful in lowering roaming costs for European businesses and consumers, effectively eliminated competition on roaming, see Annex G. On this basis, we recommend, that the call from EU Commissioner Neelie Kroes be followed. However, we cannot exclude that abolishing roaming charges altogether may be a lengthy process or ultimately prove too difficult. As an alternative, we recommend that the market development is closely followed, and that the price cap regulation is moderated or lifted, if the underlying market is believed to be able to sustain effective competition, e.g. if consumers begin to include roaming prices in their purchasing decisions. Otherwise, price caps on roaming are likely to become an obstacle for the market rather than a catalyst.

Meanwhile, creating more transparency with regards to roaming charges will improve competition under the current regime, while the political initiative of Neelie Kroes is on its way. For example, regulations could require providers to inform mobile customers about roaming charges, as well as roaming expenses of an average consumer with a specified set of mobile interactions from abroad. In such a way, customers can make an informed decision about their mobile plans while being aware of a realistic scenario about potential costs.

The price cap regulation is likely to encounter further difficulties over time. First, the price caps are not static. Adjustments have already been made for the first few years in a regulatory regime.⁵⁴ However, it may become increasingly difficult to set the caps at a reasonable level, as free prices become a more and more distant phenomenon.

Also, the price caps are uniform across the EU. In other words, the cap on roaming charges for a consumer with a German subscription roaming from Belgium is exactly the same as the cap for a consumer with a Portuguese subscription roaming from Finland. It is by no means certain that this one-size-fits-all approach reflects market conditions, meaning that no matter where the price cap is set, it will be impossible to mirror market prices under effective competition.

Abolishing roaming charges, while making markets more transparent in the meantime, will contribute to economic growth. In accordance to the resource efficiency channel, as well as the entry/exit channel, abolishing charges will allow the most efficient providers to subsist, while new and innovative market entrants can attempt to capture market share.

3.2.7. Liberalisation of the aviation sector - allocation of slots

The European aviation sector provides vital services to a vast number of European businesses, while also channelling European travellers and tourists around an ever more integrated continent. Using competition policy instruments to address shortcomings of current regulations will allow the EU to improve the efficiency of the aviation sector benefitting European air travellers and contributing to economic growth.⁵⁵

Currently, allocation of time slots at airports, i.e. access to use the runway at a specified time, is not based on market principles. In other words, the most attractive slots are not necessarily in the hands of the airlines that value them the highest and would make the best use of them to the benefit of European businesses and consumers. Rather, allocation

⁵⁴ European Commission (n.d.) 'Europe's Information Society: How much do you pay when you use your mobile phone abroad?', Retrieved on 3.07.2013 from http://ec.europa.eu/information_society/activities/roaming/tariffs/index_en.htm.

⁵⁵ Copenhagen Economics (2012), 'Airport Competition in Europe', p. 15. <http://www.copenhageneconomics.com/Website/Publications/Competition.aspx?M=News&PID=2030&NewsID=498>.

of slots may depend on historical coincidence, because existing regulations give airlines so-called 'grandfather rights' allowing them to keep slots from year to year, provided that they have used the slots at least 80 per cent of the time in the previous year.⁵⁶ In accordance with the resource efficiency channel presented in section 1.1.1, this inefficient use of time slots prevents economic use by inhibiting the most efficient use of access to runways.

For this reason, new or expanding airlines are at a competitive disadvantage, because they are up against competitors with attractive time slots protected by 'grandfather rights' often held by national carriers. The entry/exit channel presented in section 1.1.2 describes how putting new market entrants at a disadvantage, or preventing them of entering a market at all, reduces competition and destroys potential benefits in the form of lower prices and more diverse services.

Shortcomings with regards to slot allocation were recognised by the Commission and a proposal on common rules for the allocation of slots from December 2011 addresses current inefficiencies. The proposal states that 'the Commission has given serious consideration to the introduction of market-based mechanisms for the use of airport slots, since appropriate incentives and benefits can positively influence the behaviour of players in the market (airlines) so that the available scarce capacity is used by those able to make best economic use of it.'⁵⁷

The Commission proposes to establish transparent, secondary trading of slots among airlines, i.e. for airlines to trade slots with each other.⁵⁸ This would make capacity allocation more efficient and contribute to growth, because the cheapest, most efficient airline would purchase the slot, reducing overall prices and increasing resource efficiency. The implementation of this proposal would be a big step forward, but still short of removing the issue of grandfather rights. Despite rules requiring the utilisation of slots, airlines could refuse to trade spots, running potential losses, so as to prevent competitors from entering the market.

A possible regulatory fix could be to abolish 'grandfather rights' and reassign slots every year. A market-based mechanism, e.g. an auction, could be used to assign the slots.⁵⁹ This would allow the most efficient airlines to improve their services, possibly in the form of cheaper, more diverse flight offers. The Commission recognises the potential in introducing an auction as a means to allocate slots in the future: '*during the future assessment of the application of this Regulation, a gradual introduction of other market mechanisms could be envisaged, such as withdrawing and auctioning historical slots.*'⁶⁰

A regulatory change of this kind would be a step towards *An industrial policy for the globalisation era*, by strengthening the business environment through cost reductions for air travel, thereby inducing economic growth.

⁵⁶ For more on the regulation on allocation of time slots at airports see:

http://europa.eu/legislation_summaries/transport/air_transport/l24085_en.htm.

⁵⁷ European Commission (2011e), 'Proposal for a Regulation of the European Parliament and of the European Council on common rules for the allocation of slots at European Union airports', para. 10, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0827:FIN:EN:PDF>.

⁵⁸ European Commission (2011e), 'Proposal for a Regulation of the European Parliament and of the European Council on common rules for the allocation of slots at European Union airports', para. 4.

⁵⁹ The exact design of such an auction would of course have to be carefully designed to provide the right incentives, revenue, allocation etc.

⁶⁰ European Commission (2011e), 'Proposal for a Regulation of the European Parliament and of the European Council on common rules for the allocation of slots at European Union airports', para. 4.

3.2.8. A more balanced approach to merger control

After emphasising the importance of the airline industry, see Annex H, as an important factor in European mobility and integration, we now explain, how competition policy can promote efficient operations in accordance with the EU 2020 Strategy, in a market that has undergone significant changes. Liberalisation of the aviation market has led to more competition and airlines responded by forming alliances.⁶¹ In many cases, proposed mergers were cleared by the Commission⁶², but without stringent oversight, mergers might be abused as a means of creating monopolies that inhibit growth and harm consumers. A careful approach towards evaluating the effects of mergers contributes to the achievement of *An industrial policy for the globalisation era* and *A resource efficient Europe*.

Mergers with an overall positive effect for European businesses and consumers may be prohibited by the EU Commission due to negative effects for competition on one or a few markets.⁶³

Allowing for exceptions to the general approach, whereby competition authorities must be convinced that a merger does not impede effective competition on any market, would likely lead to more beneficial mergers being cleared. This could strengthen European competitiveness to the benefit of European business and consumers. One approach to achieve this could be to grant competition authorities the opportunity to take the full effect of a merger on every market where the merging companies operate into account, and weigh this effect against possible negative effects on individual markets. This would allow mergers with substantial positive effects to be cleared in spite of potential negative effects on single markets.

The case of airline mergers, see Annex I, served to illustrate the potential problem. Airline mergers are not unique in this sense. Whenever a merger affects many product markets or geographical markets, there is a risk that competition concerns, which cannot be remedied, may appear in one or a few markets. Unfortunately, such negative effects, albeit possibly minor, will make the competition authorities disregard positive effects stemming from the remaining markets.

The problem may be particularly relevant in network industries, e.g. telecommunication and postal and delivery services, where it is not possible to sell off a part of the network without losing significant economies of scale, because the same network is used to deliver multiple services. Hence, a remedy addressing competition concerns for one service will also influence the cost of providing other services. This means that even small problems on individual markets may be impossible to remedy.⁶⁴

By allowing competition authorities to carry out a more balanced evaluation of proposed mergers, merger policy can add an important contribution to overall European competitiveness. However, any step in this direction should be taken with a particular view to safeguarding businesses and consumers on markets where negative effects on

⁶¹ Copenhagen Economics (2012), 'Airport Competition in Europe', p. 14.

⁶² For instance, Air France/ KLM, or Lufthansa/ Swiss, see Annex I.

⁶³ European Council (2004), 'Regulation (EC) no 139/2004 on the control of concentrations between undertakings', Art. 8 para. Whereby the Commission may declare that a proposed '*concentration is incompatible with the common market*.' OJ L24 29.1.2004, pp. 1-22.

⁶⁴ As mentioned in Annex I the recent attempt by UPS to acquire TNT Express may serve as an example where such an explicit weighing exercise would have been useful. The Commission found that the merger would have restricted competition in fifteen Member States on the market for express delivery of small packages between European countries. However, express delivery made up only a small share of the activities of the merging parties. It was not ruled out that weighing the negative effects against the potential positive effects on other product markets could have uncovered a combined positive effect. See the decision of 30 January 2013 in case COMP/M.6570 — UPS/TNT Express, OJ C266, 28.7.2012, p. 3, http://europa.eu/rapid/press-release_IP-13-68_en.htm.

competition would be accepted in a weighing exercise of positive and negative effects. By implementing such changes, the EU can boost its 2020 Strategy, especially with respect to the Flagship Initiative An industrial policy for the globalisation era.

3.2.9. Safeguarding the leniency system

The recent initiative by the European Commission to adopt a proposal for a directive concerning actions for damages after competition law infringements⁶⁵ is likely to improve the access for businesses and consumers to seek compensation for losses following antitrust infringements if the directive is implemented, see Annex J.

Civil damage claims following a cartel case will make cartel activity less frequent and likely reduce the risk of new cartels forming. However, there is also a risk that implementation of the proposed directive may negatively affect the incentive for cartel members to apply for leniency and supply information to competition authorities conduction an investigation into the cartel. This would be the case if the likelihood of civil damage claims following a cartel decision increased. In this manner, more civil damage claims after cartel cases may lead to fewer, but more stable cartels.

Information obtained from leniency applicants is essential to break up cartels to the benefit of European businesses and consumers.⁶⁶ However, the incentive to apply for leniency is reduced by the fact that the leniency does not extend to civil claims for damages, and easier access to making such damage claims would further reduce the incentive to apply for leniency.

A number of safeguards to protect the leniency system are built into the proposal for a directive from the European Commission. For instance, today a leniency applicant faces some legal uncertainty as to which leniency documents may be disclosed by national courts for victims of the cartel to see. With the proposed directive, the European Commission wants to ensure legal certainty and to better protect leniency documents.⁶⁷ This will increase the incentive for cartel members to apply for leniency.

However, regardless of better protection of leniency documents, more damage claims following cartel decisions, i.e. the central element of the proposed directive, can reduce the incentive to apply for leniency. This is illustrated by the US practice, where federal courts may de-treble damage claims brought by victims of a cartel against leniency applicants allowing them to only pay single damages.⁶⁸ Such a reduction of damages protects leniency applicants, and will, invariably, preserve the incentive to apply for leniency and safeguard

⁶⁵ European Commission (2013b), 'Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union', http://ec.europa.eu/competition/antitrust/actionsdamages/proposal_directive_en.pdf.

⁶⁶ This is illustrated by the group of cartel cases studied in Annex J. In all of the following cases the investigations by the Commission were based, in part, on information obtained from one or more of the cartelists who applied for leniency and, ultimately, received reductions of the fines imposed by the Commission. In the monitor tube cartel, see decision of 5 December 2012 in the case COMP/39437 — TV and computer monitor tubes, OJ not published yet. The car glass cartel, see decision of 12 November 2008 in the case COMP/39.125 — Car glass, OJ C172, 25.7.2009, p. 13-16, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39125/39125_1806_5.pdf The elevators and escalators cartel, see decision of 21 February 2007 in the case COMP/E-1/38.823 — Elevators and Escalators, OJ C75, 26.3.2008, p. 19-26, http://ec.europa.eu/competition/antitrust/cases/dec_docs/38823/38823_1340_4.pdf.

⁶⁷ European Commission (2013b), 'Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union', p. 11, 14.

⁶⁸ The possibility for leniency applicants to pay only single damages is embedded in the US Antitrust Criminal Penalty Enhancement and Reform Act of 2004. For further explanation see Hammond, S. D. (2008), 'Recent Developments, Trends and Milestones in the Antitrust Division's Antitrust Criminal Enforcement Program', p. 15.

the US leniency system. This shows that the US authorities recognise the dampening impact which civil damage claims can have on the incentive for cartelists to apply for leniency.

We recommend that the implementation of the proposed directive be watched closely to monitor if adequate safeguards are in place (e.g. the immunity applicant benefits from a limited obligation to compensate just '*the harm he caused to his own direct or indirect purchasers.*'⁶⁹) to avoid compromising the incentive for European cartel members to apply for leniency. Maintaining the effectiveness of the leniency system will lead to strengthened competition and, ultimately, to economic growth.

3.2.10. Consistent crises rules for State aid to the banking sector

The State aid guidelines for the banking sector were adopted in 2008⁷⁰ and have proven to be valuable in the restructuring of crisis-stricken banks. Nevertheless, a number of supplementary and targeted legislative proposals have been put forward by the EU Commission after the adoption of the guidelines. The aim of the proposals has been to promote a safer banking system which relies less on bail in from tax payers. Essentially, proposals have fallen into two main groups:

- higher capital requirements, in particular for systemically important financial institutions (SIFI)
- clarification of the order of investors' priority, stating that designated loss absorbing capital, equity and subordinated debt, should first shoulder the costs of failing banks. If the costs exceed the sum of these liabilities, senior creditors and depositors with deposits exceeding the EUR 100.000 guarantee⁷¹ will be next in line to bear losses. Hence, to cover costs, public funds will in this revised framework first be injected when all private alternatives have been exhausted. The two groups of capital, public and private, are mutually reinforcing, as higher capital requirements, in practice, will provide the buffer needed for regulators and troubled banks to have sufficient time for restructuring focused on private rather than public recapitalisation. This has been a central aim of State aid decisions/guidelines as well as regulatory initiatives.

Progress on these questions is crucial for credit provision, investments, and growth, particularly in countries with weak economies and banking systems. As evidenced in Annex K, financial institutions in these countries face high funding costs which they pass on to their customers, to the detriment of investment and private sector spending, and ultimately economic growth, see the growth drivers outlined in Table 3. The more assertive position already undertaken by the European Commission, notably towards Spanish banks, is clearly a long awaited step in the right direction towards creating the conditions for the needed clarification of bail-in criteria within the EU. This will help recapitalising banks, because clarity will reduce investors' uncertainty as they will know exactly how they will be treated if and when authorities step in to save banks or wind up troubled or failing banks.

While work on strengthening capital requirements has moved forward by the legislation of CRD IV in March 2013 and with full implementation by the end of 2018, the Directive on

⁶⁹ European Commission (2013b), 'Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union', p. 16.

⁷⁰ European Commission (2008a), 'Communication from the Commission — The application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis', OJ C270 25.10.2008, p. 8-14.
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:270:0008:0014:EN:PDF>.

⁷¹ See also Annex K on the discussion of the treatment of deposits below EUR 100.000.

Bank Resolution was only proposed by the EU Commission in mid 2012 with full implementation from 2018. A wider group of policy measures, forming what is meant to be a Banking Union, were principally adopted in 2012 with full implementation from 2018, as described in Annex K. This included placing more direct responsibility for European banks with the ECB, including the responsibility for bank resolution, instead of national central banks. While recognising the potential benefit that may arise from this policy package in the long-term, we note three issues.

- First, the recent Cypriot experience has clarified the need for a common policy with some actors, including the president of the ECB, moving the full implementation of a bank resolution regime forward to 2015 rather than 2018.
- Second, to avoid putting the cart before the horse, basic principles for dealing with troubled banks need to be agreed on a EU level before common action is taken, and possible common funding is granted, vis-à-vis troubled banks can be implemented. This will secure banks being treated more alike, reduce uncertainty and risk, and hence also affect bank customers, such as SME's, in different Member States less adversely.
- Third, the need to fully restore the principle of private investors being first in line to bear losses and inject new capital cannot wait for new institutional arrangements to be in place. This is a pre-condition for resumption of credit growth, particularly in countries with very weak economic activity. This is true because the current uncertainty among potential loss bearing investors in troubled countries creates hesitation to invest. As long as this investor group remains passive, problems of debt overhang are not tackled which limits the possibility of expanding banks' liabilities and thereby create room for credit growth. This, in turn, reduces the scope for economic growth.

The EU Commission's proposal to move ahead with new and updated guidelines for aid to banks with effect from 1 August 2013, should provide the much needed impetus to this process and thus has substantial merit. It will also clarify that in areas such as application of State aid, the Commission has a considerable legal scope providing clear guidance, which can accelerate improvements needed in the Member States' approach to the banking sector. Hence, there is in fact no need to wait for an adoption of the Directive on Bank Resolution and restructuring.⁷²

3.3. Conclusions

In this chapter we have addressed a series of shortcomings in competition policy identified in the ten case studies. We made specific recommendations to better target competition policy to contribute to the EU 2020 Flagship Initiatives and economic growth, see section 3.2, which were summarised in Table 6. Our specific recommendations gave rise to a series of general points, see section 3.1, which are summarised below:

- Growth contribution from competition policy can be strengthened
Competition can be enhanced through better application of the five competition instruments: Antitrust, merger control, sector specific measures, liberalisation and State aid. In some instances, better enforcement of existing rules is enough, but often changes in regulatory frameworks are required as well.
- Competition policy and Single Market policy go hand in hand
The Single Market and competition policies reinforce one another. The growth

⁷² European Commission, DG Competition (2013c), 'Revision of the State aid Guidelines for the Restructuring of Banks', Issues Paper.

contribution of competition policy is largest, when companies compete on wide markets. The potential for a Single Market is largest under effective competition.

- The EU level is the right place to strengthen competition policy
An active competition policy at the EU level is important to address shortcomings of existing competition policy. In nine out of ten cases, we proposed changes in the regulatory framework at the EU level in order to increase the positive influence from competition instruments on the EU 2020 Strategy and on economic growth.
- Essential to keep national interests at bay
Making concessions for national interests can leave competition policy ineffective, because some actors are favoured at the expense of a level playing field throughout the EU. State aid control and EU merger control are two important instruments to keep national interests at bay.
- Balance sector specific measures and general competition law enforcement
Several case studies have shown the importance of properly balancing the use of sector specific measures and general competition law enforcement. Especially, the case concerning State aid to the European banking sector, see Annex K, exposed the difficulties of implementing sector specific measures to tackle an ever changing situation and the importance of not neglecting any existing enforcement options.

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LIST OF QUOTED DECISIONS

Case	Date / Reference	Link
COMP/37.920 – Samsung – 3G Patent Platform	09 August 2000, OJ C227, 09.08.2000, p. 16	http://europa.eu/rapid/press-release_IP-02-1651_en.htm?locale=da
COMP/M.3280 – Air France/KLM	11 February 2004, OJ C60, 09.03.2004, p. 5	http://ec.europa.eu/competition/mergers/cases/decisions/m3280_en.pdf
COMP/M.3770 – Lufthansa/Swiss	04 July 2005, OJ C204, 20.8.2005, p. 3	http://ec.europa.eu/competition/mergers/cases/decisions/m3770_20050704_20212_en.pdf
COMP/E-1/38.823 – Elevators and Escalators	21 February 2007, OJ C75, 26.03.2008, p. 19-26	http://ec.europa.eu/competition/antitrust/cases/dec_docs/38823/38823_1340_4.pdf
COMP/M.4439 – Ryanair/Aer Lingus	27 June 2007, OJ C47, 20.02.2008, p. 9-20	http://ec.europa.eu/competition/mergers/cases/decisions/m4439_20070627_20610_en.pdf
COMP/39.125 – Car glass	12 November 2008, OJ C172, 25.07.2009, p. 13-16	http://ec.europa.eu/competition/antitrust/cases/dec_docs/39125/39125_1806_5.pdf
COMP/M.5440 – Lufthansa/Austrian Airlines	28 August 2009, OJ C16, 22.01.2010, p. 12	http://ec.europa.eu/competition/mergers/cases/decisions/m5440_20090828_20600_en.pdf
COMP/M.5434 – Ryanair/Aer Lingus II	Withdrawn	
COMP/B-1/39.351 – Swedish Interconnectors	14 April 2010, OJ C142, 01.06.2010, p. 28	http://ec.europa.eu/competition/antitrust/cases/dec_docs/39351/39351_1223_2.pdf
COMP/M.5747 – Iberia/British Airways	17 June 2010, OJ C241, 08.09.2010, p. 1	http://ec.europa.eu/competition/mergers/cases/decisions/M5747_20100714_20310_802534_EN.pdf
ME/4551/10 – Asda-Netto	23 September 2010	http://www.ofc.gov.uk/shared_ofc/mergers_ea02/2010/Asda-Netto.pdf
COMP/M.5830 – Olympic/Aegean Airlines	26 January 2011, OF C195, 03.07.2012, p. 11	http://ec.europa.eu/competition/mergers/cases/decisions/m5830_20110126_20610_2509108_EN.pdf
COMP/C-3/39.986 – Motorola – Enforcement of ITU, ISO/IEC and	2 April 2012	http://europa.eu/rapid/press-release_IP-12-345_en.htm?locale=en

Case	Date / Reference	Link
IEEE standard essential patents within the meaning of Article 11(6) of Council Regulation No 1/2003 and Article 2(1) of Regulation No 773/2004		
T-111/08 — MasterCard and Others v Commission	24 May 2012	http://curia.europa.eu/juris/document/document.jsf?text=&docid=123081&pageIndex=0&doclang=en&mode=req&dir=&occ=first&part=1&cid=1092301
COMP/M.6458 — Universal Music Group/EMI Music	21 September 2012, OF C220, 01.08.2013, p. 15	http://europa.eu/rapid/press-release_IP-12-999_en.htm
COMP/39.437 (C8839) – TV and computer monitor tubes	05 December 2012	http://europa.eu/rapid/press-release_IP-12-1317_en.htm?locale=en
C-457/10 — AstraZeneca v Commission	6 December 2012	http://curia.europa.eu/juris/document/document.jsf?text=&docid=131490&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=1092196
COMP/M.6570 — UPS/TNT Express	30 January 2013	http://europa.eu/rapid/press-release_IP-13-68_en.htm
COMP/M.6663 — Ryanair/Aer Lingus III	27 February 2013, OF C 216, 30.07.2013, p. 22	http://europa.eu/rapid/press-release_IP-13-167_en.htm
COMP/C-3/39.985 – Motorola – Enforcement of ETSI standard essential patents within the meaning of Article 11(6) of Council Regulation No 1/2003 and Article 2(1) of Regulation No 773/2004	06 May 2013	http://europa.eu/rapid/press-release_IP-13-406_en.htm

Note: The quoted decisions have been ordered chronologically.

ANNEX A: CASE ASSESSMENT TEMPLATE

Each case will be evaluated using the same case assessment template. This ensures that the approach and results are comparable across cases, see Box 4.

Box 4: Case assessment template

Why was this case chosen?
 What are the facts?
 Why is intervention necessary?
 Which competition instruments are used?
 What is the link to the Flagship Initiatives?
 What is the link between competition instruments and growth?
 What are the shortcomings?

Source: Copenhagen Economics.

Note: As far as the first questions is concerned the word case may be replaced with, for instance, “group of cases” or “sector” where appropriate.

Every case is introduced by explaining its relevance and presenting a few basic facts. The need for intervention, i.e. the need to use a competition instrument, as well as the choice of competition instrument are explained.

Furthermore, the link to the relevant Flagship Initiatives is established, and the direct link between competition instrument and economic growth is examined. This is done in a systematic way, by drawing on the insights from chapter 1, especially section 1.3.1., and identifying the link between the relevant growth drivers, see section 1.3.2, the underlying issue of the case study, and the effect of intervention by a competition instrument. Where no direct link between Flagship Initiatives and competition may be established, indirect influences will be assessed.

Finally, shortcomings of the current regime or simply potentials for improving an already well-functioning regime will be suggested.

ANNEX B: STANDARD ESSENTIAL PATENTS

Why was the example chosen? This example investigates how regulation and guidelines are used to ensure that patent rights pertaining to standards, procedures, or technologies of entire industries do not impede effective competition. When other companies are allowed to use a patented technology, they can compete with the patent holder. However, providing access may reduce incentives to innovate and obtain the patent in the first place. Hence, there is a potential conflict between innovation and competition – the most important drivers of economic growth.

What are the facts? High-tech and digital products are based on complex designs, often part of a system of compatible products that work together to offer users certain functionalities. For instance, a smartphone is not worth much without an operating system and applications. Because of the strong complementarity of such products, standardisation plays an essential role. Standards define the design and comparability of products and hence access for competitors to standards determine whether competition takes place.

The European Commission has opened two antitrust investigations against Motorola Mobility Inc.⁷³ The question is whether Motorola has abused some of its standard essential patents⁷⁴ related to WiFi, H.264, and 3G wireless networking by claiming unfairly high royalty payments from competitors wanting to use patented technology. The investigation follows a similar investigation of Samsung,⁷⁵ which has been accused of leveraging its 3G-related patents.

Why is intervention necessary? Once a particular area, e.g. WiFi or 3G wireless networking, has settled on a de facto standard, any competitive product must conform to that standard. For many companies this means using patented technology contained within the standard. However, the companies owning such patents have an incentive to abuse their position in the absence of intervention.

In order to ensure access to standard essential patents on fair, reasonable, and non-discriminatory (FRAND) terms, (a) companies have to be obliged to make their products or services, such as standard setting patents, available, and (b) royalty rates that fulfil FRAND terms have to be identified.⁷⁶

However, assessing the right royalty for use of a standard essential patent is a complicated matter. If the royalty is too high, competition is harmed and consumers suffer from excessive prices. On the other hand, if royalty fees are too low, the patent holder's incentive to develop and maintain the technology is suboptimal, and consumers will suffer from lower quality products, or miss out on new innovative products, because innovation does not appear worthwhile from the inventors point of view.⁷⁷

Which competition instruments are used? An obligation for owners of standard essential patents to make their patented technology available has been achieved through the

⁷³ COMP/C-3/39.985 – Motorola – Enforcement of ETSI standard essential patents within the meaning of Article 11(6) of Council Regulation No 1/2003 and Article 2(1) of Regulation No 773/2004, OJ not yet published, http://europa.eu/rapid/press-release_IP-13-406_en.htm.

⁷⁴ Standard essential patents cover technology which is essential for companies who want their product to be conform to a given standard, e.g. WiFi, H.264, and 3G wireless networking.

⁷⁵ Case COMP/37.920 – Samsung – 3G Patent Platform, OJ C 227 09.08. 2000, p. 16, http://europa.eu/rapid/press-release_IP-02-1651_en.htm?locale=da.

⁷⁶ European Commission (2011g), 'Guidelines on the applicability of Article 101 TFEU to horizontal cooperation agreements', para. 285, 287, OJ C1114.01.2011, p. 1-72, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF>.

⁷⁷ Bruegel (2013a) 'European Antitrust control and standard setting', Working paper 2013/01, [http://aei.pitt.edu/40190/1/European_antitrust_control_and_standard_setting_\(English\)\[1\].pdf](http://aei.pitt.edu/40190/1/European_antitrust_control_and_standard_setting_(English)[1].pdf).

European Commission's release of revised rules and guidelines for the assessment of horizontal cooperation agreements.⁷⁸

What is the link to the Flagship Initiatives? Ensuring access to standard essential patents on conditions conducive to effective competition contributes to the *Innovation Union* and to *A digital agenda for Europe*.⁷⁹

Moreover, the Flagship Initiative *An industrial policy for the globalisation era* promotes the competitiveness of businesses in the European Union, with a particular focus on standardisation.⁸⁰ The Commission has presented a standardisation strategy, especially for the ICT sector, to promote a European standard setting procedure more beneficial to a competitive business environment.⁸¹

What is the link between competition instruments and growth? The rules and guidance from the Commission allow companies to license standard essential patents and contribute to effective competition, while the rights of the patent owners are safeguarded. This preserves the incentive to invest and innovate, see Table 7.

⁷⁸ The European Commission (2010b), 'Revised rules for the assessment of horizontal cooperation agreements under EU competition law', http://ec.europa.eu/competition/consultations/2010_horizontals/guidelines_en.pdf, including European Commission (2011g), 'Guidelines on the applicability of Article 101 of the treaty on the functioning of the European Union to horizontal cooperation agreements', para. 285, 287, OJ C011, 14.01.2011, p. 1-72. The rules and especially the guidelines now contain above-mentioned chapters on standardisation agreements.

⁷⁹ One focus of the Digital Agenda is on the interoperability with particular attention to licensing information (here: patents) of their products or services and the promotion of standard-setting rules, see Pillar II, Actions 22 & 25, of the Digital Agenda in <http://ec.europa.eu/digital-agenda/en/pillar-ii-interoperability-standards/action-22-promote-standard-setting-rules> and <http://ec.europa.eu/digital-agenda/en/pillar-ii-interoperability-standards/action-25-identify-and-assess-means-requesting-significant>.

⁸⁰ See section 2.1 of the Agenda of An industrial policy for the globalisation era.

⁸¹ European Parliament and Council (1998), 'Directive 98/34/EC of The European Parliament and of The Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations' OJ L217 5.8.1998, pp. 18-26. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:217:0018:0026:EN:PDF>; European Council (1986), 'Decision of 22 December 1986 on standardisation in the field of information technology and telecommunications', and European Parliament and Council (2006), 'Decision No 1673/2006/EC of The European Parliament and of The Council of 24 October 2006 on the financing of European standardisation.', OJ L315 15.11.2006 pp. 9-12, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:315:0009:0009:EN:PDF>.

Table 7: Standard essential patents: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(2) Replacement effect	Ensuring effective use of innovations requires that other companies have access to patented technologies, which are necessary to conform to a particular standard. This allows the most efficient companies to replace less efficient companies.	Commission rules and guidelines ensure that owners of standard essential patents make their patented technology available to other companies.
(3) Innovation effect	Ensuring incentives to innovate requires that patent holders are compensated such that their inventions are not just copied by others for free.	Effective patent systems and protection of patent rights reduce the risks associated with infringement and the hampering of the returns from innovation, thereby triggering incentives to innovate.
(4) Investments	Innovation requires a return on the investment. Effective patent systems and protection of patent rights increase incentives to invest in R&D.	Commission rules and guidelines protect the rights of owners of standard essential patents and ensure a reasonable royalty for granting access to patented technology.

Source: Copenhagen Economics.

What are the shortcomings? The Commission has not provided explicit guidance on what constitutes a 'fair, reasonable, and non-discriminatory royalty,' giving rise to a competitive market environment. This shortcoming leads to hold-up problems where owners of patent rights test the limits of the FRAND framework.

Furthermore, antitrust enforcement only applies when a firm possesses a dominant market position. The standard setting process may very well take place before the holder of a standard essential patent has achieved a dominant position, making the company immune to regulation. In this way, antitrust enforcement may be an insufficient means to fight abuse of standard essential patents.⁸²

⁸² Bruegel (2013a) 'European Antitrust control and standard setting', Working paper 2013/01.

Box 5: Key points: Standard essential patents

What are the facts? Setting reasonable royalty rates for access to patented technology, so-called FRAND rates, is a contentious issue with ongoing abuse cases.

Why is intervention necessary? Given a de facto standard, any product must conform to that standard, often requiring the use of patented technology to remain competitive. Owners of standard essential patents are likely to abuse their patent rights in the absence of intervention, thereby restricting competitors' access to the market.

Which competition instruments are used? Antitrust enforcement and guidelines ensure that owners of standard essential patents are obliged to grant access to patented technology.

What is the link to the Flagship Initiatives? Access to standard essential patents on reasonable terms contributes to *Innovation Union*, *An industrial policy for the globalisation era* as well as *A digital agenda for Europe*.

What is the link between competition instruments and growth? Rules offering beneficial competitive pressure while safeguarding the protection of patent rights are essential to stimulate innovation and investment.

What are the shortcomings? The Commission has not provided explicit guidance on what constitutes a so-called FRAND royalty rate, which is essential in ensuring effective competition for licensors and licensees of standard essential patents. Furthermore, antitrust enforcement only applies to cases, where the licensor possess a dominant market position, which not necessarily coincides with the development of the technology.

Source: Copenhagen Economics.

ANNEX C: ABUSE OF ENERGY INFRASTRUCTURE

Why was this sector chosen? The substantial increase in the share of wind power in the EU's energy mix, particularly in the electricity sector, requires a highly effective Single Market allowing for shifts of production between countries and regions to compensate for fluctuations in wind production. Avoiding misuse of infrastructure ownership is thus of increasing importance.

What are the facts? Historically, national energy monopolies held the dual positions of transmission system operators and energy producers, i.e. they operated energy networks and sold their energy production through these networks.⁸³

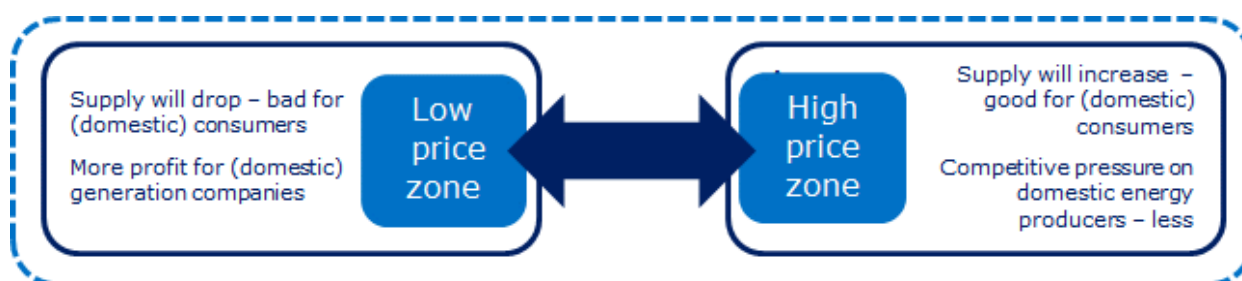
Since the 1990s the European energy markets have undergone a liberalisation process. Markets have gradually seen the unbundling of transmission supply and energy supply, entry barriers for new energy producers have been removed, it has been made easier for consumers to switch between energy providers, and independent regulators have been introduced to control access prices to the energy networks.⁸⁴

Why is intervention necessary? Despite the above mentioned previous initiatives, the liberalisation process is far from being completed and there are several examples of barriers to cross-border energy trade.

To understand why it is difficult to achieve frictionless cross-border energy supply, one needs to understand the remarkable differences in stakeholder incentives. Consider, for instance, the incentive of consumers and energy producers in two different countries, with (current) high versus low energy prices due to differences in the domestic gap between demand and supply.

Merging such two markets will be to the benefit of consumers in the high price country, as they will get access to cheaper energy from abroad. This means that energy producers in the high price country will lose profit as prices decrease. However, in the low price country, consumers do not like to compete for cheap energy with consumers in the high price country, as this will increase their prices. Finally, energy producers in the low price country will gain from exporting, see Figure 5.

Figure 5: Stakeholders' interests in cross-border energy trade



Source: Copenhagen Economics.

Understanding the reluctance of energy producers in high price countries is the key to understanding why transmission system operation and energy production should not be integrated vertically. Energy producers in high price countries will suffer from making the network available to low pricing competitors, because the price level in the high price countries may fall.

⁸³ Bruegel (2013b), 'Electricity infrastructure: More border crossings or a borderless Europe?', Policy Contribution Issue, <http://www.bruegel.org/download/parent/772-electricity-infrastructure-more-border-crossings-or-a-borderless-europe/file/1648-electricity-infrastructure-more-border-crossings-or-a-borderless-europe/>.

⁸⁴ See http://ec.europa.eu/competition/sectors/energy/overview_en.html.

At the same time, the mechanisms, illustrated in Figure 5, also show why national regulators in low price countries have incentives to prevent export by exploiting infrastructure bottlenecks. This was the case in the antitrust case against Svenska Kraftnät ('Swedish Interconnectors') in which the Commission found an infringement of Art. 102 TFEU.⁸⁵ In this case, the Swedish regulator prevented export of cheap Swedish energy by reducing the capacity in the transmission connection to Denmark.

In 2009, the European Commission opened a formal antitrust investigation against Svenska Kraftnät (SvK), the Swedish electricity transmission system operator, for possible breaches of Art. 102 TFEU on abuse of a dominant market position. The Commission suspected that SVK was abusing its monopoly position as the Swedish electricity transmission service provider by limiting export transmission capacity on Swedish interconnectors to neighbouring countries and thereby hindering the proper functioning of the Single Market for electricity.

To alleviate the Commission's competition concerns, Svenska Kraftnät made commitments to subdivide the Swedish transmission system into two or more bidding zones and to manage congestion in the Swedish transmission system without limiting trading capacity on interconnectors. Additionally, Svenska Kraftnät committed to reinforcing the network by building and operating a new 400 kV transmission line plus and to increase the use of counter-trade in order to reduce interconnector curtailments due to internal congestion.⁸⁶

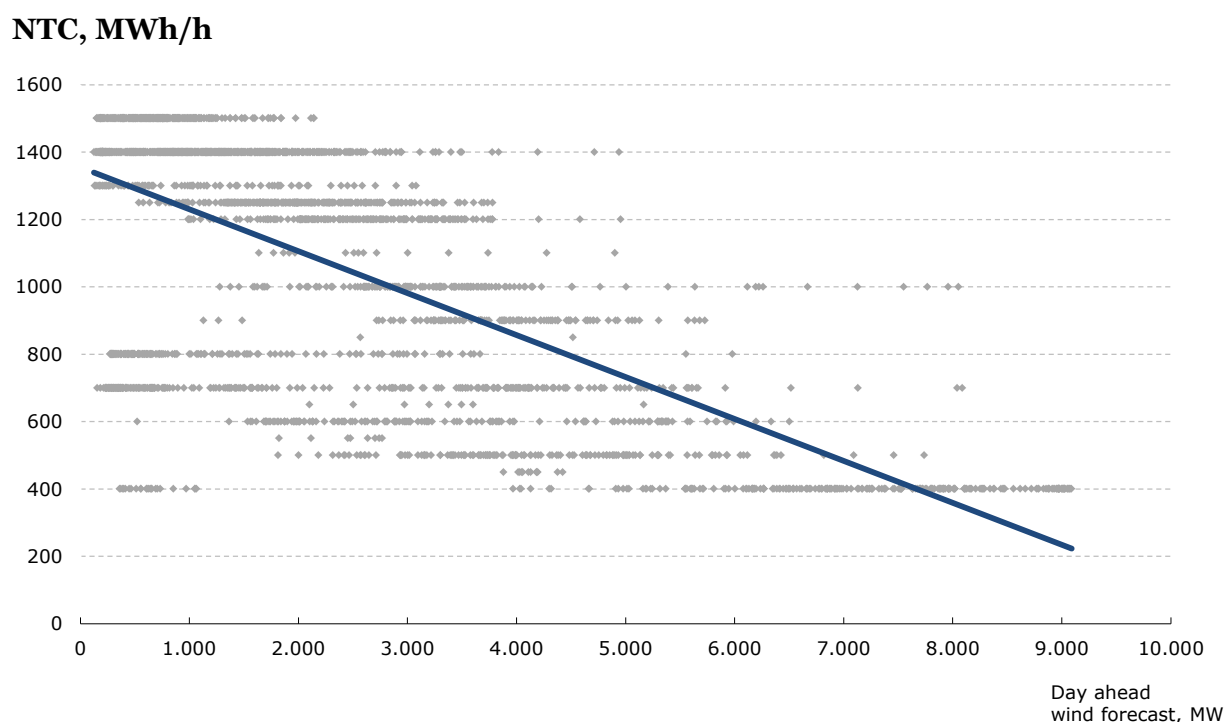
The Commission decided that these commitments were suitable remedies to accommodate the Commission's concerns and made the commitments binding for 10 years from the notification. There were no longer grounds for action on the part of the Commission and the proceedings could be brought to an end.

Another example of the vertical integration issue is the ownership structure in Germany. Energy producers in Germany are challenged by cheap wind energy periodically flowing in from abroad. If energy transmission and energy production in such areas are not completely unbundled, e.g. due to some shared ownership structure, cross border capacities risk being too small, since they are under the influence of infrastructure owners, who share the incentives of energy producers.

Looking at data from the winters of 2010 and 2011, we see a clear tendency of forecasts of wind power production to affect the amount of German import capacity from Denmark. In other words, the data shows that when windy weather is predicted, import capacity is reduced, see Figure 6.

⁸⁵ Both the background and the decision is explained in Case COMP/B- 1/39.351 — Swedish Interconnectors, OJ C239, 6.10.2009, p. 9-10, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39351/39351_1223_2.pdf.

⁸⁶ See the Commissions decision of 14 April 2010 relating to case COMP/B- 1/39.351 — Swedish Interconnectors for a description of the commitments, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39351/39351_1223_2.pdf.

Figure 6: Transmission capacity between Germany and Western Denmark, 2010-2011

Note: Each grey point represents an observation of day ahead wind production forecast for Denmark and transmission capacity between Germany and Denmark. The blue line shows the linear trend of the observations.

Source: Copenhagen Economics' calculations based on data from:

http://en.wikipedia.org/wiki/Wind_power_in_Germany, [Energinet.dk market data](http://www.energinet.dk),

http://www.tennetso.de/pages/tennetso_de/Transparenz/Veroeffentlichungen/Netzkennzahlen/Tatsaechliche_und_prognostizierte_Windenergieeinspeisung/index.htm.

The linear trend in Figure 6 shows a negative relationship between the forecasted wind production in Denmark (horizontal axis) and the transmission capacity between Germany and Denmark. A negative relationship means that a high forecasted wind production in Denmark is coupled with a low transmission capacity between Germany and Denmark, and vice versa.

Consequently, when cheap energy outflow could peak, due to high wind production in Denmark, drops in bottleneck capacity between Germany and Denmark attenuate the beneficial effect on German consumers, and Danish energy generators are prevented from getting full utilisation of the German export market.

Avoiding misuse of infrastructure ownership is of increasing importance, because wind energy makes up an increasing share of total energy production due to price drops caused by various subsidies to green energy. Obviously, production of wind energy depends on volatile weather conditions, and this volatility of production makes transmission capabilities increasingly important as wind replaces coal and gas, because some countries have a larger share of volatile energy supply than others.

More generally, the problem of handling cross-border electricity flows and avoiding the 'exportation' of internal problems of dealing with volatile power has been recognised at the EU level.⁸⁷ It is currently an important part of the agreement of the so-called network codes

⁸⁷ In May 2013, the so-called European Regulatory Electricity Forum, composed of EU and national regulators as well as industrial organisations invited ENTSO-E (the European organisation of TSO) and ACER (the European

which regulate the use of the EU infrastructure of electricity grids within and between Member States.

Which competition instruments are used? The Svenska Kraftnät case is an example of how antitrust has been used to fight impediments to effective cross-border competition by forcing the Swedish regulator not to prioritise national interests to the detriment of a Single Market for energy. Also liberalisation has been used in the energy sector.

What is the link to the Flagship Initiatives? These beneficial effects of induced competition and an Single Market for energy are closely related to two of the Flagship Initiatives in the EU 2020 Strategy; resource efficiency is a focal point in *Resource efficient Europe*. In *An industrial policy for the globalisation era* it is pointed out that " ...[cost reductions and reduced environmental impact] are increasingly essential both to deliver sustainable growth and jobs and to gain competitive advantage in response to increasing global competition for resource and environmental constraints".⁸⁸

What is the link between competition instruments and growth? The liberalisation process seeks to create competition between energy producers, and establish a Single Market for energy.⁸⁹ Creating competition between energy producers – on a national as well as on a European level – is beneficial in several aspects.

- Firstly, competition eliminates the deadweight loss, i.e. lower production due to high prices associated with monopolies by competing down energy prices.
- Secondly, energy is an important production input for enterprises, including SMEs, thus lower energy prices improve competitiveness.
- Furthermore, a Single Market for energy, where energy demand in one country can be met by energy supply from another country, enables a more efficient use of energy resources to the benefit of the environment.

The efficiency potential in an Single Market for energy is obvious, as situations where one country lacks supply and a neighbouring country lacks demand often occur due to volatile supply and demand patterns in the energy markets, e.g. because wind energy is obviously weather dependent. The export and import of energy across national borders depends, crucially, on open access to energy infrastructure but incumbent energy companies often have distorted incentives to supply such access on fair terms.⁹⁰

Antitrust enforcement is an instrument to fight national regulators' and transmission system operators' prioritisation of national interests and foreclosure of foreign energy producers. Cross-border competition is important to ensure efficient use of energy resources and reduce energy prices to the benefit of consumers and enterprises, incl. SMEs, and strengthen the European competitiveness.

Table 8 sums up the effects of competition instruments related to the current discussion.

Regulator) to develop an action plan on concrete solutions for cross-border dispatch and so-called loop flows see http://ec.europa.eu/energy/gas_electricity/electricity/forum_electricity_florence_en.htm.

⁸⁸ European Commission (2010c) 'An Integrated Industrial Policy for the Globalisation Era Putting Competitiveness and Sustainability at Centre Stage', http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/communication_on_industrial_policy_en.pdf.

⁸⁹ An overview of the liberalisation packages and related directives can be found at http://ec.europa.eu/competition/sectors/energy/overview_en.html.

⁹⁰ Supponen, M. (2011), 'The Influence of National and Company Interests on European Electricity Transmission Investments', *Aalto University Publication Series*, Helsinki.

Table 8: Abuse of energy infrastructure: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(1) Ressource efficiency effect	Competition gives incentive to produce energy with least use of resources.	Infrastructure bottlenecks can prevent efficient use of green energy.
(2) Replacement effect	Competition means that efficient firms replace less efficient firms	Antitrust action against import barriers allows efficient production from low price areas to replace high priced electricity
(4) Investments	Investments create long-term growth.	Holding back viable investments lead to higher productions costs and reduces competition
(6) Price effect	Low prices mean higher real wages and increased welfare.	Protecting domestic markets implies higher prices on average
(7) Market widening	EU wide markets provide incentives to reduce costs and improve efficiency, hence providing lower prices.	Lack of infrastructure or underutilisation of existing infrastructure will tend to fragment markets and leads to higher average prices

Source: Copenhagen Economics.

What are the shortcomings? Unbundling of the ownership of the electricity grid and the ownership of the electricity production facilities removes the incumbent electricity provider's incentive to foreclose competition by restricting access to the infrastructure.

The introduction of independent regulators ensures that access to the network happens on fair terms. However, the national perspective of regulators has caused challenges to the Single Market for energy, exemplified by the antitrust case against Svenska Kraftnät.

Essentially, the question is whether the legal competition framework is sufficient to safeguard, on a case-by-case basis, against impediments to effective cross-border competition, which is needed to ensure efficient usage of energy resources and low costs to consumers.

Box 6: Key points: Abuse of energy infrastructure

What are the facts? Europe is on a journey towards a liberalised Single Market for energy. However, we are not there yet, as there are still examples of severe obstacles to cross-border energy trade.

Why is intervention necessary? Without complete unbundling of transmission system operators and energy producers, foreclosure incentives remain. National regulators have been introduced. However, as exemplified by the antitrust case against Svenska Kraftnät, regulators may prioritise national (consumer) interests to the detriment of the Single Market for energy.

Which competition instruments are used? Antitrust enforcement has been used in the Svenska Kraftnät case (Art. 102 TFEU). Moving forward, the issue is addressed in the context of the so-called network codes which regulate the use of EU infrastructure including interconnectors between EU countries.

What is the link to the Flagship Initiatives? The desired objective contributes to *An industrial policy for the globalisation era* and *A resource efficient Europe*.

What is the link between competition instruments and growth? Infrastructure bottlenecks can prevent efficient use of green energy. A national focus means that energy is not necessarily produced at lowest possible costs and that there is a lack of investment in connections for transit and higher consumer prices in some countries. Furthermore, when infrastructure is under development, electricity markets will tend to be national or regional instead of European.

What are the shortcomings? It is doubtful, whether the legal competition framework suffices to safeguard, on a case-by-case basis, against impediments to effective cross-border competition, which is needed to ensure efficient use of energy resources.

Source: Copenhagen Economics.

ANNEX D: SECURITY OF ENERGY SUPPLY AND CAPACITY PAYMENTS

Why was this case chosen? The growing reliance on wind energy is a challenge to the security and stability of energy supply, because the supply of wind energy is, by nature, volatile. In some Member States, the challenge has been addressed through subsidies for carbon-based energy production to safeguard a (national) minimum of energy supply for the domestic market. This can take the form of so-called capacity payments, where producers are paid to retain non-volatile capacity to produce electricity. However, handled on the national level, such aid schemes have harmful consequences for the Single Market. The risk of the potentially important negative effect on EU energy markets have been widely recognised.⁹¹

With wind power making up an increasingly larger share, energy supply becomes more volatile: peak gaps between supply and demand on national levels will increase. To be able to fill the gaps when weather conditions do not permit energy supply to meet demand, a great reserve capacity from carbon based generation facilities is required.

It is, however, costly for providers to maintain a reserve of periodically unused production facilities, and as a consequence some Member States have introduced capacity payments, where traditional carbon based alternatives are payed not only for their actual supply, but also for just being available if needed.

So far, the challenge of sustaining reserve capacity has been handled on national levels, as each Member State seeks to secure its own supply. Table 9 below shows an overview of the existing capacity remuneration mechanisms.

⁹¹ The European Relatory Electricity Forum specifically addresses this issue in its May 2013 conclusions referring to the concerns expressed by the European Parliament and taken up as a result of this by ACER, the European regulator. See: http://ec.europa.eu/energy/gas_electricity/electricity/forum_electricity_florence_en.htm.

Table 9: Member States with capacity remuneration mechanisms

Country	Capacity payment scheme	Capacity Remuneration Mechanisms (CRM)
Belgium	Strategic reserve	CRM proposed/under consideration
Finland	Strategic reserve	CRM in operation
France	Capacity obligation market	CRM proposed/under consideration
Germany	Strategic reserve	CRM proposed/under consideration
Greece	Capacity payments (since 2005)	CRM in operation
Ireland	Capacity payments (since 2007)	CRM in operation
Italy	Capacity payments. (Capacity market planned for 2014)	CRM in operation
Poland	Strategic reserve	CRM in operation
Portugal	Capacity payments (since 2011, currently suspended)	CRM in operation
Spain	Capacity payments (since 1998)	CRM in operation
Sweden	Strategic reserve (to be phased out by 2020)	CRM in operation
United Kingdom	Capacity market	CRM proposed/under consideration

Note: There are no CRMs in the Netherlands, Luxembourg, Estonia, Lithuania, Latvia, Czech Republic, Slovenia, Slovakia, Hungary, Bulgaria, Romania, Denmark and Croatia.

Source: ACER.

What are the facts? As wind energy grows in importance, the incentives of carbon energy producers change: To secure a stable energy supply, sufficient capacity must be sustained. However, producers of carbon energy do not find it desirable to sustain a constant capacity, when they experience ever increasing wind energy production. Some Member States, e.g. The United Kingdom and France, have established capacity payments to national carbon energy producers in order to secure energy supply.

Wind energy's share of the total EU power capacity has increased from 2 to 11 per cent since 2000.⁹² Thus, the expansion of wind energy contributes to reaching the 2020 target for renewable energy - 20 per cent of European energy consumption stemming from renewable energies by 2020.⁹³

⁹² EWEA (2013), 'Wind in power, 2012 European statistics', p. 8, http://www.ewea.org/fileadmin/files/library/publications/statistics/Wind_in_power_annual_statistics_2012.pdf.

⁹³ European Parliament and Council (2009), 'Directive (2009/28/EC) on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives (2001/77/EC) and (2003/30/EC)', OJ L140 5.6.2009, pp. 16-62, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=Oj:L:2009:140:0016:0062:en:PDF> (implemented by Member States by December 2010).

Why is intervention necessary? The sustainable energy Directive (2001/77/EC)⁹⁴ sets the scene for national capacity payments, targeted at domestic energy companies. However, choosing a fragmented, national approach will most likely distort competition and work to the detriment of achieving an Single Market for wind energy.

Which competition instruments are used? State aid rules apply to the area of nationally discriminatory capacity payments, however, it appears to be the case, that State aid enforcement has not been a suitable remedy so far. Yet, it is clear that the establishment of national based capacity mechanisms will affect trade between countries and that the financing mechanism, like an mandatory surcharge on electricity bills, is equivalent to public funding. It seems likely that a more sector based regulatory approach is to be used, with the European Commissioner for Energy having promised to present a position in the summer of 2013.⁹⁵ Our expectation is that the European Commission will highlight solutions which are more Single Market consistent, for example by allowing cross-border institutions to provide capacity.

What is the link to the Flagship Initiatives? A *Resource efficient Europe* aims at transforming the European economy towards a greater reliance on renewable energy, but with greater dependence on e.g. wind energy. The problem of energy security intensifies. Stable energy supply, as well as a Single Market for energy impact enterprises, including SMEs, and their competitiveness, are all important elements in *An industrial policy for the globalisation era*.

What is the link between competition instruments and growth? Capacity payments serve the purpose of ensuring a stable wind energy supply. However, the chosen approach conflicts with the objective of creating an Single Market for energy to the benefit of consumers and enterprises, including SMEs. State aid enforcement is one way to fight harmful capacity payments to minimise the harm. Table 10 below sums up the effects of competition instruments related to the current discussion. We would recommend a two-step approach: (1) better identification of need for capacity enhancing instruments in the first place (2) identification of the possible instruments national TSO/regulators can put in place, with a focus on market conformity.

⁹⁴ European Parliament and Council (2001), 'Directive (2001/77/EC) on the promotion of electricity produced from renewable energy sources in the internal electricity market', <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2001L0077:20070101:EN:PDF>.

⁹⁵ A stakeholder forum was organised by DG Energy in March 2013. See http://ec.europa.eu/energy/gas_electricity/consultations/20130207_generation_adequacy_en.htm.

Table 10: Capacity payments: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(2) Replacement effect	Competition means that efficient firms replace less efficient firms.	National focus means that capacity is not necessarily delivered at minimal costs.
(3) Innovation effect	By opening up the market for capacity payments beyond traditional suppliers of electricity to whole sale markets, new sources of stability providers can be encouraged.	Regulations only focus on one solution, e.g. not customers reducing their electricity consumption to deliver capacity.
(6) Price effect	Introduction of new mechanisms to deal with volatile electricity markets implies that costs to consumers of higher markets shares for wind energy production can be reduced.	Lack of open and market bases mechanisms for providing stability to electricity markets increase costs to consumer.
(7) Market widening	By using operators across borders, lowest cost solutions can be encouraged.	No cross-border market for capacity.

Source: Copenhagen Economics.

What are the shortcomings? There is a risk that the current approach will undermine the achievement of the Single Market for production of electricity by introducing nationally oriented capacity payment systems. Basically, the question is how Europe can minimise undesirable distortion of competition from protectionist practices despite the need for securing energy supply while minimising costs to consumers.

Box 7: Key points: Security of energy supply and capacity payments

What are the facts? Some Member States have introduced capacity payments to domestic carbon-based energy producers as a reaction to greater dependence on volatile energy resources, in particular wind energy.

Why is intervention necessary? A fragmented approach to capacity payments leads to a situation where domestic energy producers receive aid measures that are not available to competitors from other European countries, thus cross-border competition is disturbed.

Which competition instruments are used? In principle, State aid enforcements apply to the area of capacity payments, however the application of State aid rules has not been used to prevent distortions of European competition. Sector based rules by the European Commission based on market conformity are likely to be proposed instead.

What is the link to the Flagship Initiatives? *A resource efficient Europe and An industrial policy for the globalisation era.*

What is the link between competition instruments and growth? By encouraging market based mechanisms, low cost solutions can be found to stabilise the energy system and restrain energy costs to the benefit of European firms.

What are the shortcomings? The key question is how Europe can minimise undesirable distortions of competition from protectionist practices despite the need for securing energy supply. The chosen approach to the first objective conflicts with the latter objective.

Source: Copenhagen Economics.

ANNEX E: UNIVERSAL SERVICE OBLIGATION IN THE POSTAL SECTOR

Why was this sector chosen? As a service of general economic interest, postal delivery services play an important role in linking European businesses and consumers. Postal services contribute to territorial cohesion and efficient service provision within the EU. On the one hand, regulation enables the transition to competition after the liberalisation of the postal sector. On the other hand, regulation guarantees all users access to a common minimum standard of postal services. However, this minimum standard may not be commercially attractive to supply.

What are the facts? With the Third Postal Directive⁹⁶ the postal markets have been liberalised and opened to competition. However, national postal operators all over the EU⁹⁷ have a USO to deliver basic postal services to all households.⁹⁸ The USO obliges providers to deliver mail at least five days a week to every household. Traditionally, the costs of the USO have been financed with revenues from monopoly on delivery of small letters. However, after the implementation of the Third Postal Directive new means for financing the USO must be found, because the legal monopolies are removed.

E-substitution, the process of e-mails replacing physical letters, leads to lower mail volumes. E-substitution leads to greater unit costs of delivering physical mail, because postal operators have significant fixed costs associated with maintaining a delivery network, which must be covered regardless of the mail volume. E-substitution also changes the need for a universal service obligation, because consumers are less dependent on sending and receiving letters by mail.

A recent Finnish experience demonstrates the potential for e-substitution. In an area in rural Finland, a total of 124 Finnish households and 20 businesses, who opted into the experiment, received their physical mail by e-mail. A professional unit under the Finnish postal operator Itella, which was bound by confidentiality agreements, opened and scanned the letters at a separate facility and forwarded the contents in electronic form to the recipients. While there were some privacy concerns, the lawfulness of the experiment was ascertained by the Finnish Communications Regulatory Authority (FICORA).⁹⁹

Why is intervention necessary? USO services may not be commercially viable and the resulting net costs must be covered. Ensuring a viable USO, which does not distort competition, poses a challenge to Member States, because overcompensation as well as undercompensation would distort competition and reduce efficiency gains.

⁹⁶ European Parliament and Council (2008a), 'Directive 2008/6/EC amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services, OJ L 52, 27.2.2008, p. 3–20, http://ec.europa.eu/internal_market/post/doc/legislation/2008-06_en.pdf.

⁹⁷ Except in Germany where the USO is provided on market terms without a designated universal service provider. Hence, there is no formal obligation that the universal service is provided by a specific operator. However, there is a fallback provision which enables the German regulator to impose obligations on operators or use public procurement if the market no longer provides universal services, see Copenhagen Economics (2010), 'Main developments in the postal sector 2008-2010', p. 122-123, http://ec.europa.eu/internal_market/post/doc/studies/2010-main-developments_en.pdf.

⁹⁸ European Parliament and Council (2008), 'Directive 2008/6/EC amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services, OJ L 52, 27.2.2008, p. 3–20, articles 20 and 21 http://ec.europa.eu/internal_market/post/doc/legislation/2008-06_en.pdf.

⁹⁹ Helsingin Sanomat (2010), 'Itella to begin opening letters and delivering them by email', Retrieved on 03.07.2013 from <http://www.hs.fi/english/article/Itella+to+begin+opening+letters+and+delivering+them+via+email/1135255790584>.

Moreover, the national postal operators still hold very strong market positions within the USO area, as only limited entry has occurred in this segment of the postal market.¹⁰⁰ Therefore, the sector specific regulation calls for different forms of price regulation.

Which competition instruments are used? The Third Postal Directive defines the regulatory setup for the postal sector. The Directive implements market liberalisation and opening. It contains a number of provisions for sector specific regulation, in particular regulation of the USO.

To sustain the USO, the net cost is financed either through targeted State aid to universal service providers, in the form of a compensation fund, to which all postal operators contribute, or by a pay-or-play mechanism.¹⁰¹ The latter ensures a level playing field by imposing a tariff on operators who do not meet the service obligation.¹⁰²

What is the link to the Flagship Initiatives? A well functioning and efficient postal sector will ensure affordable postal services for businesses and consumers within the EU, as it will stimulate growth in those industries, where postal services are an important input. In particular, an efficient postal sector will contribute to:

- *An industrial policy for the globalisation era* by providing an effective and cheap communication link between companies and consumers.
- *A digital agenda for Europe* by ensuring well functioning delivery service for e-commerce.
- *European platform against poverty (cohesion)* by ensuring affordable postal services to all users.

What is the link between competition instruments and growth? Opening postal markets to competition has fostered much more affordable postal services for European businesses and consumers, and increased the efficiency and number of postal operators. Both effects stimulate growth, while the USO ensures access to basic postal service at affordable prices for all users. This stimulates cohesion.

¹⁰⁰ Copenhagen Economics (2010a), 'Main developments in the postal sector 2008-2010', p. 89-90.

¹⁰¹ A pay-or-play mechanism is used in, for example, Finland. Competitors to the universal service provider, Itella, are obliged to either cover the entire country – or to pay a levy.

¹⁰² Copenhagen Economics (2010a), 'Main developments in the postal sector 2008-2010', p. 118.

Table 11: Postal service obligation: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(1) Resource efficiency effect	As former monopolies, the national postal operators continue to hold strong market positions in distribution of services within the USO. They may thus be exposed to limited competition pressure on certain parts of their business. This creates a risk of inefficient provision of the USO.	The national regulatory authorities use price regulation (transparency, cost orientation, and perhaps price caps) to mimic the effects of competition. Moreover, the Postal Directive specifies that compensation for the net cost of the USO must be done in a way that maintains incentives for efficiency.
(2) Replacement effect	Users should choose the services that best fulfil their needs. Sometimes this implies that postal services should be substituted by electronic communication.	With an introduction of more diverse services (such as E-substitution) and many operators, consumer choices influence postal markets more strongly. At the same time, the USO means that postal operators have to provide certain services even though they experience rapid decline in demand for these services. This reduces the replacement effect.
(3) Innovation effect	Operators should develop services that meet the needs of their users best, e.g. by offering virtual delivery (open, scan, and email) instead of physical delivery.	Despite possible innovations, the USO forces operators to maintain certain services even though other services might match the needs of the consumers better.
(5) Public goods	Postal service is considered to be a service of general economic interest (SGEI). Postal operators may not have a commercial incentive to deliver sufficient service levels to all users.	USO ensures that all users have access to basic postal services at affordable prices.
(6) Price effect	Users should have access to postal services at low costs.	The USO may add significantly to the costs of the postal operator. This will eventually lead to higher prices.

Source: Copenhagen Economics.

What are the shortcomings? The above table shows that even though formal procedures are in place to ensure compensation for an unfair burden caused by the imposition of the USO, few universal service providers have actually been compensated. One reason is that it is difficult to calculate and document the net costs of the operator charged with the USO. Another reason is that compensation mechanisms often imply that the universal service provider itself will end up paying the main share of the net costs. This is the case, when the net cost of the USO is covered by a compensation fund to which all postal operators contribute according to their market share, because the universal service provider is often the main contributor and will therefore in the end pay most of the compensation itself.

In recent years, e-substitution, which leads to a decline in physical mail, has raised a debate about whether the postal market can bear the cost of the USO. For example, in the UK the regulator OFCOM decided to give Royal Mail more commercial freedom in its pricing to secure the USO.¹⁰³ This has enabled Royal Mail to increase prices; stamp prices have, for instance, increased by 39 per cent.

Applying a cost-benefit approach to assess whether the scope of the USO fits the needs of businesses and consumers today could be a policy approach. However, there is a risk that such revisions do not take place, because the net cost of the USO is often a hidden cost, which is borne by the universal service provider itself. This reduces the interest for politicians to discuss whether it is too costly to maintain a given universal service standard. Hence, there is a risk that the cost of the USO no longer balances with its benefits.

Examples of this is found in Norway and Sweden, where access to basic banking services used to be part of the universal service obligation, such that consumers could pay bills, deposit and withdraw money from the post office or from the postman in rural areas. In practice, the postal operators worked as an agent for a bank. However, the services added significantly to the costs for the postal operators, in particular because they had to maintain their own post offices. Hence, as the number of transactions fell as a consequence of increased use of webbanking, the costs per transaction increased to very high levels, see Table 12.

Table 12: USO costs of banking services in Norway and Sweden

	Cost of providing the service	Number of transactions relying on the service	Cost per individual transaction
Banking services in Norway	EUR 22 million ¹	342,000	EUR 64
Banking services in Sweden	EUR 21 million ²	Fewer than 230,000	More than EUR 90

Note: ¹Estimated cost for 2012 ²For a period of four years, 2009-2012.

Source: Copenhagen Economics.

The need for USO services has developed over time. It is thus important that the scope of the USO trails the change in user needs.

The requirements concerning delivery time are an important part of the USO, and, according to a study¹⁰⁴ by Frontier Economics, those requirements often account for a large share of the net cost of the USO. A study conducted by Copenhagen Economics on behalf of the European Commission on main developments in the postal sector in 2010, found that most mail (apart from newspapers) was in fact not time critical, because the mail could be sent one day sooner or delivered one day later. Interestingly, the study did not find non-internet users to be more reliant on postal services than internet users (apart from delivery of newspapers).¹⁰⁵

¹⁰³ Ofcom (2012), 'Securing the Universal Postal Service', <http://stakeholders.ofcom.org.uk/binaries/consultations/review-of-regulatory-conditions/statement/statement.pdf>.

¹⁰⁴ Frontier Economics (2013), 'Study on the principles used to calculate the net costs of the postal USO', p. 72. http://ec.europa.eu/internal_market/post/doc/studies/2012-net-costs-uso-postal_en.pdf.

¹⁰⁵ Copenhagen Economics (2010a), 'Main developments in the postal sector 2008-2010', p. 141-142.

The tendency for users to prefer to keep access to the currently existing postal services, even though they use the services less and less, creates a risk of maintaining USOs that become very costly.

Box 8: Key points: Universal service obligations in the postal sector

What are the facts? National postal operators are obliged to provide certain services to all users at affordable costs. Until full market opening, the net costs of this obligation were financed by a legal monopoly, but after full market opening, the net costs are either covered by the state or a compensation fund, funded by all operators.

Why is intervention necessary? Postal operators may not have commercial interest in providing sufficient level of services to all users.

Which competition instruments are used? Liberalisation combined with sector specific regulation of universal services.

What is the link to the Flagship Initiatives? *An industrial policy for the globalisation era* by providing an effective and cheap communication link between companies and consumers. *A digital agenda for Europe* by ensuring well functioning delivery service for e-commerce. *A European platform against poverty (cohesion)* by ensuring affordable postal services to all users (rural areas/geographical cohesion).

What is the link between competition instruments and growth? Efficient provision of postal services lowers costs for consumers and businesses and thereby increases the competitiveness of European companies. The USO creates geographical cohesion and improves business environments in remote areas. However, the USO may also reduce innovation and prevent postal services from being replaced by better means of communication, because the universal service obligation mandates daily physical delivery and thus prevents delivery models where letters are opened, scanned, and delivered via email (virtual delivery).

What are the shortcomings? Compared to user needs today, the USO may become outdated resulting in service levels that exceed what people need nowadays. This would imply significant costs for universal service providers because they would have to maintain a high service in spite of a sharp volume decline.

Source: Copenhagen Economics.

ANNEX F: WIDESPREAD AND AFFORDABLE ACCESS TO HIGH SPEED INTERNET

Why was this sector chosen? The internet is the infrastructure of the digital economy, and the digital economy is a major source of growth and innovation. The quality and availability of internet access poses a decisive factor for Europe's productivity, competitiveness, and growth - and for the establishment of a European Digital Single Market.

In 2010, it was estimated that a minimum increase in GDP (EU27) of four per cent could be realised by stimulating further adoption of information and communication technology as well as digital services, through the creation of a European Digital Single Market. This also implies job creation. One estimate shows that in Germany alone, the improvement of digital infrastructure will trigger innovation and growth leading to an additional 427,000 jobs over the period 2015-2020.¹⁰⁶

What are the facts? Throughout Europe, the electronic communication sector has been liberalised and competition takes place within a sector specific regulatory framework, which includes harmonisation of rules regulating access to legacy networks, such that internet Service Providers can compete using the existing infrastructure.¹⁰⁷ However, despite a common regulatory framework, access conditions, quality (speed), and consumer prices vary tremendously across different geographical jurisdictions within Europe, and the liberalised market does not guarantee affordable access to high-speed internet in all areas.

As new technologies, digital services and business models, for instance cloud services, video-on-demand etc., enter the market, an infrastructure with sufficient capacity is called for, to grasp potential benefits of such new technologies.

In October 2011, the European Commission proposed to spend EUR 8 billion on broadband rollout and investments and another EUR 1.2 billion on investments in digital services as part of the so-called Connecting Europe Facility over the period 2014-2020.¹⁰⁸ It was expected that these funds would attract additional private broadband investments worth more than EUR 50 billion. Then, during budget negotiations in February 2013, the budget for broadband rollout was removed.¹⁰⁹

Why is intervention necessary? The established competitive framework may fail to deliver rollout in rural areas with low population density, because the financial aspects of such projects are not necessarily commercially viable. Even though broadband rollout creates growth and job opportunities in the long run, market failures are present when social benefits do not reflect the private investment incentives for certain low-density population areas. Thus, to achieve widespread access to affordable high-speed internet, public funding of network rollout can be a necessary and beneficial intervention when seen from a societal perspective.

The Universal Service Obligation (USO) in the postal sector, described in the case study on the USO in the postal sector, see Annex E, addresses a matching dichotomy between desirable political outcomes and realistic economic outcomes of an unregulated market. In both cases, a liberalisation process is being supported by the use of competition

¹⁰⁶ Copenhagen Economics (2010b), 'The Economic Impact of a European Digital Single Market'. http://www.epc.eu/dsm/2/Study_by_Copenhagen.pdf.

¹⁰⁷ European Commission (2013d), 'EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks', OJ C25, 26.01.2013, p. 1-25, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:025:0001:0026:EN:PDF>.

¹⁰⁸ European Commission (2011f), 'Digital Agenda: Commission proposes over EUR 9 billion for broadband investment', Press release, http://europa.eu/rapid/press-release_MEMO-11-709_en.htm?locale=en.

¹⁰⁹ Kroes, N. (2013b), 'A budget for European growth', Webblog retrieved on 03.07.2013 from <http://blogs.ec.europa.eu/neelie-kroes/eu-budget-innovation-cef/>.

instruments alongside a sector specific regulation, and both cases are linked through similar needs for universal services.

Which competition instruments are used? State aid enforcement plays an ambiguous role in the broadband rollout procedure. On the one hand, State aid can be a necessary intervention to correct a socially inefficient incentive structure, on the other hand, it is also important to prohibit State aid in cases without market failures to correct. In January 2013, the European Commission issued new guidelines for the application of State aid rules in relation to the deployment of broadband networks.¹¹⁰ The guidelines distinguish between three different types of geographical areas, and offer differentiated guidance on the use of State aid in each type of area, see Figure 7.

Figure 7: Guidelines for State aid to roll-out of broadband

black areas	In the near future, there are or there will be at least two basic broadband networks of different operators and broadband services are provided under competitive conditions (infrastructure-based) competition.
grey areas	One network operator is present and another network is unlikely to be developed in the near future
white areas	No broadband infrastructure and it is unlikely to be developed in the near future

Source: EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks.

While State aid to broadband rollout in white areas may prove itself necessary to meet the broadband objectives, the enforcement of regulations to prohibit State aid in black areas is also crucial. Private investors must be confident that they will not encounter competitors, whose business is based on State aid.

Both, the approval of State aid to broadband rollout in black areas and the rejection of State aid to broadband rollout in white areas would harm the objective of achieving high-speed internet coverage all over Europe. The State aid framework and its application to the broadband area influence the overall objective of investing in an European Digital Single Market.

What is the link to the Flagship Initiatives? Broadband access for all Europeans is a concrete action on *A digital agenda for Europe*. The desired objectives are to bring basic broadband to all Europeans by 2013, to ensure that all Europeans have access to internet speeds above 30 Mbps by 2020, and to guarantee that at least 50 per cent of European households subscribe to internet connections above 100 Mbps by 2020.

A full coverage digital infrastructure is the fundament for new digital business opportunities along with new jobs. In this context, *An agenda for new skills and jobs* is another related Flagship Initiative, as the effort to improve e-skills in the workforce goes hand in hand with the growing digital economy.

What is the link between competition instruments and growth? State aid regulations are necessary instruments to avoid that aid is not granted when broadband rollout already happened or when it could happen on commercial terms. In such a case, private investments would be crowded out. Without private investments, it would not be possible

¹¹⁰ European Commission (2013d), 'EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks', OJ C25, 26.01.2013, p. 1-25.

to reach the desired targets for rollout of high-speed internet. Growth and productivity follow the digital economy, which crucially depends on digital infrastructure.

Table 13 below sums up the effects of competition instruments related to the current discussion.

Table 13: Widespread and affordable access to high-speed internet: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(4) Investments	Investments create long-term growth.	Currently, there seems to be a lack of investments to reach 2020 targets – State aid enforcement is important to avoid crowding out of commercially viable investments.
(5) Public goods	Services of General Economic Interest may be underprovided on a free market, because positive externalities are ignored. Similar effects were relevant in the postal case.	State aid enforcement supports the objective of broadband access for everyone.
(7) Market widening	Transportation costs are not an issue for digital products; the digital economy is inherently supra-national. Cross-border trade is eased when e-commerce alternatives are introduced.	State aid enforcement supports the objective of broadband access for everyone. Widespread broadband enhances the Digital Single Market - e.g. cross-border e- and digital cross-border services.

Source: Copenhagen Economics.

What are the shortcomings? Rollout of high-speed broadband in sparsely populated areas is often not commercially viable, and a special State aid regime is in place to ensure that rollout in such areas can be subsidised as long as the aid does not crowd out commercial investments. However, rollout happens at a modest pace, and it is doubtful whether EU 2020 targets for broadband access can be reached given that the budget for broadband rollout from the Connecting Europe Facility has already been spent.

Box 9: Key Points: Widespread and affordable access to high-speed internet

What are the facts? Quality of existing digital infrastructures varies across Europe. New technologies and services, entering the digital market, call for high-speed broadband.

Why is intervention necessary? To meet the objective, public funding of network rollout may be a necessary intervention.

Which competition instruments are used? State aid to roll-out of broadband.

What is the link to the Flagship Initiatives? Broadband to Europeans is a concrete action on *A digital agenda for Europe*. Broadband is the infrastructure of the digital economy, an area with great potential for creating new kinds of jobs. In this context, *An agenda for new skills and jobs* also plays a central role

What is the link between competition instruments and growth? Currently, there seems to be a lack of investments to reach the 2020 targets – State aid enforcement is important in order to avoid crowding out commercially viable investments, which would make it even more difficult to reach the 2020 goals. Broadband can provide a major boost to EU productivity and growth, e.g. by opening new e-commerce markets.

What are the shortcomings? Rollout happens at a modest pace, and it is doubtful whether EU 2020 targets for broadband access can be reached even though a special State aid regime is in place. If State aid is granted to commercially viable projects it will crowd out private investment to the detriment of the objective.

Source: Copenhagen Economics.

ANNEX G: CAPS ON INTERNATIONAL ROAMING CHARGES

Why was this sector chosen? Overcharges for roaming services and the European sector specific regulation addressing it, are an example of how markets may fail to deliver competitive prices to consumers. Sector specific regulation, e.g. price caps, are an effective though not perfect remedy.

What are the facts? Mobile subscriptions enable customers to make and receive mobile phone calls, and to access short message services and internet browsing. When a customer is abroad, the home operator pays a foreign network operator for making their network available and passes that cost on to the customer. The service received is called roaming.

Previously, roaming charges have often proven a substantial and unpleasant surprise for consumers. Despite modest use, consumers received an extraordinary bill, simply because they were out of their operator's home area.

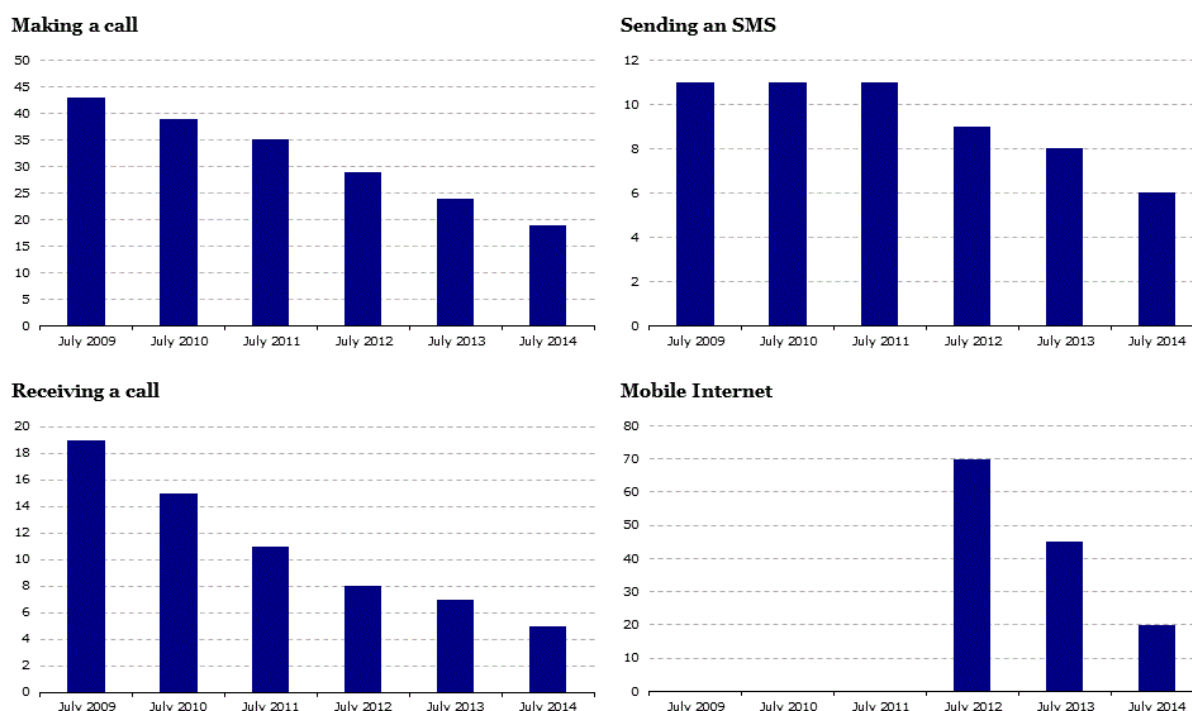
Why is intervention necessary? As stated in *A digital agenda for Europe*, the differences in national mobile charges and roaming charges are an illustration of the shortcomings in the Single Market for telecoms services.¹¹¹

Although the telecommunications sector has been liberalised and many operators now operate in various European countries, competition on providing roaming services has not yet been established. Roaming prices have not become a competitive parameter, because customers are typically not aware of the roaming prices they face when they choose their operator. Also, it is rational for consumers to base their operator choice on the pricing in their home country, and less on the price for using the phone in other countries, where the consumer may or may not go for shorter periods of time, on for instance holiday. The consequence is that the market has failed to bid down roaming charges because consumers have not – to a sufficient degree – based their consumption decision on roaming charges, but primarily paid attention to national tariffs. The lack of consumer response to high roaming charges has enabled telecom operators to increase roaming charges significantly above costs.

Which competition instruments are used? As a reaction to this situation, the European Commission applied sector specific regulation by setting price caps on roaming charges. The price caps have been in place since 2009 and have already delivered EUR 15 billion in savings to European businesses and consumers.¹¹² The caps have been reduced every year and recently, in July 2012, a new maximum charge was introduced for data roaming, voice calls and texts, see Figure 8.

¹¹¹ European Commission (n.d.), 'A Digital Agenda for Europe, Pillar I: Action 101: Look for durable solutions for voice and data roaming by 2012', Retrieved on 03.06.2013 from <http://ec.europa.eu/digital-agenda/en/pillar-i-digital-single-market/action-101-look-durable-solutions-voice-and-data-roaming-2012>.

¹¹² European Commission (2013e) 'What did the EU ever do for the mobile industry and consumers', http://europa.eu/rapid/press-release_MEMO-13-139_en.htm.

Figure 8: Eurotariff maximum roaming charge per minute in Euros (without VAT)

Note: 2009-2012 are historical price caps while 2013-2014 are planned price caps.

Source: http://ec.europa.eu/information_society/activities/roaming/regulation/archives/current_rules/index_en.htm.

The data roaming rules will materialise into savings of over EUR 1000 per year for a typical business person travelling within the EU. A family taking an annual holiday in another EU country can expect to save more than EUR 200.¹¹³

Vice-president of the European Commission and Commissioner in charge of the digital agenda, Neelie Kroes, asserted a strong stance against the fees in a recent speech to the European Parliament: *"I want you to be able to go back to your constituents and say that you were able to end mobile roaming costs."*¹¹⁴

What is the link to the Flagship Initiatives? Adjusting roaming prices to equal national tariffs is part of *A digital agenda for Europe* because it facilitates the Digital Single Market with price benefits for European travellers.

What is the link between competition instruments and growth? Lower roaming prices due to sector specific measures in the form of price caps allow European business travellers to use roaming more freely to the benefit of the overall business environment. Also, European tourists save money on lower prices which may be used to generate economic activity elsewhere.

Table 14 below sums up the effects of competition instruments related to the current discussion.

¹¹³ European Commission (n.d.), 'A Digital Agenda for Europe, Pillar I: Action 101: Look for durable solutions for voice and data roaming by 2012', Retrieved on 03.06.2013 from <http://ec.europa.eu/digital-agenda/en/pillar-i-digital-single-market/action-101-look-durable-solutions-voice-and-data-roaming-2012>.

¹¹⁴ Kroes, N. (2013a), 'The politics of the completing the telecoms single market', Speech given at the Internal Market and Consumer Protection (IMCO) Committee, European Parliament, Brussels.

Table 14: Caps on international roaming charges: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(4) Investments	Investments create long-term growth.	Risk that price caps will reduce incentive to invest in telecom networks.
(6) Price effect	Low consumer response to roaming charges would allow operators to have high roaming charges.	Lower roaming charges determined by regulation.
(7) Market widening	Roaming charges are a barrier to doing business abroad.	Spill-over: Cheaper to use mobile phone abroad stimulates cross-border activities.

Source: Copenhagen Economics.

What are the shortcomings? In the future, once European travel across Member States increases, consumers will most likely be more concerned about roaming charges. By behaving rationally, a free market would be able to deliver competitive roaming charges. In such a case, sticking to price caps may have downsides, since the cap might be higher than prices determined by perfect competition. In her recent speech, Neelie Kroes highlighted her policy initiative addressing this issue. She asserts that “*there is no place for borders*”¹¹⁵ and called upon the Members of the European Parliament to support her drive towards abolishing roaming costs altogether. While she acknowledges the difficulty of the task, she emphasised that the gains for competition and consumers will be a tremendous step towards the EU Single Market. If put in place, her reform proposal would address all current shortcomings of the cap system.

¹¹⁵ Kroes, N. (2013a), ‘The politics of the completing the telecoms single market’, Speech given at the Internal Market and Consumer Protection (IMCO) Committee, European Parliament, Brussels.

Box 10: Key points: Caps on international roaming charges

What are the facts? European consumers often received extraordinarily large bills for roaming services. In reaction, the European Commission has applied sector specific regulation by setting price caps on roaming charges.

Why is intervention necessary? The market failed to bid down roaming charges, because consumers based their buying decision on national tariffs, instead of paying attention to roaming services.

Which competition instruments are used? Sector specific measures in the form of price caps.

What is the link to the Flagship Initiatives? Forcing roaming prices to equal national tariffs is part of *A digital agenda for Europe*.

What is the link between competition instruments and growth? Lower roaming prices allow European business travellers to use roaming more freely to the benefit of the overall business environment.

What are the shortcomings? Even though price caps have been very efficient so far, this will not necessarily be the case in the long run. If consumers start to care more about roaming services and charges, e.g. because of more travelling, this will stimulate competition on roaming charges. However, price caps may hinder development of a competitive market, and, as a consequence, the price cap might be higher than prices determined by effective competition.

Source: Copenhagen Economics.

ANNEX H: LIBERALISATION OF THE AVIATION SECTOR

Why was this sector chosen? The market opening process of the European aviation sector has transformed the European air transport market from a set of fragmented national monopolies with state-owned flag carriers to a fully integrated European market with new business models in the form of point-to-point carriers, i.e. carriers who do not offer transfer services, merging network carriers, or carriers in close alliances. The sector was liberalised through three packages from 1987 to 1997, with the third package from 1992 as the major step.¹¹⁶

Since 1992, when the third liberalisation package was adopted, the sector underwent a remarkable growth in air traffic and a decrease in prices. Studies of the price of air travel indicate a decline in air fares across Europe, resulting directly from air transport liberalisation.¹¹⁷ The development has led to the entry of a number of new players, both airlines and airports, to more travellers, larger mobility, new business models, more efficient technologies, and to a more connected European Union.

Furthermore, the process is fuelled by the gradual market opening to countries outside the European Union, with the EU-US open skies agreement being the most prominent development, which came into effect in 2008.¹¹⁸

What are the facts? Air transport makes a key contribution to the European economy, with more than 150 scheduled airlines, a network of over 450 airports, and 60 air navigation service providers. The aviation sector employs more than 4.5 million people. Airlines and airports alone contribute 1.5 per cent to European GDP; approximately 800 million passengers departed or arrived at European airports in 2010.¹¹⁹

Over the course of less than two decades, the liberalisation of the European aviation sector has led to several significant results. From 1992, at the time of the third liberalisation package, to 2010, the number of intra-EU routes grew by approximately 140 per cent, and the number of intra-EU routes with more than two competitors grew by about 310 per cent. Additionally, the emergence of point-to-point carriers, typically following a low cost business model, has transformed the European aviation sector. Such carriers made up approximately 40 per cent of total intra-EU scheduled capacity in 2011.¹²⁰

Why is intervention necessary? Intervention in the form of regulatory changes in the air transport market was necessary to liberate a market previously dominated by domestic flag carriers and organised in a web of bilateral air service agreements. These agreements contained restrictions on capacity, frequencies, and price of flights to ensure an equal sharing of the market between two Member States. Through a dual-price approval mechanism, the partner state could approve any change in air fares from the other party. Furthermore, the bilateral agreements prior to liberalisation included national carrier clauses, restricting the designation of carriers to specific national carriers. In sum, the regulation excluded any form of effective competition in international air transport within Europe.

¹¹⁶ An overview of the liberalisation packages and related directives can be found at http://ec.europa.eu/transport/modes/air/internal_market/integration_history_en.htm.

¹¹⁷ Copenhagen Economics (2012), 'Airport Competition in Europe', p. 14.

¹¹⁸ European Commission (2007) 'Air Transport Agreement', OJ L134, 25.5.2007, p. 4-41, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:134:0004:0041:EN:PDF>.

¹¹⁹ Copenhagen Economics (2012), 'Airport Competition in Europe', p. 16.

¹²⁰ See http://ec.europa.eu/transport/modes/air/internal_market/index_en.htm.

To introduce effective competition, a thorough and lengthy process of market opening was required while also preserving high security standards and sound consumer protection provisions. In addition, intervention in the form of State aid regulation was needed to ensure the liberalised market would function on market based terms. Competition policy was vital to prevent inherent network effects from leading to concentrations which could impede competition. These policies also inhibit cartel formation and the abuse of dominant market positions, hence passing on the benefits of competition to European consumers.

Which competition instruments are used? Two main competition instruments were applied in this context: Liberalisation and sector-specific regulation. Liberalisation took place through the three liberalisation packages in 1987, 1990, and 1992. Sector-specific rules are based on regulations for operation of air services in the EU, from 2008.¹²¹

Merger control has helped to avoid harmful concentrations of airlines.¹²² State aid regulation has ensured that government interests in both airlines and airports are kept to levels compatible with effective competition.¹²³

What is the link to the Flagship Initiatives? Affordable and frequent air travel with a large selection of routes between and within EU Member States will contribute to reaching the objectives of the EU 2020 Flagship Initiative *An industrial policy for the globalisation era*, especially by strengthening a favourable business environment.

What is the link between competition instruments and growth? Market liberalisation led to massive growth in air traffic and the emergence of entirely new business models, such as point-to-point carriers, changing the dynamics of how airports compete. The continued integration of hub-carriers, as exemplified by the Air France-KLM merger¹²⁴, the integration of Austrian, Swiss, and Brussels Airlines into the Lufthansa Group¹²⁵, and the merger of British Airways and Iberia¹²⁶ also changed the dynamics of the market. With multiple hubs, these newly combined airlines are in a much better negotiating position vis-à-vis airports.

Airports used to be seen as something akin to natural monopolies and consequently experienced strict economic regulation, imposing caps on charges or income, or otherwise restricting the behaviour of airports. As competition has evolved across European borders, so has the competition between airports. Point-to-point airlines, such as easyJet, Vueling, and Ryanair, are significantly more price sensitive in their choice of airports than the traditional flag carriers, because they can easily shift their capacity from one airport to another, thereby exerting a new and more forceful pressure on airports. See Table 15, especially the item 'price effect'.

¹²¹ European Parliament and Council (2008b), 'Regulation (EC) No 1008/2008 on common rules for the operation of air services in the Community (Recast)', OJ L293 31.10.2008, p. 3–20, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:293:0003:0020:EN:PDF>.

¹²² See the case study on airline mergers in Annex I.

¹²³ The Commission is currently revising the Guidelines on financing of airports and start-up aid to airlines departing from regional airports ('State aid aviation guidelines'), following a public consultation that took place in 2011. The Commission plans to launch a public consultation in the coming weeks with a view to adopting new aviation guidelines in 2013.

¹²⁴ Decision of 11/02/2004 in the case of COMP/M.3280 — Air France/KLM, OJ C60 09.03.2004, p. 5–5, http://ec.europa.eu/competition/mergers/cases/decisions/m3280_en.pdf.

¹²⁵ Decision of 04/07/2005 in the case IV/M.3770 - LUFTHANSA / SWISS, OJ C 204 20.08.2006, p. 3–3, http://ec.europa.eu/competition/mergers/cases/decisions/m5440_20090828_20600_en.pdf and Decision of 28//2009 in case COMP/M.5440 — Lufthansa/Austrian Airlines, OJ C 16 22.1.2010, p. 12–12, http://ec.europa.eu/competition/mergers/cases/decisions/m3770_20050704_20212_en.pdf.

¹²⁶ European Commission (2010) Decision of 17 June 2010 declaring a concentration compatible with the common market and EEA Agreement in case COMP/M.5747 — Iberia/British Airways, OJ C 278 14.07.2010, p. 14–15, http://ec.europa.eu/competition/mergers/cases/decisions/M5747_20100714_20310_802534_EN.pdf.

Table 15: Liberalisation of the aviation sector: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(1) Resource efficiency effect	Competition was ineffective with only little incentive for airlines, often protected by national interests, to cut costs.	Liberalisation introduced effective competition and created a strong incentive to cut costs.
(2) Replacement effect	Prior to liberalisation, even the most efficient airlines were prevented from gaining market share by offering competitive services.	Liberalisation introduced the opportunity for efficient airlines to gain market share across Member States and replace less well-operating airlines.
(4) Investments	Before liberalisation, the room for and potential rewards from expansion was small, and so was the incentive to invest.	Allowing expansion into other Member States has created a significant incentive to invest, e.g. in an updated and larger fleet of aircrafts.
(6) Price effect	Before liberalisation, prices were often subject to regulation/control. Lowering prices would have been unlikely to allow an airline to gain market share on intra-EU routes.	Liberalising the aviation sector turned price into the central competition parameter. Low prices have proven decisive in gaining market share.
(7) Market widening	Prior to liberalisation, markets were largely national in scope, limiting the extent to which economics of scale could be utilised.	Allowing airlines to expand into other Member States and thereby realising a greater scale potential.

Source: Copenhagen Economics.

What are the shortcomings? Key shortcomings are regulations on slots, ownership, and control restrictions, as well as the air service agreements with non-EU countries.

An airline requires slot times, i.e. a permission to use the runway at a given time at the origin and destination airports, to be able to operate a route. Offering the right routes at the right times of day is an essential part of competition between airlines. Therefore, attractive slot times are an important competition factor.

However, access to such slot times does not always happen on market terms. Many national carriers, which used to enjoy a monopoly position, continue to hold attractive slot times, given to them before the aviation sector was liberalised. This places newer airlines at a competitive disadvantage and may prevent effective competition.¹²⁷

Shortcomings with regards to slot allocation were recognised by the Commission and a proposal on common rules for the allocation of slots from December 2011 addresses current inefficiencies. The proposal states that "the Commission has given serious consideration to the introduction of market-based mechanisms for the use of airport slots, since appropriate incentives and benefits can positively influence the behaviour of players

¹²⁷ An overview of the EU regulation on slot time allocation can be found at http://europa.eu/legislation_summaries/transport/air_transport/l24085_en.htm.

in the market (airlines) so that the available scarce capacity is used by those able to make best economic use of it.”¹²⁸

The Commission proposes to establish transparent, secondary trading of slots among airlines.¹²⁹ This would make capacity allocation more efficient and contribute to growth, because the cheapest, most efficient airline would purchase the slot, reducing overall prices and increasing resource efficiency.

The implementation of this proposal would be a big step forward, but still short of perfect competition. Despite rules requiring the utilisation of slots, airlines could refuse to trade spots, running potential losses, so as to prevent competitors from entering the market.

In the long run, auctioning slots poses the most efficient design. However, abrupt implementation of auctions might cause severe shifts in market shares and makeup, potentially destabilising the airline industry and threatening the survival of key airlines.

Despite the widespread liberalisation of the aviation sector, there are still ownership and control restrictions in the EU. According to current EU legislation, foreign investors cannot own more than 49 per cent of EU airlines.¹³⁰ Ownership and control restrictions prevent some EU airlines from access to financing from third countries and prevent some external airlines from settling in the EU. Recent studies indicate that removal of ownership and control restrictions in the EU could increase traffic to EU partner countries by approximately 25 per cent.¹³¹ Work is on-going to loosen the ownership and control restrictions.¹³²

Air Service Agreements with non-EU countries liberalise the airspace between the EU and the respective foreign countries. Such agreements typically replace a number of bilateral agreements between EU Member States and outside countries. The EU has already come a long way in the process, with 47 horizontal agreements¹³³ and a number of comprehensive agreements, but many countries are still not covered and many horizontal agreements could be made less restrictive. Continued efforts to enter into new Air Service Agreements with countries which are not covered today and making existing agreements less restrictive would drive the liberalisation process further and increase the benefits from competition.

¹²⁸ European Commission (2011e), 'Proposal for a Regulation of the European Parliament and of the European Council on common rules for the allocation of slots at European Union airports', para. 10.

¹²⁹ European Commission (2011e), 'Proposal for a Regulation of the European Parliament and of the European Council on common rules for the allocation of slots at European Union airports', para. (4).

¹³⁰ European Parliament and Council (2008b), 'Regulation (EC) No 1008/2008 on common rules for the operation of air services in the Community (Recast)', article 4f, OJ L293 31.10.2008, p. 3–20.

¹³¹ See InterVISTAS(2009a), 'The Impact of International Air Service Liberalisation on Turkey', <http://www.iata.org/SiteCollectionDocuments/Documents/TurkeyReport.pdf> and InterVISTAS (2009b), 'The Impact of International Air Service Liberalisation on Morocco', <http://www.iata.org/SiteCollectionDocuments/Documents/MoroccoReport.pdf>. The studies estimate a 23 % and 24 % increase in traffic, respectively.

¹³² European Commission (2012d), 'EU External Aviation Policy Package', Press Release Memo/12/714, [http://europa.eu/rapid/press-release MEMO-12-714_en.htm](http://europa.eu/rapid/press-release_MEMO-12-714_en.htm).

¹³³ European Commission (2013f), 'Annual Analyses of the EU Air Transport Market 2011', p. 186, http://ec.europa.eu/transport/modes/air/internal_market/observatory_market/doc/annual-2011-summary.pdf.

Box 11: Key points: Liberalisation of the aviation sector

What are the facts? A series of liberalisation packages from the late 1980s to 1992 led to a gradual liberalisation of the aviation sector over the next two decades.

Why is intervention necessary? Prior to liberalisation, markets were fragmented by national borders and cross-border, intra EU-routes were heavily regulated.

Which competition instruments are used? Liberalisation along with sector specific regulation. Subsequently, merger control has played an important role in securing effective competition as well.

What is the link to the Flagship Initiatives? Affordable and frequent air travel with a large selection of routes between and within EU Member States will contribute to reaching the EU 2020 Flagship Initiative *An industrial policy for the globalisation era*, especially by strengthening a favourable business environment.

What is the link between competition instruments and growth? Prohibiting airline mergers prevents the risk of price increases, and reinforces the incentives for the merging airlines to cut costs and to innovate, which are the main driver of economic growth.

What are the shortcomings? Remaining restrictions on access to slots along with restrictions on ownership continue to inhibit more effective competition. Also, a potential for entering into new air service agreements with countries which are not covered today and for making existing agreements less restrictive remains.

Source: Copenhagen Economics.

ANNEX I: MERGERS IN THE AIRLINE INDUSTRY

Why were these cases chosen? Mergers can realise substantial synergies and allow companies to become more efficient competitors to the benefit of European businesses and consumers. However, mergers can also lead to monopoly or near monopoly conditions, thereby distorting prices, preventing market entry from third parties, and reducing incentives to innovate. Recent mergers in the airline industry serve as a good example to show how merger control can safeguard European consumers against these effects of anti-competitive mergers in an industry that serves vital needs in today's integrated Europe. The aviation sector already served as an example of sector liberalisation, see Annex H. However, in this section the aviation sector will serve as an example of how merger control works and can contribute to economic growth. The reason for revisiting the aviation sector is that over the past six years some significant airline mergers have been blocked by the Commission. For this reason the aviation sector serves as an excellent example of merger control as a competition instrument.

What are the facts? In recent years, the airline industry has seen many mergers. Some are a result of natural consolidation in the sector; some are a consequence of the gradual change from traditional full-service airlines to low-cost-carriers; and some mergers are due to the severe impact of the economic crisis.

Since 2004 the Commission has handled 15 merger cases between airlines. Most of these cases have been cleared, with or without remedies. Three notified mergers gave rise to particular competition concerns: This was the case for the two take-over attempts by Ryanair directed at Aer Lingus in 2007 and 2013¹³⁴, and for the notified merger between Olympic and Aegean in 2011.¹³⁵

Ryanair and Aer Lingus are both airlines based in Ireland, offering a substantial share of services on routes to and from Ireland. Olympic and Aegean are both airlines based in Greece with an extensive network of domestic routes.

Why is intervention necessary? In the two Ryanair/Aer Lingus cases as well as in the Olympic/Aegean case, the concern of the Commission was that the notified mergers would lead to monopoly or near monopoly conditions resulting in higher prices and poorer service for European businesses and consumers. See Table 16 for the post-merger market shares.

Additionally, in the Ryanair/Aer Lingus case, the Commission finds that *'[t]he proposed merger would eliminate [the] actual competition between the Merging Parties, giving the merged entity significantly increased market power with the likely consequence of increased fares and/or a reduction of the number flights for passengers wishing to travel to or from Ireland,'*¹³⁶ as well as *'[...] a reduction of service quality, of choice between different service models and [...] a reduced incentive for the merged entity to develop new routes.'*¹³⁷ Hence, a merger would have led not just to increased prices, but also a reduced offer and possibly fewer connections.

¹³⁴ Decision 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, OJ C47, 20.2.2008, p. 9-20, http://ec.europa.eu/competition/mergers/cases/decisions/m4439_20070627_20610_en.pdf and Decision 27/02/2013 in case COMP/M.6663 — Ryanair/Aer Lingus III, OJ C308, 12.10.2012, p. 4, http://europa.eu/rapid/press-release_IP-13-167_en.htm. A prior attempt by Ryanair to take over Aer Lingus was withdrawn in 2009, see case COMP/M.5434 — Ryanair/Aer Lingus II, OJ C14, 21.1.2009, p. 10, http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_5434.

¹³⁵ Decision 26/11/2011 in case COMP/M.5830 — Olympic/Aegean Airlines, OJ C195, 3.7.2012, p. 11-17, http://ec.europa.eu/competition/mergers/cases/decisions/m5830_20110126_20610_2509108_EN.pdf

¹³⁶ Decision 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, para. 491, OJ C47, 20.2.2008, p. 9-20, OJ C47, 20.2.2008, p. 9-20.

¹³⁷ Decision 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, para. 497, OJ C47, 20.2.2008, p. 9-20.

In the Olympic/Aegean Case, the Commission states that a merger '*would significantly impede effective competition in the Single Market or a substantial part thereof*'¹³⁸ resulting in concerns about prices, service quality, and network expansion.

Table 16: Post-merger market shares in the Ryanair/Aer Lingus and Olympic/Aegean merger cases

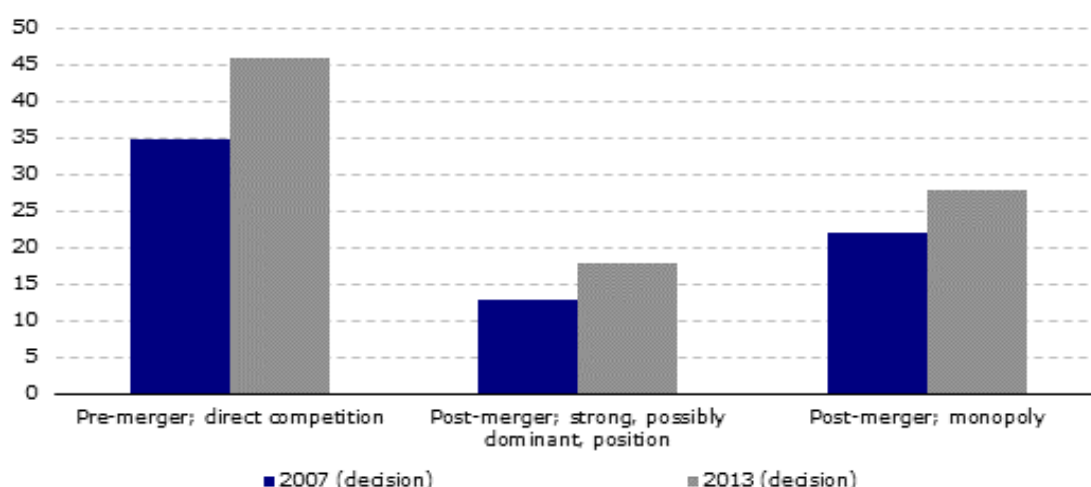
Case	Post-merger market share of merging parties
Ryanair/Aer Lingus I (2007 decision)	80 per cent
Olympic/Aegean (2012 decision)	90 per cent
Ryanair/Aer Lingus III (2013 decision)	87 per cent

Note: In Ryanair/Aerlingus I and Ryanair/Aer Lingus III market shares were calculated on short-haul, Intra-European flights to and from Dublin airport. In Olympic/Aegean market share was calculated on Greek domestic air travel.

Source: Decision of 27 June 2007 in case COMP/M.4439 — Ryanair/Aer Lingus, para.4, Decision of 26 January 2011 in case COMP/M.5830 — Olympic/Aegean Airlines, para.32, and Decision of 27 February 2013 in case COMP/M.6663 — Ryanair/Aer Lingus III.

Entry by competing airlines is made difficult by the limited availability of corresponding take-off and landing slots and the fact that most airlines need to have a hub or, at least, dedicated ground facilities at one end of every route. The Commission stresses such concerns and confirms that '*[N]o actual domestic or international airline is likely post-transaction to [...] exert [a] credible competitive constraint on the merged entity*'¹³⁹ of today's Olympic/Aegean Airlines. The notified Ryanair/Aer Lingus mergers raised competition concerns on 35 and 46 affected routes respectively, where Ryanair and Aer Lingus were the primary or the only competitors. Monopoly or near monopoly conditions may have existed on other routes to and from Ireland prior to the notified mergers, but given the lack of overlap between the merging parties such routes were not important in the assessment of the merger. See Figure 9.

Figure 9: Affected routes in Ryanair/Aer Lingus cases



Source: Decision 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, and Decision 27/02/2013 in case COMP/M.6663 — Ryanair/Aer Lingus III.

¹³⁸ Decision 26/01/2011 in case COMP/M.5830 — Olympic/Aegean Airlines, para. 2239, OJ C195, 3.7.2012, p. 11-17

¹³⁹ Decision 26/01/2011 in case COMP/M.5830 — Olympic/Aegean Airlines, para. 624, OJ C195, 3.7.2012, p. 11-17.

In its analysis of routes, the Commission found that the notified Ryanair/Aer Lingus mergers would lead to monopoly conditions on 22 and 28 affected routes respectively, and create very high market shares, possibly dominant positions, on 13 and 18 affected routes respectively. In particular, monopoly or very high market shares would be the case for the important routes from Ireland to airports around London. Similarly, the Commission found that the notified Olympic/Aegean merger would lead to monopoly conditions on nine domestic routes in Greece, including the important route between Athens and the second largest Greek city Thessaloniki.

Which competition instruments are used? The Commission prohibited the Ryanair take-over bids in 2007 and 2013 and the Olympic/Aegean merger in 2011. Hence, merger control was used in its most extreme form, i.e. a prohibition.¹⁴⁰ In both cases, no remedies suitable to alleviate the competition concerns of the Commission were offered by Ryanair/Aer Lingus and Olympic/Aegean.

What is the link to the Flagship Initiatives? Affordable and frequent air travel with a large selection of routes between and within EU Member States will contribute to reaching the EU 2020 Flagship Initiatives; *An industrial policy for the globalisation era*, especially by strengthening a favourable business environment, *A resource efficient Europe*, by incentivising airlines to offer a diverse network of routes that adapts to changing demands and can be supplemented by efficient competitors. Additionally, effective competition will put pressure on airlines to utilise their capacity as efficiently as possible by eliminating empty seats which entail a waste of resources. And finally, *European platform against poverty*, especially by allowing the spread of jobs and growth to ensure territorial cohesion, facilitated by airlines offering a diverse range of routes and destinations including service to smaller airports.

What is the link between competition instruments and growth? The airline merger cases show how merger control may preserve affordable and frequent air travel between and within EU Member States to the direct benefit of businesses and consumers. The Commission finds that *'the negative effects likely to be caused by the [merger of Olympic and Aegean] are structural in nature.'*¹⁴¹ By preventing such structural damage, *'a number of airlines would have[...] [the] incentives to expand their operations.'*¹⁴² In the case of the Ryanair/Aer Lingus merger, *'the need to develop new routes as fast as possible would disappear'*¹⁴³ upon the merger of Ryanair and Aer Lingus. Thus, growth is not just inhibited by overcharging through monopoly pricing, but also by preventing the growth of the air travel market in terms of service and number of providers.

¹⁴⁰ See European Council (2004), 'Regulation (EC) no 139/2004 on the control of concentrations between undertakings', article 8 para. 3 whereby the Commission may declare that a proposed *'concentration is incompatible with the common market.'*

¹⁴¹ Decision of 26/01/2011 in case COMP/M.5830 — Olympic/Aegean Airlines, para. 1984, OJ C195, 3.7.2012, p. 11-17.

¹⁴² Decision of 26/01/2011 in case COMP/M.5830 — Olympic/Aegean Airlines, para. 1984, OJ C195, 3.7.2012, p. 11-17.

¹⁴³ Decision of 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, para. 495, OJ C47, 20.2.2008, p. 9-20.

Table 17: Airline mergers: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(1) Resource efficiency effect	<p>The airline mergers might have allowed economies of scale and scope leading to a more efficient merged airline. The effects could for instance have come in the form of a better load factor meaning lower costs per passenger.</p> <p>The airline merger might have created a monopoly pricing system, prevented the efficient expansion of the service network, and blocked competitors from employing their resources and expertise on similar routes.</p>	<p>The prohibition of the airline mergers eliminated the realisation of greater efficiency being a result of the mergers.</p> <p>The prohibition of the merger creates a more efficient market by ensuring low prices and diverse service.</p>
(2) Replacement effect	<p>The airline mergers might have led to the spread of the business practices from the more efficient pre-merger airline to the merged airline. The effects could for instance have come in the form of a more efficient business model, e.g. low cost rather than conventional. The airline merger might have prevented innovative competitors from offering services.</p>	<p>The prohibition of the airline mergers eliminated the realisation of greater efficiency being a result of the mergers.</p> <p>The prohibition creates an accessible market environment.</p>
(6) Price effect	<p>The Commission found that the airline mergers would have likely led to anti-competitive effects in the form of higher prices, where the mergers would have created a monopoly or a very high market share for the merged airline.</p>	<p>The prohibition of the airline mergers eliminated the risk of higher prices being a result of the mergers.</p>

Source: Copenhagen Economics.

What are the shortcomings? Alongside the positive effects there are also potentially negative effects from the prohibition of the Ryanair/Aer Lingus and Olympic/Aegean mergers. The mergers might have led to the implementation of economies of scale and scope. The effects could, for instance, have come in the form of a better load factor, meaning lower costs per passenger. Furthermore, the mergers might have induced the spread of innovative business practices from the more efficient pre-merger airline to the merged entity. Such effects could have come in the form of a more efficient business model, e.g. low-cost rather than conventional.

In addition to economic shortcomings, a procedural shortcoming could lead to possibly harmful outcomes. Within merger control, the effect of a merger is evaluated on a potentially large number of affected markets. This is well illustrated by the Ryanair/Aer Lingus and Olympic/Aegean airline merger cases where every route could be seen as a separate relevant market.¹⁴⁴

The Commission will prohibit a merger if it is found to significantly impede effective competition in one or more relevant markets and no remedies are offered to alleviate the competition problems.¹⁴⁵ It is a potential shortcoming of the current merger control regime

¹⁴⁴ Decision 27/06/2007 in case COMP/M.4439 — Ryanair/Aer Lingus, para. 495, OJ C47, 20.2.2008, p. 9-20.

¹⁴⁵ See European Commission (2004), 'Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings', OJ C31, 5.2.2004, p. 5-18.

that mergers with an overall positive effect may be prohibited due to negative effects on competition on one or a few markets.

In relation to the airline mergers, the negative effects stemming from the affected routes were not weighed against potential positive effects stemming from unaffected routes, where a merged airline might offer an increased competitive pressure in the form of lower prices or better service to the benefit of European businesses and consumers. It cannot be excluded that such a weighing exercise could have yielded a positive overall result.

Airline mergers are not unique in serving as an illustration of this issue. Whenever a merger affects several product markets or geographical markets, competition concerns may appear in one or a few markets and, within the framework of assessment by the Commission, invalidate even substantial positive effects stemming from the remaining markets.

The recent attempt by UPS to acquire TNT Express serves as an example involving many geographical markets, as well as multiple product markets. It was prohibited by the Commission in 2012.¹⁴⁶ The Commission found that the merger would have restricted competition in fifteen Member States on the market for express delivery of small packages between European countries. However, express delivery made up only a small share of the activities of the merging parties. Again, it cannot be excluded that weighing the negative effects against the potential positive effects could have uncovered a combined positive effect.

Merger decisions in the retail sector are characterised by an equivalent issue of relevant market definition. The proposed acquisition of the UK retail store Asda Stores Limited by Netto Foodstores Limited, as investigated by the UK Office of Fair Trading in its 2010 report, demonstrates how intricate details of national and regional market definition produce ambiguous conclusions. *"The OFT does not consider that competition concerns arise as a result of the proposed merger at the national level."*¹⁴⁷ At the same time, *"the merger removes, at a local level, the competitive constraint from Asda on Netto, which will in turn enable the merged firm to raise prices at the Netto site or worsen some non-price factor of competition (such as by reducing quality of service, reducing the quality or range of goods offered, or reducing investment levels)."*¹⁴⁸ These diametrically opposed assessments stem from the assumption that the *"proposed candidate geographic market in this case for local level competition is a 10-minute drive time isochrone for one-stop stores in urban areas and a 15-minute drive time isochrone in rural areas."*¹⁴⁹ Possible overall benefits from the merger are overshadowed by concerns in 47 of the above defined local markets.

¹⁴⁶ Decision 30/01/2013 in case COMP/M.6570 — UPS/TNT Express, http://europa.eu/rapid/press-release_IP-13-68_en.htm.

¹⁴⁷ Decision 23/10/2010 in case ME/4551/10 — Asda/Netto, para. 29. http://www.offt.gov.uk/shared_offt/mergers_ea02/2010/Asda-Netto.pdf.

¹⁴⁸ Decision 23/10/2010 in case ME/4551/10 — Asda/Netto, para. 34.

¹⁴⁹ Decision 23 September 2010 in case ME/4551/10 — Asda/Netto, para. 25.

Box 12: Key points: Mergers in the airline sector

What are the facts? The notified mergers between Irish airlines Ryanair and Aer Lingus in 2007 and 2013, and notified mergers between Greek airlines Olympic and Aegean in 2011 were prevented to ensure the price and service benefits of competition and prevent the creation of possibly monopolistic air carriers.

Why is intervention necessary? The mergers would have led to monopoly or near monopoly conditions on a number of routes at risk of higher prices and poorer service. Furthermore, the intervention ensured market accessibility for competitors.

Which competition instruments are used? Merger control in the form of prohibitions of the notified mergers.

What is the link to the Flagship Initiatives? The desired objective contributes to *An industrial policy for the globalisation era*, especially by strengthening a favourable business environment; *a resource efficient Europe*, by incentivising airlines to offer a diverse network of routes that adapts to changing demands and can be supplemented by efficient competitors, and *European platform against poverty*, especially by allowing the spread of jobs and growth to ensure territorial cohesion.

What is the link between competition instruments and growth? Prohibiting the airline mergers prevented the risk of price increases and reinforced the incentives for the airlines to cutting costs and innovation - the main drivers of economic growth.

What are the shortcomings? The merger control regime does not take potential positive effects stemming from markets with little or no overlap between the merging parties into account, and risks prohibiting mergers with an overall positive effect.

Source: Copenhagen Economics.

ANNEX J: RECENT CARTEL CASES

Why was this group of cases chosen? Cartels generally block out the benefits from competition. The problem is that under a cartel, companies do not cut costs to offer lower prices and/or do not innovate to bring new and better products on the market. In fact, under a cartel companies jointly mimic the behaviour of a monopolist. This is due to the fact that under a cartel companies can agree on market share, price level, or another option that renders competition superfluous while ensuring the survival of the cartelists¹⁵⁰. The following group of cases illustrates how competition policy in the form of cartel enforcement can restore competition to the benefit of European businesses and consumers.

What are the facts? Recent years have seen an ongoing enforcement against cartels.¹⁵¹ Since 2007 the Commission has handled substantial cartel cases relating to TV monitor tubes¹⁵², carglass¹⁵³, and elevators and escalators¹⁵⁴:

- From 1996 to 2006 a group of seven companies producing monitor tubes, an integrated component in TV screens and computer monitors, engaged in price fixing, output restriction, and market sharing. The cartel had a direct impact on consumer prices as monitor tubes accounted for more than half of the price of the final screen. The decision in the TV and computer monitor tubes case is not yet publicly available, thus we analyse the Commission decisions in the carglass and elevators and escalators cartels more in depth below.
- Another case was the so-called car glass cartel, which was active from 1998 to 2003. The cartel involved four companies, responsible for around 90 per cent of European car glass used in new cars and replacements. In the final year of the cartel the European car glass markets were worth around EUR 2 billion.
- A third case was the elevator and escalator cartel, involving five companies, active from 1995 to 2004 in Germany, Luxembourg, the Netherlands, and Belgium.

Why is intervention necessary? The Commission found that the companies engaged in the monitor tube cartel, the car glass cartel, and the elevator and escalator cartel respectively were using anti-competitive practices in the form of price-fixing, market sharing, bid-rigging, and restriction of output.

- In the car glass cartel, the Commission found that the “*existence of collusion as regards allocation of car glass supply contracts, price coordination, monitoring of market shares and exchanges of commercially sensitive information must have resulted, or was likely to result, in the automatic diversion of trade patterns.*”¹⁵⁵ That is a diversion of trade patterns away from what would have been the case under effective competition, namely, trade on a market with lower prices, more variety, and better quality.¹⁵⁶
- In the escalators and elevators cartel the Commission found that the “*objective was to distort the normal movement of prices and services in each national elevator and escalator sector and to restrict competition with regard to the sale, installation,*

¹⁵⁰ Or agree namely on a price level or a reduction in output.

¹⁵¹ DG Competition (2013), Note on ‘Cartel Statistics’, section 1.10 on the number of cartel cases: 1990-1994=10, 1995-1999=10, 2000-2004=30; 2005-2009=33 and 2010-2012=16.

¹⁵² Decision 5/12/2012 in the case COMP/39437 — TV and computer monitor tubes, OJ not yet published.

¹⁵³ Decision 12/11/2008 in the case COMP/39.125 — Car glass, OJ C173 25.7.2009, p. 13-16.

¹⁵⁴ Decision of 21/02/2007 in the case COMP/E-1/38.823 — Elevators and Escalators, OJ C75 26.03.2008, p. 19-24.

¹⁵⁵ Decision 12/11/2008 in the case COMP/39.125 — Car glass, para. 538, OJ C173 25.7.2009, p. 13-16.

¹⁵⁶ Such general outcomes of competitive markets are established in chapter 1.

maintenance and modernization of elevators and escalators by allocating projects and customers."¹⁵⁷ In other words, the Commission found that competition for market share had been replaced by allocation of market share.

An assessment of the effect of a cartel will always be subject to uncertainty. This is due to the fact that a comparison must be made between the *factual* situation with the cartel and the *counterfactual* situation without the cartel. The counterfactual situation may be effective competition or some less perfect market situation. This means that the effect of a cartel can never be more precisely assessed than the counterfactual to the cartel.

Furthermore, intervention is needed to break up cartels and ensure efficiently priced goods, innovation, and variety, because cartels can remain stable for long periods of time. This was also the case for the three cartel cases described above, which were found to have been active for ten, five, and nine years, respectively.

Which competition instruments are used? In 2007 the European Commission opened an investigation into the monitor tube cartel and conducted unannounced inspections at the premises of the companies involved. The antitrust intervention effectively ended the cartel and removed it as a potential steppingstone for the cartelists to expand their anti-competitive practices into other production technologies, e.g. more modern flat screen technologies. The Commission concluded the case in 2012.

The Commission also investigated the participants of the car glass cartel and the elevator and escalator cartel leading to decisions in 2008 and 2007, respectively. In all three cases, substantial fines were imposed on the involved companies.

Antitrust and especially cartel enforcement are general competition instruments whose aim and effect are not limited to the sectors of the three cases presented here. There are countless examples of antitrust being applied in various other sectors. One example is the recent fines imposed on Danish pharmaceutical company Lundbeck and a series of producers of generic drugs. The case concerned anti-competitive agreements to delay the entry of generic drugs which would have placed a significant downward price pressure on Lundbeck's antidepressant citalopram.¹⁵⁸

What is the link to the Flagship Initiatives? Breaking up existing cartels and preventing the formation of new cartels will reduce the risk of inflated prices, lack of innovation, and lack of product variety, to the benefit of European businesses and consumers. Also, discovering and breaking up cartels allows civil law suits from competitors outside the cartel or even customers who have suffered from the cartel being in place.

Scientific research into the overcharge by cartelists shows that cartel prices are significantly above the competitive level. On the basis of more than 650 cartel overcharge estimates, covering more than 200 markets, Connor & Lande (2008) find a median cartel overcharge of 22-25 per cent.¹⁵⁹ Similarly, according to OECD (2005) a review of a large number of cartels shows an average cartel overcharge of 20-30 per cent.¹⁶⁰ For 14 large cartels OECD

¹⁵⁷ Decision of 21/02/2007 in the case COMP/E-1/38.823 — Elevators and Escalators, para. 565, OJ C75 26.03.2008, p. 19-24.

¹⁵⁸ European Commission (2013i), 'Antitrust: Commission fines Lundbeck and other pharma companies for delaying market entry of generic medicines,' Press Release in case COMP/39226 – Lundbeck, http://europa.eu/rapid/press-release_IP-13-563_en.htm.

¹⁵⁹ Connor, J. M. & Lande, R.H. (2008), 'Cartel Overcharges and Optimal Cartel Fines', *Issues in Competition Law and Policy*, Vol. 3, pp. 2203-2218.

¹⁶⁰ OECD (2005): 'Hard Core Cartels: Third report on the implementation of the 1998 Council Recommendation', *OECD Publishing*, p. 25.

(2002) shows overcharges between 3 and 65 per cent with a median of 15-20 per cent.¹⁶¹ These broader findings are reflected in the Commission's decisions.

In the car glass cartel the Commission found a '*scheme consisting of distorting competition in the EEA with a view to maintaining artificially high prices.*'¹⁶² Similar findings were made in the elevators and escalators cartel where the Commission noted that '*the various collusive arrangements and mechanisms adopted by the suppliers were all ultimately aimed at inflating prices, to the benefit of the undertakings involved, and to a higher level than that which would have been determined by conditions of free competition.*'¹⁶³ Again, the existence of a cartel overcharge was made clear in the decision.

Targeting cartels on the intermediate or wholesale level contributes to the Flagship Initiative of *An industrial policy for the globalisation era*, especially by ensuring that suppliers offer competitive services and prices to European businesses, is boosting European competitiveness. At the same time, the Flagship Initiative *Innovation Union* receives support, because the restoration of competitive market practices simultaneously incentivises progress, research, and innovation.

What is the link between competition instruments and growth? There are several channels through which cartels and cartel enforcement may affect growth, see section 1.3.1 and 1.3.2.

Table 18: Cartel cases: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition instruments
(1) Resource efficiency effect	The monitor tube, car glass, and elevators and escalators cartels are highly likely to have reduced the need for the companies involved to continually strive to reduce costs. The reason is that cartel companies can, to a greater extent than under effective competition, pass costs on to customers.	Breaking up the cartels strengthened the incentive for the companies involved to reduce costs.
(2) Replacement effect	The monitor tube, car glass, and elevators and escalators cartels stabilised market shares and eliminated the replacement of inefficient companies by efficient companies.	Breaking up the cartels reintroduced the incentive to compete for market share, and the potential for inefficient companies to be replaced by more efficient ones.
(3) Innovation effect	The monitor tube, car glass, and elevators and escalators cartels stabilised market shares, and reduced the incentive to innovate as a means to gain market share.	Breaking up the cartels reintroduced the incentive to innovate as a means to gain market share.
(6) Price effect	The monitor tube, car glass, and elevators and escalators cartels led to higher prices to the detriment of European businesses and consumers.	Breaking up the cartels strengthened the incentive to offer low prices to gain market share.

Source: Copenhagen Economics.

¹⁶¹ OECD (2002): 'Fighting Hard Core Cartels in Latin America and the Caribbean', Policy Brief, *OECD Publishing*, p. 4.

¹⁶² Decision of 12/11/2008 in the case COMP/39.125 — Car glass, para. 505, OJ C173 25.7.2009, p. 13-16

¹⁶³ Decision of 21/02/2007 in the case COMP/E-1/38.823 — Elevators and Escalators, para. 576, OJ C75 26.03.2008, p. 19-24.

What are the shortcomings? Antitrust infringements, including cartels, can lead to significant losses for European businesses and consumers. As mentioned above, parties suffering such losses have the opportunity to claim damages. However, legal uncertainty, e.g. concerning the quantification of damages, and varying rules across Member States, makes it difficult to do so in practice.

According to the European Commission only 25 per cent of antitrust infringements decisions taken by the Commission over the past seven years were followed by claims for damages.¹⁶⁴ With the current process dependant on national legislation, victims of antitrust infringements such as cartels in some countries might receive compensation, while others do not. Such imbalances greatly distort competition. According to the European Commission, the *"discrepancies between the national rules lead to an uneven playing field [...]and may affect competition on the markets on which [...] injured parties, as well as the infringing undertakings, operate."*¹⁶⁵

Additionally, the low share of antitrust infringement decisions which are followed by claims for damages reduces the deterrent effect for companies engaging in or contemplating engaging in anti-competitive practices. This means that more antitrust infringements, such as cartel abuses, are likely to be committed.

To remedy such imbalances, the Commission has adopted a proposal for a directive to improve the access for businesses and consumers to seek compensation for losses following antitrust infringements.¹⁶⁶ If put into practice, the directive would establish an unequivocal right to full compensation for damages incurred, thereby addressing the current procedural shortcoming, by introducing provisions that govern the legal processes in all Member States.¹⁶⁷ At the same time, the directive would facilitate a more powerful deterrence of cartels. If European cartelists could face effective, large scale European regress lawsuits, the cost of being caught would increase significantly.

¹⁶⁴ European Commission (2013g), 'Antitrust : Commission proposes legislation to facilitate damage claims by victims of anitrust violations', Press Release, http://europa.eu/rapid/press-release_IP-13-525_en.htm.

¹⁶⁵ European Commission (2013g), 'Antitrust : Commission proposes legislation to facilitate damage claims by victims of anitrust violations', Press Release, http://europa.eu/rapid/press-release_IP-13-525_en.htm.

¹⁶⁶ European Commission (2013b), 'Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union'.

¹⁶⁷ European Commission (2013b), 'Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union', p. 30.

Box 13: Key points: Recent cartel cases

What are the facts? The Commission found cartel activity within the production of monitor tubes, car glass, and elevators and escalators.

Why is intervention necessary? The Commission found that the cartelists had engaged in anti-competitive practices in the form of price-fixing, market sharing, bid-rigging and restriction of output to drive up prices to the detriment of European businesses and consumers.

Which competition instruments are used? The cartels are investigated, aided by information from leniency applicants, prohibited, and the cartelists are fined record-breaking amounts.

What is the link to the Flagship Initiatives? Breaking up cartels reduces the risk of inflated prices for consumers and businesses, and may contribute to the achievement of *An industrial policy for the globalisation era*, especially by ensuring that suppliers offer competitive services and prices to European businesses.

What is the link between competition instruments and growth? Breaking up the cartels reintroduces the incentive to compete for market share by lowering prices, cutting costs, making investments, and pursuing innovation.

What are the shortcomings? Varying rules for damage claims following cartel cases across Member States and legal uncertainty concerning the quantification of damages, makes it difficult to file a civil law suit. This potentially distorts competition on the markets where injured and infringing firms compete.

Source: Copenhagen Economics.

ANNEX K: STATE AID IN THE EUROPEAN BANKING SECTOR

Why was this sector chosen? Uncontrolled public funding distorts effective competition and a level playing field for all market participants. In recent years, the transfer of taxpayers' money to financial institutions under the strain of the financial crisis has been under much attention. The correct application of State aid rules in the financial sector ensures against risks such as failing banks, or credit crunch for SMEs, while ensuring a Single Market with effective competition for capital in the EU.

What are the facts? The banking sector secures an efficient supply and allocation of capital. During the emergence of the credit crisis in 2008, the solidity of the European banking sector was harmed by realisations of large losses. As some banks were not capable of absorbing all losses through equity and subordinated debt, this development triggered a wave of nationally conducted bailouts, in which important banks were recapitalised through injection of State aid. The national bailouts and prudential treatment of banks when determining whether the capital basis was insufficient, quickly revealed a lack of harmonisation among Member States.

Why is intervention necessary? There are two contradicting arguments related to the degree of necessary intervention through State aid.

On one the hand, the banking system provides a service to the wider economy in terms of providing credit for investments and trade. In order to secure an efficient allocation of assets, the system must be well-functioning at all times. Due to market interconnectedness, one bank's failure can initiate a negative contagion effect in the system; hence, State aid may ex post be preferable – especially for banks deemed too-big-to-fail. In regulatory terms, these institutions are referred to as systemically important financial institutions (SIFIs).

On the other hand, ex-ante expectations of State aid may lead to moral hazard among financial actors. When banks are commonly assumed to be recapitalised by the state, cautious and prudent actions to prevent bankruptcy may be subordinate to excessive risk-taking. Once markets anticipate emergency government intervention through State aid, creditors might be satisfied with an unreasonably low premium for the "real" credit risk, while debtors may not be charged the actual risk adjusted interest rate. Under such circumstances, the banking sector, when compared to other sectors, obtains a competitive advantage in the form of cheap access to funding. Moreover, for the more realistic case where only SIFIs are anticipated to be saved, these SIFI banks may obtain a competitive advantage relative to ordinary banks. This may reduce the chance of reaching long-term competition and growth goals.

Which competition instruments are used? To circumvent such issues a communication from the Commission in 2008¹⁶⁸ implemented burden sharing practices by ensuring that State aid was conditional on government injections receiving higher seniority than subordinated debt. A compromise was obtained securing that ex-post efficient State aid could be provided without also guaranteeing junior debt. Table 19 below provides an overview of relevant State aid communications as well as the proposed regulation to deal with failing banks.

¹⁶⁸ European Commission (2008a), 'The application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis', OJ C270, 25.10.2008, p. 8.

Table 19: Overview of State aid communications and 2012 legislative proposal

OJ publication date	Title	Date of expiry
25 October 2008	Application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis (banking communication)	No specific expiry
15 January 2009	Recapitalisation of financial institutions in the current financial crisis (recapitalisation communication)	No specific expiry
22 January 2009	Temporary Community framework for State aid measures to support access to finance in the current financial and economic crisis (general sector support)	31 December 2010
26 March 2009	Treatment of impaired assets in the Community banking sector (impaired assets communication)	No specific expiry
19 August 2009	Return to viability and the assessment of restructuring measures in the financial sector in the current crisis under the State aid rules (restructuring communication)	31 December 2011
7-December 2010	On the application, from, 1 January 2011 of the State aid rules to support measures in favour of banks in the context of the financial crisis (the Prolongation Communication)	31 December 2011
11 January 2011	Temporary Union Framework for State aid measures to support access to finance in the current financial and economic crisis	31 December 2011
6 December 2011	Communication from the Commission on the application, from 1 January 2012, of State aid rules to support measures in favour of banks in the context of the financial crisis	No specific expiry
6 June 2012	The Commission adopted a legislative proposal for bank recovery and resolution. The proposed framework sets out the necessary steps and powers to ensure that bank failures across the EU are managed in a way which avoids financial instability and minimises costs for taxpayers.	No specific expiry

Source: European Commission (2008a), 'The application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis', OJ C270, 25.10.2008, p. 8, http://ec.europa.eu/competition/state_aid/legislation/banking_crisis_paper.pdf European Commission (2008b), 'Recapitalisation of financial institutions in the current financial crisis: limitation of the aid to the minimum necessary and safeguards against undue distortions of competition', OJ C10, 15.01.2009, p. 2-10, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:010:0002:0010:EN:PDF>. European Commission (2009b), 'The return to viability and the assessment of restructuring measures in the financial sector in the current crisis under the State aid rules', OJ C195, 19.8.2009, p. 9, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:195:0009:0020:EN:PDF>. European Commission (2009c), 'Treatment of Impaired Assets in the Community Banking sector', Communication from the Commission, OJ C72, 26.03.2009, p.1-22, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:072:0001:0022:EN:PDF>. European Commission (2010d), 'The application of State aid rules to support measures in favour of banks in the context of the financial crisis', , OJ C329, 7.12.2010, p. 7, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:329:0007:0010:EN:PDF>.

European Commission (2010e), 'The application of State aid rules to government guarantee schemes covering bank debt to be issued after 30 June 2010', DG Competition Staff Working Paper, http://ec.europa.eu/competition/state_aid/studies_reports/phase_out_bank_guarantees.pdf.

European Commission (2011h), 'The application of State aid rules to government guarantee schemes covering bank debt to be issued after 30 June 2011', DG Competition Staff Working Document http://ec.europa.eu/competition/state_aid/legislation/phase_out_bank_guarantees_2011.pdf.

For dates of expiry see paragraph 4. of European Commission (2012e), 'The application, of State aid rules to support measures in favour of bank in the context of the financial crisis', OJ C356, 6.12.2011, p.7,

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:356:0007:0010:EN:PDF>. European Council (2013), 'Council agrees position on bank resolution', Press Release, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/137627.pdf.

The reorganisation of Spanish banks and the Dutch bank SNS REAAL, have provided further clarity about the burden sharing which investors experience in the restructuring process. These experiences will be considered in new guidelines to be issued before the summer of 2013.¹⁶⁹ The restructuring of Spanish banks implied a substantial bail in of junior creditors in the order of EUR 12,7 billion, providing a significant EUR 41,3 billion reduction of the needed programme funds to recapitalise banks.¹⁷⁰ Following earlier unsuccessful restructuring attempts in the case of the Dutch bank SNS REAAL, the bank was fully nationalised with new public capital injections to meet legal capital requirements while all existing capital holders, including hybrid capital instruments, fully participate in the losses.¹⁷¹ Essentially, the "pecking order" in which losses are imposed in bank restructurings is to follow the standard insolvency procedure - shareholders go first, then hybrid capital, and then subordinate debt.

What is the link to the Flagship Initiatives? Banks in countries characterised by concerns related to the quality of domestic debt (private and public) face large funding costs because their balance sheets often contain substantial amounts of domestic debt. To remain solvent, such banks tend to pass on their increased funding costs to their customers by increasing lending rates. This increasing cost of financing is particularly felt by SMEs in the euro areas' peripheral countries that are characterised by a precarious financial climate. At the same time, larger firms in central parts of Europe enjoy better access to international financial markets. This geographical imbalance harms SMEs that cannot reap the full benefits of the low interest rates set by the ECB and distorts competition between companies in different regions of the EU.

This development is to the detriment of the Single Market. It conflicts with the Flagship Initiative *An industrial policy for the globalisation era*, which – among other things - aims at improving "...the business environment, especially for SMEs, including through reducing the transaction costs of doing business in Europe, the promotion of clusters and improving affordable access to finance". Hence, saving banks by use of State aid supports the Flagship Initiative an An industrial policy for the globalisation era.

¹⁶⁹ In his speech, Almunia, J. (2013a), 'Presenting the Annual Competition Report for 2012', Speech given at the ECON Committee, European Parliament, Brussels, he provided the following statement as an answer to a question: 'We are preparing new guidelines – which I hope can be adopted before summer – that provide, in light of experience - above all the experience of the Spanish case and of the decision of the Dutch government in the case of SNS Reaal - that State aid should not be considered compatible if before granting this State aid a bail-in at three levels has not occurred. These are the first three levels of the "pecking order": shareholders, holders of hybrid capital with a capacity to absorb losses and subordinated debt. We think that the use of state aid should be preceded by these three first levels of bail-in – we are not going beyond.', see European Commission (2013c) 'Revision of the State aid and guidelines for the restructuring of banks', Issues Paper.

¹⁷⁰ Almunia, J. (2013b) Speech given at Bruegel Think Tank, <http://www.bruegel.org/nc/blog/detail/article/1040-banking-crisis-financial-stability-and-state-aid-the-experience-so-far/#.UUBNGzfMa28>.

¹⁷¹ European Commission (2013h), 'State aid temporarily approves rescue aid for SNS REALL', Press Release, http://europa.eu/rapid/press-release_IP-13-150_en.htm.

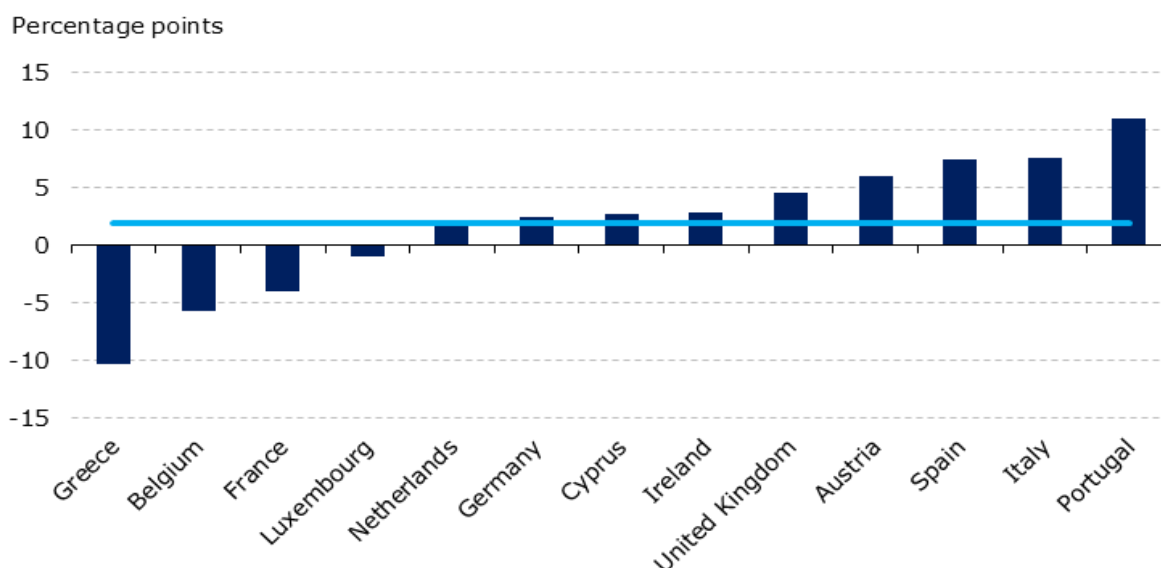
Furthermore, the Flagship Initiative *Innovation Union* aims at improving "... the framework conditions for business to innovate ... [and] improve access to capital". Hence, saving the banking sector by use of State aid also enhances this Flagship Initiative.

What is the link between competition instruments and growth? The overall resolution helped recapitalise banks in the short-term. However, more structural problems related to debt financing in some European countries were not addressed. The overall implication was that although some banks were recapitalised, the amount and cost of debt commitments made new private equity injections difficult.

Private investors with an interest in becoming equity stakeholders seek to minimise their investment risk. Without solving structural problems of the financial system, many potential investments remain too risky. Two issues are particularly critical for potential investors: (1) how difficult it is to evaluate the solvency and risk in a potential target bank for investment and (2) how will different kinds of investors be treated if and when the authorities step in to deal with a troubled bank. In both of these areas, too much policy uncertainty has slowed the needed restructuring and recapitalisation in the financial sector.

To cover realised losses while servicing debt due, troubled banks in the southern part of Europe increased their portfolio positions in their countries' high yield government debt, see Figure 10.

Figure 10: Change in resident Banks' holding of total outstanding government debt, 2005-2012



Note: The horizontal line shows the average.

Source: ECB, Balance Sheet Items, <http://sdw.ecb.europa.eu/browse.do?node=bbn147> and Eurostat, table of 'General Government debt', http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_dd_ggd&lang=en.

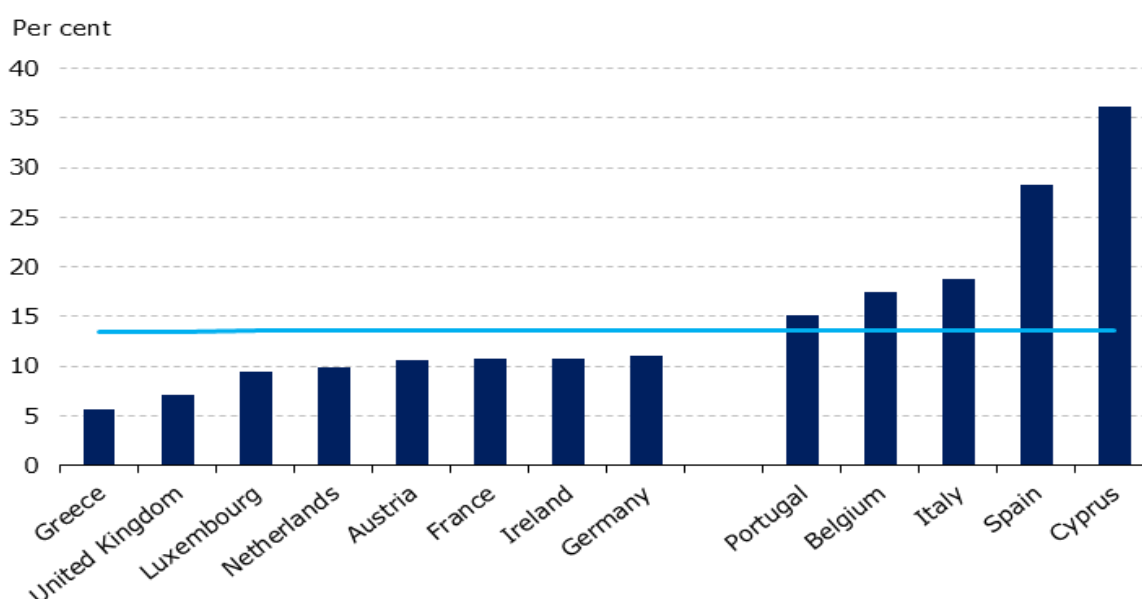
This implied that:

- The troubled banks obtained high yield instruments to service their debt commitments.
- The troubled banks increased the interconnectedness between the banking sector and the government.

The first point is straightforward. When government debt has high yields due to the country's sovereign debt problems, banks have an incentive to use such debt in order to

service their risky and expensive commitments. The second point is a bit more subtle. When, in the next step, governments become overly exposed as debtors to resident banks, their incentive to protect the banking sector increases. Banks hold government debt and insure government liquidity, while governments pay high interest rates and rely on domestic banks to provide financial services. This behaviour increases the default risk of the overall system, because banks and governments are strongly reliant on each other. This, in turn, increases the governments' incentive to protect the banks, which again reduces individual banks' funding cost, ultimately worsening the initial situation. Consequently, high interconnectedness between the government and its resident banks distinguishes countries with on-going debt problems from other Member States. *First*, banks in indebted Member States have a larger share of assets in domestic government debt, see Figure 11. *Second*, the value of the implicit government guarantees, that in particular SIFIs enjoy, have less value given the lower credit worthiness of the same Member States governments. Both of these two factors increase the funding costs that banks in these countries are facing as they are seen as more risky investments.

Figure 11: Resident Banks' holding of total outstanding government debt 2012

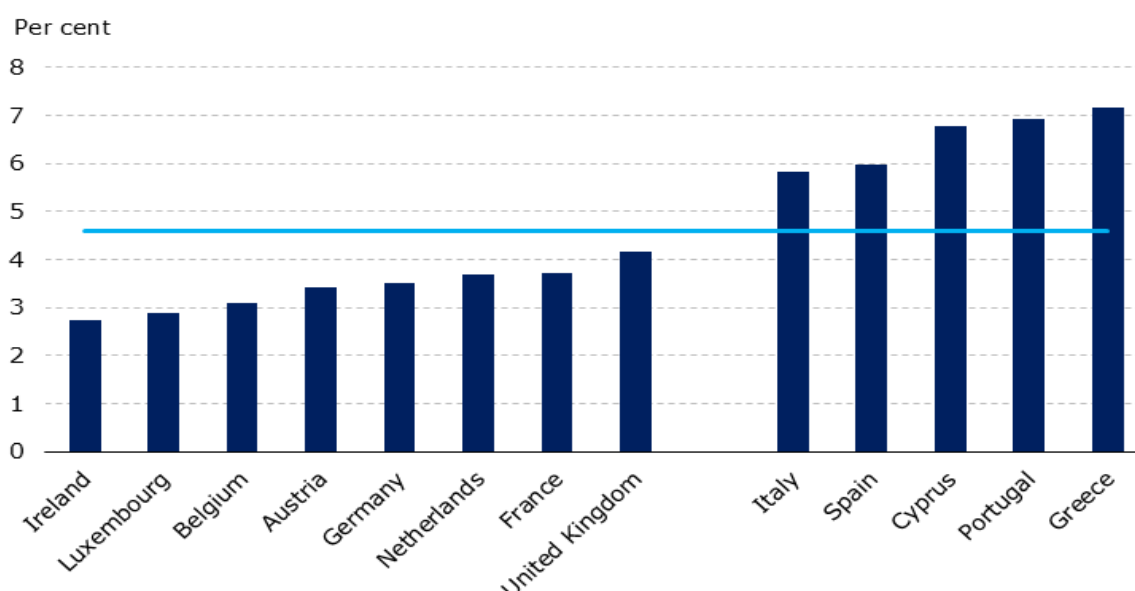


Note: The horizontal line shows the average.

Source: ECB, Balance Sheet Items, <http://sdw.ecb.europa.eu/browse.do?node=bbn147> and Eurostat, table of 'General Government debt', http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_dd_qgd&lang=en.

Spanish banks hold approximately 30 per cent of total outstanding government debt while resident banks in countries such as Austria, Germany and France only hold about 10 per cent.

Banks' high portfolio exposures to government debt in vulnerable countries increase their credit risk and make external funding more expensive. To compensate for these additional funding costs, interest rates on bank loans must increase. However, as large solvent corporations always seek out funding alternatives, the increase in interest rates is primarily borne by SMEs with only few alternative funding options. Hence, funding costs for SMEs in the euro area's peripheral countries are much higher relative to the more central parts, see Figure 12.

Figure 12: Funding interest rates for SMEs 2013

Note: The horizontal line shows the average.

Source: ECB, MFI Interest Rate Statistics, <http://sdw.ecb.europa.eu/browse.do?node=9484266>.

For Single Market considerations, this may create an imbalance, where firms in the central euro area are more competitive than firms in the peripheral parts because they have access to cheaper funding.

Table 20 below sums up the links between these discussed State aid measures for the European banking sector and growth.

Table 20: State aid for the European banking sector: Link between competition instruments and growth

Growth driver	Underlying issue	Effect of competition Instruments
(2) Replacement effect	Competition means that efficient banks replace less efficient banks	Aid may imply that inefficient banks survive
(4) Investments	Investments create long-term growth, but require affordable access to finance.	Lack of an appropriate regulatory approach to bank restructuring combined with high risks associated with large holdings of government debt has increased costs of finance precisely in the countries most in need of investments and growth.
(5) Public goods	The banking sector plays a key role in the economy. Bankruptcies will have severe spill-over effects on the rest of the economy, especially for banks that are deemed too-big-to-fail.	State aid has been used to recapitalise and save banks.

Source: Copenhagen Economics.

What are the shortcomings? Early in the crisis, the European Commission was forced to take action to control the application of proper State aid rules in a massive number of cases¹⁷², accounting for a significant share of State aid increases since the crisis.

There is a relatively strong consensus that the European Commission, given the pressures it was facing, has achieved much, in particular in ensuring a more systematic and less discriminatory approach. However, shortcomings, particularly earlier on in the crisis, are also clear:¹⁷³

- Insufficient bail-in of investors – certainly creditors, but sometimes also shareholders.¹⁷⁴
- Rescuing banks whose fall would have represented no systemic risk because of their small size and market share.
- Imposing restrictions on post-restructuring business activities at the possible risk of reduced competition.
- National supervision and resolution of financial institutions has proved itself problematic given uneven practices and implementation of essentially the same EU legislation and guidelines.

In our evaluation, substantial progress has been observed in terms of regulatory changes as well as the application of State aid rules:

- Higher capital requirements: the new CRD IV capital rules from March 2013 in combination with technical standards provided by EBA, seek to enforce more harmonised and stricter capital requirements across the EU. Above all, these measures seek to provide authorities with more room before deciding whether State aid should be granted or a full resolution should be initiated. Such regulatory development weakens the general market anticipation of State aid to distressed banks. Furthermore, the additional minimum capital requirements (the so-called SIFI surcharge) for too-important-to-fail banks may decrease their competitive advantage.
- State aid guidelines: The recent clarifications by the EU Commissioner on more strict bail in requirements should substantially reduce risks of investors counting on governments to step in and save troubled banks (moral hazard) and help speed up bank capitalisation on harmonised conditions across the EU. The new Guidelines on State aid to banks¹⁷⁵ that will be applied as of 1 August 2013 are to be highlighted in this regard.

¹⁷² European Commission (2012f), 'State aid Scoreboard', http://ec.europa.eu/competition/state_aid/studies_reports/2012_autumn_en.pdf.

¹⁷³ An assessment along those lines is provided in Copenhagen Economics (2011) study 'State aid crisis rules for the financial sector and the real economy' prepared for the European Parliament, and more recently also in Lyon and Zhu (2013), 'Compensating Competitors or Restoring Competition? EU Regulation of State aid for Banks during the Financial Crisis', *Journal of Industry, Competition and Trade*, Vol. 13(1).

¹⁷⁴ The IMF report assessing the first Greek rescue package in 2010 expresses the severity of this shortcoming. The report clearly states that 'not tackling the public debt problem decisively at the outset or early in the program created uncertainty about the euro area's capacity to resolve the crisis and likely aggravated the contraction in output.' The report concludes that 'an upfront debt restructuring would have been better for Greece.' Such clear statements show that a lack of initial investor participation in the restructuring unambiguously harmed Greece, see International Monetary Fund (2013), 'Ex Post Evaluation of Exceptional Access under the 2010 Stand By Agreement', *IMF Country Report* No. 13/156, para. 57. <http://www.imf.org/external/pubs/ft/scr/2013/cr13156.pdf>.

¹⁷⁵ Communication from the Commission on the application, from 1 August 2013, of State aid rules to support measures in favour of banks in the context of the financial crisis ('Banking Communication'), (2013/C 216/01) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:216:0001:0015:EN:PDF>.

- **Bank Resolution Regime:** In 2012, four years after the start of the crisis, the European Commission proposed a Directive on "Bank Recovery and Resolution"¹⁷⁶. It provides national authorities with common power and instruments to pre-empt bank crises and to provide an orderly resolution of any financial institution in the event of failure. The instruments are linked at three stages: preventive (bank is still sound), early intervention (problems are emerging), resolution (banks are to be closed down). The (ECOFIN) Council adopted a position on the 27 June 2013 which clarified that covered deposits would be excluded from bail-in, while deposits from natural persons and smaller enterprises would have preference relative to other investors.¹⁷⁷ Moreover, the position implied that national authorities would have some "flexibility", subject to strict criteria in exceptional cases to exclude some liabilities which would otherwise fall under the bail-in criteria. However, such exceptions could only be accepted after a minimum level of bail-in has been achieved. To ensure that sufficient bail-in capacity is available, national resolution authorities implement so-called "minimum requirements for own funds and eligible liabilities" (MREL) for each institution, based on its risk characteristics. The full application of the Directive will be applicable only in 2018. The proposal is currently negotiated with the European Parliament.¹⁷⁸

The new regulation as well as the new upcoming framework for State aid to banks should provide a much improved framework both for preventing bank crises and addressing troubled and failing banks. Bearing in mind that the Directive on the Bank Resolution regime is only to be applied from 2018 onwards, the recent decisions by the European Commission have already tightened up application of State aid to banks with the aim of, inter alia, reducing moral hazard, excessive risk taking, and risks of losing taxpayer funds. The proposed guidelines can then be helpful in dealing with individual cases, including speeding up resolution, and as an encouragement of proper management of risks in financial institutions.

¹⁷⁶ The proposed Directive aims at replacing national resolution frameworks with one common EU framework. The resolution authority is scheduled to be the EBA. The regime includes a special focus on bail-in capital which aims at replacing implicit national guarantees in the crisis event, see European Commission (2012g) Proposal for a Directive for establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010, [http://www.europarl.europa.eu/registre/docs_autres_institutions/commission_europeenne/com/2012/0280/COM_COM\(2012\)0280_EN.pdf](http://www.europarl.europa.eu/registre/docs_autres_institutions/commission_europeenne/com/2012/0280/COM_COM(2012)0280_EN.pdf).

¹⁷⁷ European Council (2013), 'Council agrees on position on bank resolution', Press Release http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/137627.pdf.

¹⁷⁸ The report has been voted in ECON on 20 May 2013, however the document has so far not been published, [http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?lang=en&reference=2012/0150\(COD\)](http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?lang=en&reference=2012/0150(COD)). The Economic and Financial Affairs Council has agreed on MREL, see http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/137627.pdf.

Box 14: Key points: State aid for the European banking sector

What are the facts? Effective bank recapitalisation has drawn on, due to a lack of an appropriate national and EU wide regulatory framework, leading to potential large losses for tax-payers, distortions of competition, and risk of moral hazard.

Why is intervention necessary? The banking system provides vital services to the rest of the economy. This requires in turn government regulation to insure swift dealing with troubled banks and mechanisms to reduce the risks of moral hazard (investors and financial institutions counting on governments to save troubled banks) and loss of tax-payer's funds.

Which competition instruments are used? General State aid instruments, including guidelines, as well as sector specific regulatory instruments such as proposed Directive on Bank Resolution. In addition to competition instruments, the Eurogroup countries are in the process of creating new common instruments such as the Single Supervisory Mechanism, Single Resolution Mechanism and the European Stability Mechanism, all aimed at supervising and dealing with troubled/failing euro area banks.

What is the link to the Flagship Initiatives? Access to capital is a prerequisite for a sound European business environment and innovation, thus the case story is related to *An industrial policy for the globalisation era* and *Innovation Union*.

What is the link between competition instruments and growth? State aid may imply that inefficient banks survive. Moreover, the lack of pressure on banks to recapitalise, partly linked to open ended liquidity support from ECB, and lack of pressures from national banking regulators, have created a gap in funding interest rates for SMEs between central euro area countries and more peripheral regions.

What are the shortcomings? With the most recent EU Commission's decisions on State aid and its proposed revised guidelines, substantial progress has been made relative to the quality of State aid interventions earlier in the crisis.

The Directive on Bank Resolution could provide a productive complement to the new state aid rules, particularly in the preventive phase, by providing supervisors with new instruments to prevent troubled banks from becoming failing banks. This may be complemented by ongoing work on the Single Resolution Mechanism.

Source: Copenhagen Economics.

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