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ECONOMIC AND SCIENTIFIC POLICY **A**



Economic and Monetary Affairs

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Internal Market and Consumer Protection

# Challenges for Competition Policy in a Digitalised Economy

Study for the ECON Committee





**DIRECTORATE GENERAL FOR INTERNAL POLICIES**  
**POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY**

# **Challenges for Competition Policy in a Digitalised Economy**

**STUDY**

## **Abstract**

This study describes the challenges for competition policy in relation to the digital economy. It explores the specific characteristics of digital economy markets and how these characteristics impact competition policy. The study focusses on competition policy and its instruments such as anti-trust laws, merger regulation, State aid and sector regulation. Neighbouring policy fields such as copyright and data protection are outlined where important but not analysed in detail.

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## LIST OF ABBREVIATIONS

- 2G** 2nd Generation of mobile communication services (GSM)
- 3G** 3rd Generation of mobile communication services (UMTS)
- BEPS** OECD Action Plan on Base Erosion and Profit Shifting
- BEREC** Body of European Regulators of Electronic Communications
- CDN** Content Delivery Network
- DSM** Digital Single Market
- EPG** Electronic Programme Guide
- ETSI** European Telecommunications and Standards Institute
- FCC** US Federal Communication Commission
- FDI** Foreign direct investment
- FRAND** Fair Reasonable and Non-Discriminatory (terms for licensing patents)
- FTC** Free Trade Commission (United States)
- GSM** Global system for mobile communications
- HD** High Definition
- ISP** Internet Service Provider
- IP** Intellectual Property
- IPR** Intellectual Property Rights
- LTE** Long-term evolution, standard for wireless communication of high speed data
- MEP** Market Essential Patent
- MNE** Multinational Enterprise
- MoU** Memorandum of Understanding
- NGA** Next Generation Access
- NRA** National Regulatory Agency
- OS** Operating System
- OTTs** Over-The-Top service providers / Digital service providers
- SD** Standard Quality
- SEP** Standard Essential Patent
- SME** Small and medium sized enterprises
- SSNIP-TEST** Small but significant and non-transitory price increase, test used for the assessment of substitutability between products/services to define the relevant market
- TFEU** Treaty on the Functioning of the European Union
- UMTS** Universal mobile telecommunications system, third generation mobile cellular system
- (V)DSL** (Very-high-bitrate) Digital Subscriber Line

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## EXECUTIVE SUMMARY

This study describes the challenges that competition policy faces in relation to the digital economy. It explores the specific characteristics of digital economy markets and how these characteristics impact competition policy. This study was well underway when the Commission presented its Digital Single Market (DSM) plans on 6 May 2015<sup>1</sup>, including the announcement of an e-commerce sector inquiry. It is expected that the sector inquiry will deliver its first results in 2016. This study already offers a first overview on market developments and its implications for competition policy.

The study focuses on to the economic and legal analysis of competition problems that are caused by the characteristics of the digitalised economy. As such, competition policy and its instruments such as anti-trust laws, merger regulation, State aid, and sector regulation are at the centre of the study. Other policy fields, for instance trade policy, industrial policy and consumer protection fall outside the scope.

### The digital economy

The digital economy is unique in a number of ways. Digital services are characterised by network effects that promote concentration of markets. At the same time, service providers have multiple routes available for delivering digital services to end users, which can make the market contestable, meaning that market power can be challenged by entrants more easily and often faster than in more traditional fields of the economy. The combination of network effects and contestability give the sector dynamics that are fundamentally different from other sectors.

#### *Various routes to deliver digital services to end-users*

To describe the sector, we use the term **value web** as it better captures the specific characteristics of the sector than the more traditional term value chain. A value web can be seen as **multiple interlinked value chains** that have converged into a web of services and assets. Each service and asset is a node in the web. By using different combinations of nodes there are multiple routes to deliver content or a service to end users. End-users experience this for example because they can watch the daily news via TV, websites, apps and social media, and they choose where they watch the news (at home or outdoors) and on which device (phone, tablet, PC, or TV). Service and content providers have even more choices to make when delivering content or services because this involves several successive steps<sup>2</sup> and each step is often followed by multiple alternatives for organising the next step. Most service and content providers choose multiple options simultaneously<sup>3</sup>. Some companies are notably present at each step and have invested in their own assets. Other companies have specialised in and built assets for only one step. While delivering a service to end-users, companies combine their own assets (like content, brand or apps) with assets of others (like app stores, Internet access, and devices) to create new services.

Some of the key assets can be regarded as a platform. A **platform** provides a (technological) basis for delivering or aggregating services/content and mediates between

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<sup>1</sup> See footnote 8 for further references.

<sup>2</sup> These steps include, inter alia, the aggregation of content and developing a service, the aggregation of services, the distribution of services, and helping end-users to navigate through and select services.

<sup>3</sup> For example, a broadcaster (like HBO or Netflix) can make use of the aggregation and distribution services of a cable TV operator (like Liberty Global). Alternatively it can develop its own website or use the aggregation services offered by various App stores and rent server capacity near end-users for distributing the content at high quality (also referred to as a Content Delivery Network or CDN). A company like Google/YouTube has invested in its own CDN. For an illustration, also see figure 1.

service/content providers and end-users<sup>4</sup>. The digital economy can be described as a **complex structure** of several levels/layers connected with each other by an almost endless and always growing number of nodes. Platforms are stacked on each other allowing for multiple routes to reach end-users and making it difficult to exclude certain players, i.e. competitors<sup>5</sup>.

### *Digital business models and strategies*

There are basically three different platform based business models: the subscription model in which the end-users pay for a service (like Netflix); the advertisement model in which the end-users provide revenues indirectly by being exposed to advertising (like YouTube); and the access model in which content or app developers pay to reach end-users (like an App store).

A common characteristic of these platform based business models is that they are all based on exploiting **network effects** which may be direct or indirect. The direct network effect means that a platform becomes more attractive for consumers if the total number of consumers grows. The indirect network effect means that a platform becomes more attractive for consumers (service/content providers) if the number of service/content providers (consumers) grows. Markets that exhibit such network effects have a tendency to high concentration or even tip in the sense that the winner takes all. The reason is that while a particular platform grows, the network effects make it increasingly difficult for competitors to challenge the position of that platform. As such, first-mover advantages can make huge differences and the competitive game may result in a *winner-takes-all* outcome.

Irrespective of the business model used, many online business models depend on attracting the attention of end-users. As such, they compete with each other for an audience. Price does not always appear as clearly in the marketing mix of online business models because it is not always profitable to charge a (direct) price to end-users. There is often more to be gained from selling access to the audience to advertisers. The ability to compete for attention increases when a company has multiple platforms in different areas and creates synergies by linking platforms through user data. By combining user-data from multiple platforms, a multi service/platform operator can optimise the experience for both end-users and advertisers<sup>6</sup>. At the same time, digital platform operators aim at making themselves indispensable for both end-users as well as advertiser and place themselves in a gatekeeper position.

### *The role of innovation*

Gatekeeper positions easily translate into (dominant) positions with strong market power allowing gatekeepers to generate high profits. These high profits create incentives for others to enter the market with innovative ideas and to contest the strong market

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<sup>4</sup> Obvious examples of platforms are Operating Systems and App stores. Platform roles can also be performed by applications (such as the web browser), websites, social networks, and games. Sometimes the platform is strongly interwoven with the electronic device (TV-set, handset, game computer, etc.).

<sup>5</sup> For example, Samsung has put a software layer on top of the Android system on which its TV's are running. This puts Google's App store out of reach of consumers with a Samsung TV (they have to use Samsung's App store). By plugging Google's Chromecast in the USB drive of the Samsung TV, the end-user can 'return' to Google's environment. Another example is the PlayStation App (available in the App stores of Google and Apple) that allows users to enter the Sony PlayStation environment with their smartphone or tablet.

<sup>6</sup> Consumers using various services from only one company allow this company to develop detailed user profiles and use these to optimise the experience for end-users. At the same time, advertisers are offered a one-stop-shop that allows for targeted ad campaigns to specific end-users and reach those end-users independent of what kind of service/platform they use.

positions. Once the market has tipped, entry on the basis of copying the incumbent's business model is often not successful. Consequently, entrants seek opportunities to differentiate by responding to the heterogeneity of consumer preferences and they develop business models that aim to disrupt existing markets<sup>7</sup>. Moreover, the challengers have an increasing variety of ways to reach end-users which makes it easier for them to bypass gatekeeper positions.

While it is not difficult to enter the market, the challenge is to survive and to grow as any initiatives will fail. But the presence of a potential successful disruptive innovator among the many initiatives drives digital companies to prepare for the unexpected through constant innovation in all possible areas: new techniques, new products, new sales channels, new customers, etc., including new combinations of the items mentioned before. As both incumbents and entrants constantly innovate, the boundaries of the market are constantly redefined.

### *Control the access to data and technology*

Personal data is of strategic value and large platforms are often not willing to share personal data. Consequently, the interoperability of large platforms from different operators is low. The lack of interoperability prevents multi-homing (using multiple platforms simultaneously) and locks-in end-users at both sides of platforms. Consequently, it helps large platforms to maintain their market position by creating/maintaining/raising entry barriers that result from network and lock-in effects. Without interoperability, large incumbent platforms face a lower threat of entry and have fewer incentives to keep innovating.

Another way to defend a gatekeeper position involves the control over access to technology. As such, patents play a prominent role in the battle for the leadership in OS markets as they grant control over access to technology and standards.

### **The role of competition policy**

The fast developments in the digital economy challenge existing policy frameworks. This includes competition policy, but also policies with respect to (inter alia) consumer protection, privacy, taxation, and intellectual property rights. While current policies are being challenged, the public values they primarily aim to preserve may be at stake. In addition, these fast developments may result in competition problems.

We discuss ten problems specifically related to the characteristics of the digital markets that are either caused by or result in a competition problem. These problems are that:

1. digital monopolies can hamper competition and innovation;
2. digital monopolies can monopolise other markets;
3. digital monopolies have an incentive to lock-in customers;
4. digitalisation causes problems related to privacy and data protection;
5. geo-blocking may hamper the Digital Single Market;
6. patents can be used to prevent access to technology;
7. gatekeeper positions of Internet Service Providers (ISP) may have a negative impact on market dynamics;
8. State aid for broadband deployment can disturb markets;
9. spectrum auctions potentially create/raise entry barriers; and that
10. tax planning/avoidance potentially distorts competition.

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<sup>7</sup> Examples are the introduction of the web browser, the smartphone and the App-stores that led to new business models successfully contesting Microsoft's strong market position.

The horizontal conclusions that we draw from the analysis of these ten problems is that competition authorities and policy makers should focus on preventing the creation of entry barriers, facilitate entry into markets, and foster innovation. Competition authorities should have a cautious attitude towards actual competition problems and to rely on the self-correcting powers of the market, provided that certain public values such as taxation, privacy and security are protected by appropriate (other) policy frameworks. If the latter is not the case and this causes competition problems, competition policy instruments can sometimes be used to temporarily fix the problem if changing respective adequate policy fields is problematic. Below we elaborate on the analysis.

### *Problems involving particular challenges for the application of competition law*

The first three of the ten problems concern the tendency of digital markets to tip, resulting in digital monopolies. The three problems are closely related: once digital giants have placed themselves in a gatekeeper position, they **lock-in end-users** at both sides of the platform and aim to make themselves indispensable; once they have made themselves indispensable, large digital giants could potentially **hamper competition and innovation**; not only in their own markets, but also in other markets via the **leveraging of market power**.

In relation to these problems we discuss pre-emptive mergers as potentially problematic. A pre-emptive merger is aimed at preventing a (potential) competitor from disrupting ones business model by acquiring the company. Similarly, leveraging of market power and entering into a set of multiple exclusive agreements are potentially problematic behaviours when they close down or prevent the creation of alternative routes to reach end-users. Such behaviours would fall within the reach of anti-trust law (Articles 101 and 102 TFEU and merger control regulation).

It is difficult to distinguish anti-competitive motives from normal business strategies; particularly because it involves future markets. Wrongly labelling behaviour as being anti-competitive may have adverse effects on the dynamics in the market. For example, while there may be pre-emptive motives for the acquisitions of small company, competition authorities should remain cautious not to consider all acquisitions as anti-competitive. This might have serious adverse effects on innovations as the prospects of a take-over forms an incentive to innovate.

When applying competition law, competition authorities are faced with a different set of challenges. These challenges involve the analytical steps and instruments used for assessing the relevant market and dominance. The analytical steps typically start with describing the market boundaries (1), followed by an analysis of market power (2) and of whether the behaviour of firms is anti-competitive (3). Digital firms, however, constantly redefine the boundaries of the market by competing largely on the basis of innovation. It follows that in digital markets, the traditional step-by-step analytical approach does not work because of strong **dynamic feedback effects** running from firm behaviour to market structure. For the same reasons, market shares or profit margins are less useful for determining market power.

In response to these challenges, competition authorities may want to:

- take the business models as a starting point, focussing on how a company makes profits and which other companies or business models may steal that profit away. Such approach integrates the market definition and market power assessment stages. It allows to better account for interdependencies between multiple platforms and the interactions between firm conduct and market boundaries;

- rely less on traditional indicators such as market shares or profit margins. Competition authorities should rather focus on indicators that inform about contestability, such as the presence of entry barriers, the availability of alternative routes to reach end-users (including the presence of measures aimed at locking-in end-users), and the degree of innovation in unexplored technologies/services;
- follow a more future-oriented approach because of the central role of potential competition. In practice this means following a cautious approach and relying on self-correcting powers of digital markets that make permanent harm less likely;
- involve more external IT experts to help them to understand better business models and future trends;
- cooperate with competition authorities from various nations/continents while the digital economy (and thus the relevant geographical market) has become worldwide in scope.

In order to support competition authorities, policy makers may:

- potentially mitigate competition problems by amending data protection regulation. Introducing data portability as a right to transfer one's own data from one platform to another (in a commonly-used electronic format) would have a positive impact on the interoperability between platforms, lower switching costs, and improve the competitive process;
- draft a guideline/guidance paper on assessing competitive restraints in digital markets;
- review existing guidelines on horizontal mergers, in which particular attention should be paid to:
  - mergers involving non-transaction markets with indirect network effects;
  - defining new metrics used in setting the threshold values for determining when a merger needs to be notified;
  - developing the concept of '*maverick firms*' in the context of dynamic markets.

#### *Other problems to be addressed by competition policy*

Two problems that we discuss seem to involve little or no challenges for competition authorities in addressing these.

The first problem involves the risk that **State aid for broadband deployment can unnecessarily disturbs market dynamics**. Reasons that State aid may be distortive are that 1) government decisions experience electoral pressures, 2) governments are not fully informed (asymmetric information), and 3) that governments are not free from being lobbied. In relation to broadband markets, all of these factors are prominently present at local level governments. Recognising these risks, the European Commission issued the Broadband State aid Guidelines. To ensure proper implementation of these guidelines, the following could be done:

- Despite scarce resources, competition authorities should screen the behaviour of governments and check whether it is in line with the Commission's Broadband State aid Guidelines.
- No additional policy action is needed in addition to the Commission's Broadband State aid Guidelines.

The second problem involves the risk that **ISPs may exploit a potential gatekeeper position vis-à-vis digital service providers**. The biggest concern raised by proponents

of net neutrality is whether an obligation to pay for access to customers would strangle at birth the business plans of innovative internet start-ups and consequently deprive users of the next great innovation. The following could be done to mitigate the risk:

- Competition authorities can use Article 102 TFEU to establish whether traffic management techniques are used in an anti-competitive manner.
- Policy makers need to rely on competition authorities until a clear line of argumentation has been developed that specifies if and how *ex post* control for anti-competitive use of traffic management techniques might have a long-lasting/irreversible impact.

#### *Competition policy addressing problems caused by other policies*

Two competition problems that we discuss may require an intervention by competition authorities. These problems originate from a limited effectiveness of other policies in addressing non-competition problems. Changing these other policies would be a first-best solution, but it is difficult to adjust these policies because of practical/political reasons.

The first problem is that **Standard Essential Patents (SEPs) are potentially used to prevent access to technology via patent injunction**. The problem is caused by a lack of clear licensing terms and a lack of a consistent approach to the enforcement of the rights of patent holders. It is not always clear in patent injunction cases whether the rights of the patent holder are truly violated, or whether the patent holder aims to hinder its competitor by denying access to a technology. The following could be done to mitigate the risk:

- Competition authorities are equipped to address this challenge because an injunction involving SEPs has the effect of foreclosing an entire market. However, competition law struggles with addressing the lack of clarity about the definition of FRAND terms.
- Policy action on the clarification of rules on patent disclosure and licensing on FRAND terms would be a first-best solution to increase legal certainty.

The second problem is that **tax planning and avoidance have the potential effect of distorting competition**. Within the boundaries of the law, multinational enterprises engage in tax planning, i.e. shifting profits to low-tax jurisdictions even if the actual economic activities are not performed there. Tax competition between countries is a root cause, leaving gaps between different tax systems. Tax competition is harmful if it leads to a race to the bottom on tax rates and/or if it results in an erosion of the tax base. Tax competition thereby lowers public finances and/or shifts the tax burden to less mobile factors of production (e.g. labour) or less mobile companies. Notably SMEs are among the less mobile companies. The following could be done to mitigate the risk:

- Competition authorities can use State aid rules to control for harm to competition among enterprises where tax rulings constitute State aid. In general, competition law cannot provide a durable and universal solution for the tax planning problem.
- A legislative and/or policy action is necessary along the lines of the already existing proposals for a Common Consolidated Corporate Tax Base, automatic exchange of information between tax authorities of Member States about tax rulings, and the Code of Conduct concerning business taxation.

#### *Problems to be addressed by other policy fields*

Three problems should primarily be addressed by other policies:

The first problem concerns **privacy and data protection**. Consumers are not always aware that digital service providers collect and analyse private data; nor are consumers



aware of the security risks involved when that data falls into the wrong hands. Even if consumers are aware, it is not clear to them how firms use or protect the information they retrieve via online transactions. The following could be done to mitigate the risk:

- Competition authorities can do little to address the problem because the problem exceeds their legal mandate.
- Policy action should aim at adapting data protection and privacy regulation. While doing so, the impact on the competitive process between digital platforms should be specifically analysed in the impact assessment of a related policy proposal<sup>8</sup>.

The second problem is that **geo-blocking may hamper the Digital Single Market**. The ability to access content everywhere throughout the EU is not always hindered by a lack of network or platform interoperability. The ability to access content is often prevented by geographical restrictions imposed by the owners of Intellectual Property Rights (IPR) in the licensing agreements. The following could be done to mitigate the risk:

- Competition authorities can use Article 101 and 102 TFEU to address the imposition of geographical restraints as it has the effect of recreating national barriers on the single market and eliminating competition between broadcasters. However, competition law can only be used when restrictions are imposed by dominant companies.
- Policy action in the field of copyright law is preferred to an intervention by competition authorities because the problem directly results from flaws in the legal framework governing copyrights<sup>9</sup>.

The third problem relates to the possibility that **spectrum auctions may raise entry barriers into telecom markets**. The allocation of spectrum rights is typically orchestrated by means of an auction. Mobile operators bid against each other to obtain the best possible combination of spectrum rights. The amounts eventually paid for these rights often seem very high (several billion euros) and may raise concerns about auctions unnecessarily creating/raising entry barriers. The following could be done to mitigate the risk:

- Competition authorities should do nothing beyond the monitoring of collusive practices in advance of and/or during an auction.
- Policy makers can mitigate the problem of entry barriers by introducing countering measures in the design of auction. Such measures include, inter alia, imposing spectrum caps, reserve blocks of spectrum for new entrants, and impose role out obligations on rights holders.

To summarise, the digital economy creates a number of potential problems. Not all of these problems need to - or can - be solved by competition policy. If a problem requires the application of competition law, the characteristics of the digital economy create a new set of challenges. These challenges do not involve the basics of competition law, but the

<sup>8</sup> European Commission (2015) - the recent European Commission staff working document on *A Digital Single Market Strategy for Europe* SWD(2015) 100 final - indicates that once the General Data Protection Regulation COM(2012) 11 final is adopted, most of the problems will be addressed. Notably the right to data portability and the right to be notified when the security of personal data is breached are promising ideas reflected in the Regulation.

<sup>9</sup> The staff working document SWD(2015) 100 final recognises the limitations of competition law as well as the limitations of the Services Directive. The working document is not concretely spelling out specific actions: '*Geo-blocking may be examined from a competition law perspective, as well as from other legal perspectives (e.g. non-discrimination and freedom to provide services, enforcement of consumer rights, commercial practices and contract law)*'. See European Commission (2015, pp. 24-25).

analytical steps and instruments used for defining the market and assessing dominance. As such, digitalisation does not require a complete overhaul of competition law or the creation of sector specific rules. It rather requires competition authorities to follow a different approach when analysing particular cases. These insights not only apply to analysing digital markets but to the whole economy because the digital economy is increasingly interwoven with the physical and/or offline economy.



# 1. INTRODUCTION

This study describes the challenges that competition policy faces in relation to the digital economy. High-profile competition cases, like those involving Microsoft and Google, indicate that competition policy faces new types of challenges in cases related to the digital economy, compared to those in more traditional sectors. We explore the specific characteristics of digital economy markets and how these characteristics impact competition policy<sup>10</sup>.

The digitalised economy is based on digital technologies that can be summarised as communication and data processing. It is also referred to as the internet economy or the online economy, because many digital service providers use the internet to deliver a service to end-users. The digital economy is increasingly interwoven with the physical or offline economy<sup>11</sup> making it more and more difficult to clearly delineate the digital economy. As such, some of the characteristics of the digital economy are on their way to integrate into the more traditional sectors. The conclusions we draw in this study may thus become of relevance for the application of competition policy in many more sectors.

We limit ourselves to the economic and legal analysis of **competition problems** that are caused by the characteristics of the digitalised economy. This includes competition related problems within the digital economy and problems related to the physical networks that enable the digital economy.

Competition refers to the interaction among market players that is driven by rivalry in which every actor tries to maximise long-run profits, which sometimes happens at the expense of other actors. Competition on the merits means that market players try to beat competitors by offering the best practicable combination of price, quality, and service<sup>12</sup>. Competition problems refer to rival interactions that are **not based on merits**, but on other advantages that are not gained by own competitive achievements. For example, someone may abuse the fact that he has gained control over an essential input or someone may have been granted preferential treatment by a government.

With competition policy and its instruments such as anti-trust laws, merger regulation, State aid rules, and sector specific regulation as the main focus of the study, other policy fields, for instance trade policy, industrial policy and consumer protection fall outside the scope of this study. We will identify where other policy fields may play a role in addressing issues in the digital economy, but we will not elaborate on these issues.

<sup>10</sup> On 6 May 2015 the Commission presented its *Digital Single Market (DSM) strategy*, announcing amongst others its plans to tackle unjustified geo-blocking together with a competition inquiry into online trading (see [http://europa.eu/rapid/press-release\\_SPEECH-15-4926\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-15-4926_en.htm)). The Commission's plans were announced at a time when this study had already been asked for and was well under way. This study therefore offers a first overview on market developments and its implications for competition policy and it is expected that much more detailed results will result from the sector inquiry. It is expected that the sector inquiry will deliver first results in 2016.

<sup>11</sup> For example the '*Internet of Things*' and the '*sharing economy*'.

<sup>12</sup> This definition of competition on the merits was broadly supported by the academic experts involved in this study during a workshop that was organised from 16 to 18 February 2015 in Rotterdam. However, we note that in legal cases there is less unanimity about the definition. The OECD (2006a, p.1) explains that '*many agencies and courts have repeatedly used the phrase "competition on the merits" to explain and justify their views on how to distinguish conduct that harms competition from conduct that advances it. Yet that phrase has never been satisfactorily defined. Generally, the expression "competition on the merits" implies that a dominant enterprise can lawfully engage in conduct that falls within the area circumscribed by that phrase, even if the consequence of that conduct is that rivals are forced to exit the market or their entry or expansion is discouraged.*'

Chapter two aims to familiarise the reader with the characteristics of the digitalised economy. Chapter three identifies and describes ten problems related to digital markets that are either caused by or result in a competition problem. Furthermore, the Chapter analyses whether these problems should be addressed by competition policy instruments of anti-trust law, merger control, State aid rules or sector specific regulation, or whether a problem is better addressed by different policy fields. Chapter four discusses specific challenges when applying established competition law concepts and rules, such as for instance market definition, dominance assessment, and assessment of anti-competitive conduct in relation to digitalised markets.

## 2. THE DIGITALISED ECONOMY

The digitalised economy is unique in a number of ways. Digital services are characterised by **network effects** that promote concentration of markets. At the same time, service providers have multiple routes available for delivering digital services to end users, which can make the market contestable, meaning that market power can be challenged by entrants. The combination of network effects and **contestability** give the sector dynamics that are fundamentally different from other sectors.

To describe the sector, we use the term **value web** as it better captures the specific characteristics of the sector than the more traditional term *value chain*.

### 2.1. A description of the value web

A value web can be seen as **multiple interlinked value chains** that have converged into a web of services and assets<sup>13</sup>. Each service and asset is a node in the web. By using different combinations of nodes there are multiple routes to deliver content or a service to end users.

#### 2.1.1. Services and content

In the digitalised economy, a multitude of services are offered. Some services aim to draw people's attention by offering content (media or information), other provide communication services (telephony, chatting, messaging). The dividing lines between the types of services are getting blurred, e.g. social media services tend to develop into a mixture of content and communication services. The purpose of catching people's attention is to build an audience. The audience can be charged a price or it can be sold to third parties (e.g. advertisers).

#### The variety of digital services available to consumers

Digital services include traditional electronic communication services (voice, text and video) and a whole range of newer services (social media, online shopping, games, cloud computing, searching, and navigation). Most types of digital services are available via the internet. The traditional services are also provided in a bundle with a broadband connection (or internet service) by so-called Internet Service Providers (ISPs). The ISP makes use of its own infrastructure or it rents infrastructure for delivering these services instead of the internet<sup>14</sup>.

Services via the internet are delivered without any control over the underlying network and are referred to as **over-the-top (OTT) services**. Some of these services (like Skype, WhatsApp and YouTube) compete directly with the traditional services offered by ISPs (voice communication, SMS and TV). Contrary to traditional services offered by ISPs, OTT services accrue far less technological complementarities with the operation of the network – see Box 1 below.

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<sup>13</sup> TNO (2014) Regulation in the media-internet-telecom value web, TNO whitepaper (2014).

<sup>14</sup> An ISP may be a retail arm of a network operator or it may be an independent company. In the latter case, the ISP gains access to the end user through an access agreement with one or more network operators which make available their end-user connections for the purpose. Frequently, especially in the case of fixed networks, access is provided on terms regulated by the NRA as the network operator usually has no incentive to offer access to direct competitors voluntarily.

### Box 1: Technological complementarities between services and network operations

There are far less technological complementarities between operating the network and offering OTT services via the public internet. In other words, the quality of the network (in terms of bandwidth, delay, and very brief interruptions) affects the quality of the OTT services to a lesser extent. This assumes a minimum level of network quality **and** the absence of congestion.

At times of congestion and delay, the network quality may affect the quality of some OTT services, like voice communication, video streaming, or the combination of both<sup>15</sup>. The equivalent services offered by ISPs do not suffer from congestion or delay because ISPs **manage** the traffic of these services while operating the network. The constant quality of the managed services makes them popular among end-users.

As network quality increases, problems of congestion and delay diminish, and the popularity of online services as Skype and YouTube may increase at the expense of managed services offered by ISPs. Because the many OTT services are offered for free, this puts pressure on ISPs to review their traditional earning models that have largely been based on per minute/per message pricing.

### The characteristics of digital content

All digital services aim to draw people's attention by delivering a communication service or content that people may be interested in. The internet has stretched the term content to include video, audio, images, games, software - including Operating Systems, (news) articles, tweets, Q&A, maps, etc. Also the boundaries between content and services have faded (e.g. online gaming).

The term content has been stretched so far that the boundary between creator and user has also faded. Some companies even base their entire business model around user-generated content (like Facebook, Twitter and YouTube). The stretching and fading of boundaries has caused debates about intellectual property rights and consumer/data protection which we discuss in Chapter three.

A common characteristic of digital content is that it can often be **duplicated and distributed at little or no cost**. In the words of Bill Gates (1996): '*[T]he internet is the multimedia equivalent of the photocopier. It allows material to be duplicated at low cost, no matter the size of the audience. [It] also allows information to be distributed worldwide at basically zero marginal cost to the publisher*'<sup>16</sup>. Because of the lower costs for duplication and distribution, the internet has had a particular effect on the structures of traditional media and entertainment industries. Artists find it much easier to present their art to a global audience. As a consequence, the roles of distribution companies and collecting agencies that together form the physical logistical supply chains have been put under pressure.

<sup>15</sup> Some services, like email or web search, are not sensitive to bandwidth or delay. The data traffic that these services require is very small, so the delay that the end-user experiences is negligible or hardly experienced as a nuisance; at least not to the same extent as the 'turning wheel' that shows up when your computer is waiting for the next data bits while streaming a movie.

<sup>16</sup> Gates (1996) to be found at the following link:  
<http://web.archive.org/web/20010126005200/http://www.microsoft.com/billgates/columns/1996essay/essay960103.asp>.

Today, a similar effect can be observed in other industries like the taxi market or the hotel business. The internet has **lowered transaction costs** involved with finding a taxi or a place to stay. As a result, individuals find it much easier to offer taxi or hotel services and traditional business models are contested.

### 2.1.2. Various routes to deliver digital services to end-users

The digitalisation of services has resulted in a convergence of previously separated value chains<sup>17</sup>. New digital services are added and merged with existing services<sup>18</sup>. Content developers and service providers now have a variety of options for delivering content or services to end-users.

End-users experience this, for example, because they can watch the daily news via the traditional TV service of ISPs, via the website of the news service, via an app of the news service, and perhaps even via YouTube or Facebook. End-users can even choose where they watch the news (at home or outdoors) and on which device (phone, tablet, PC, or TV).

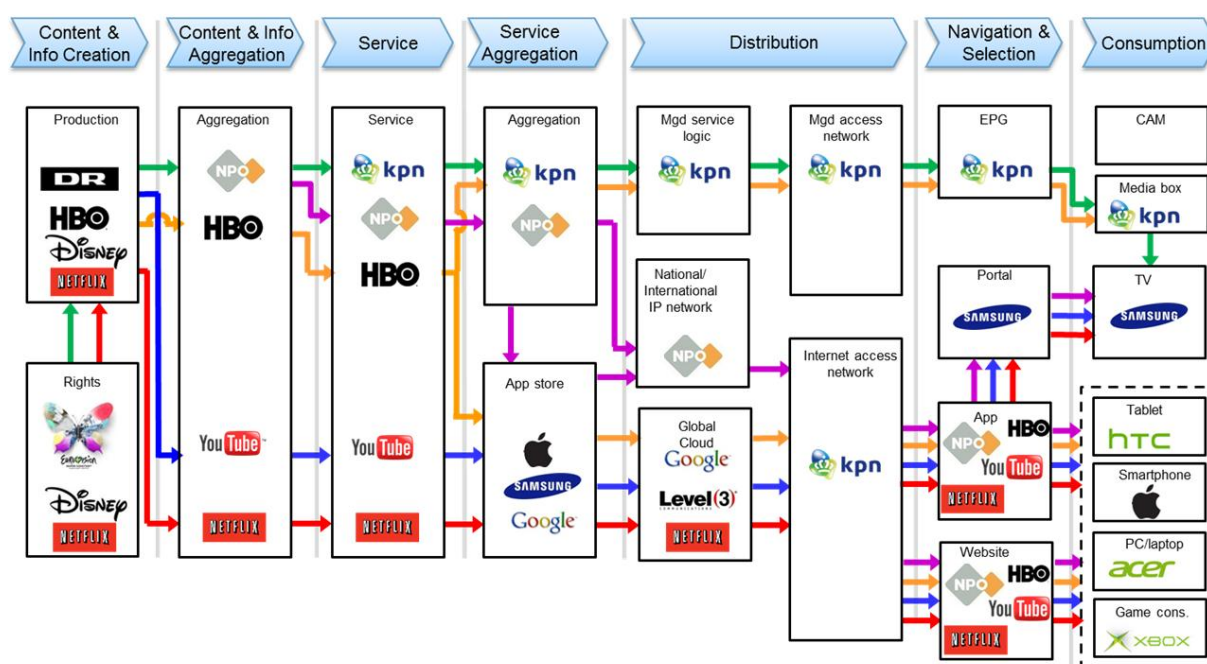
Service and content providers have even more options to choose from when they deliver the content or service; and they often **choose multiple options simultaneously**. Figure 1 is an illustration of the many alternatives available to deliver video services to end-users. The figure shows that the delivery of the video service goes through seven steps from creation to consumption<sup>19</sup> and that most steps are followed by multiple alternatives for organising the next step. Alternative routes are illustrated by the coloured arrows and the company logos in Figure 1. For example, the green arrows show a route that, almost entirely, makes use of services and assets of an ISP (KPN in Figure 1). Alternatively, the orange and purple arrows show the routes followed by two broadcasters (HBO and NPO respectively). HBO and NPO deliver a number of activities/services themselves. But at some point they choose to make use of the activities of other providers. For example, HBO makes use of KPN's service aggregation services as well as of the aggregation services offered by various app stores. NPO also makes use of aggregation services offered by various app stores, but avoids as much as possible relying on KPN's services (so it seems from Figure 1)<sup>20</sup>.

<sup>17</sup> Voice services used to be delivered by telecom operators via dedicated copper or wireless networks. Also TV broadcasting was delivered via separate networks (cable, satellite, or terrestrial broadcasting networks). Services like email or online searching were offered by many providers via the public Internet. Today, telecom operators offer TV broadcasting, cable operators offer telephony services, and any service is also available from a variety of online service providers via the public Internet.

<sup>18</sup> Like telecom operators and cable operators both offering video-on-demand services.

<sup>19</sup> These are 1) creation of the content; 2) bundling the content with other content - i.e. aggregation; 3) embedding the aggregated content in a service like an on-line movie rental service; 4) bundling/aggregating the services with other services like in an App store; 5) distributing the services / data by making use of networks; 6) navigation which is the digital equivalents of the TV guide; and 7) Presentation / Consumption via set-top boxes, TVs, Tablets, Phones, PCs, etc.

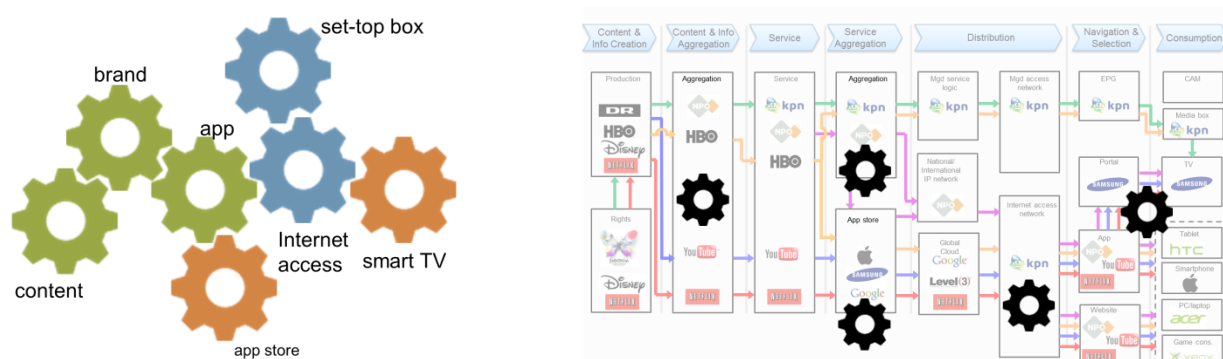
<sup>20</sup> Figure 1 is for illustrative purposes and does not necessarily represent a complete picture of the value web, nor of the activities of the companies.

**Figure 1: Different routes for the delivery of video services to end users**

Source: TNO (2014)

Note: Routes and company logos shown are only for illustration purposes.

Some companies are notably present at each step throughout the value web and have invested in their own assets. Examples are Netflix and Google/YouTube. Other companies have specialised and built assets for only one step (like the company Level (3) Communications Figure 1). While delivering a service to end-users, companies **combine** their own assets (like content, brand or apps) with assets of others (like app stores, internet access, and devices) to create new services within the value web – see left panel in Figure 2.

**Figure 2: Assets providing a platform role for their owners**

Source: TNO (2014)

Some of the key assets provide a **platform role** to their owners – see right side in Figure 2<sup>21</sup>. A platform can generally be defined as a (technological) basis for delivering

<sup>21</sup> The platforms in the right side of Figure 2 are randomly placed for illustrative purposes.

multiple services/products<sup>22</sup>. In the digital economy a platform is a basis for **aggregating** services and/or content. As such, a platform mediates between service/content providers and end-users. One of the first examples of a digital platform that comes to mind is the Operating System (e.g. iOS, Windows, or Android) because it provides a technological basis for developing applications. Another platform is the physical access network of ISPs. Moreover, app stores are platforms that aggregate and mediate, as well as applications (such as the web browser), websites, social networks, and games. Sometimes the platform is strongly interwoven with the electronic device (TV-set, handset, game computer, etc.).

The value web can be described as a **complex structure of platforms stacked on each other** allowing for multiple routes to reach end-users and making it difficult to exclude competitors. For example, Samsung has put a software layer on top of the Android system on which its TV's are running. This puts Google's app store out of reach of consumers with a Samsung TV (they have to use Samsung's app store). By plugging Google's Chromecast in the USB drive of the Samsung TV, the end-user can 'return' to Google's environment. Another example is the PlayStation app (available in the app stores of Google and Apple) that allows users to enter the Sony PlayStation environment with their smartphone or tablet. In a way, one can say that the value web is characterised with many **wormholes that allow the end-user to seamlessly move from one environment/platform into the other**.

Note that **the broadband service of ISPs** is a platform that is more **difficult to circumvent**. All content/service delivery routes eventually have to go via the broadband access networks, either fixed or mobile.

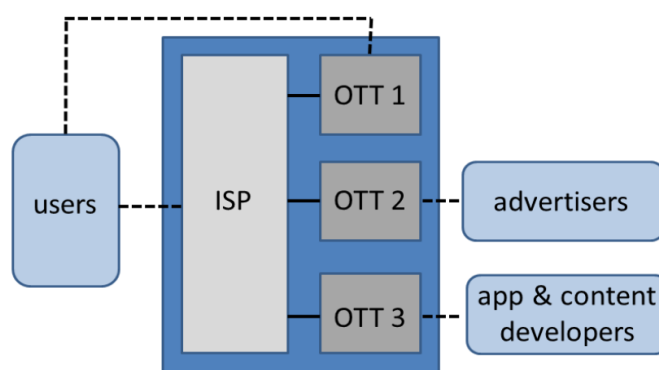
## 2.2. Business models and strategies

The variety of digital services and delivery routes lead to a wide variety of business models and business strategies. Understanding these business models and strategies is essential for the understanding of the dynamics and competitive forces in the value web.

### 2.2.1. Typology of digital business models

Three types of digital (platform based) business models for online (OTT) service providers can be identified<sup>23</sup> – see Figure 3.

**Figure 3: Typology of platform based business models**



**Source:** Peitz et al (2014).

<sup>22</sup> In the car-industry a platform is a basis on which several models of cars can be built: a Volkswagen Golf is based on the same platform as about 20 different models in the Volkswagen group.

<sup>23</sup> Peitz et al (2014).



The different platform based business models are described in the following terms:

- 'OTT 1 [**pay/subscription model**] offers services to users via the ISP. There are no other parties involved. Typically, the OTT charges users for its service [e.g. Netflix], although a different contractual solution could be that the ISP offers the service of OTT 1 to users, charges users for this service, and pays the OTT [e.g. Canal+].'
- 'OTTs of type 2 [**advertisement model**] offer their services to users without direct payments. OTTs provide a service and consumers provide revenues indirectly, by being exposed to advertising and by providing data that the OTT can use to improve the ad effectiveness [e.g. Google search, Facebook, Dailymotion, etc.].'
- 'OTTs of type 3 [**Access model**] connect app and content developers to users [e.g. Google's or Apple's App Stores]. Here, the OTT may charge those app and content developers for selling their product or service to users. Similarly, the OTT may charge users on behalf of the app and content developers.'<sup>24</sup>.

A common characteristic of platform based business models is that they are all based on exploiting network effects which may be direct or indirect (see Box 2 below). Markets that exhibit network effects have a **tendency to high concentration**, all else being equal. The reason is that while a particular platform grows, the network effects make it increasingly difficult for competitors to challenge the position of that platform. As such, first-mover advantages can make huge differences and the competitive game may result in a *winner-takes-all* outcome.

#### Box 2: Network effects

A **direct** network effect arises if the value to a consumer of a particular service is enhanced by the consumption of the same service by other users. The social networking platforms (e.g. Facebook) are often quoted as examples. From the point of view of a user, the utility of a network grows as the number of other members who that user wishes to contact grows. Online messaging services provide another example. Groups of friends can make group arrangements more conveniently in real time if all members subscribe to the same messaging service.

**Indirect** network effects occur in two-sided markets which are those where services offered by an intermediary are of interest to two distinct groups (typically of producers and consumers of goods and services). A marketplace platform such as eBay provides a good example. The platform is of value to sellers because it attracts many potential buyers; and of value to buyers because the large number and range of sellers increases the likelihood of a satisfactory purchase. Those features alone would not necessarily make the platform successful but illustrate the indirect network effect. If there are fewer buyers, it will be less valued by sellers; and vice versa. But buyers are not primarily interested in the number of other buyers; or sellers in the number of other sellers.

#### 2.2.2. How do digital business models compete?

Irrespective of the business model used, many online business models depend on **attracting the attention** of end-users. As such, they compete with each other for an audience. More specifically, they compete for the personal data obtained from the audience

<sup>24</sup> Peitz et al (2014), addition in brackets have been introduced by the author to facilitate understanding.

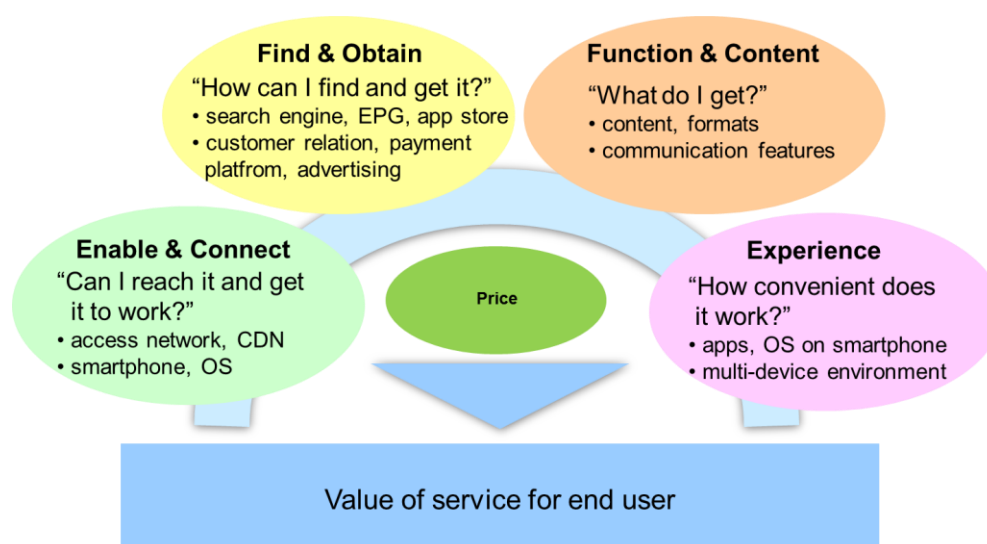


while using the service. At the same time, online business models continuously develop new products and services as well as improve existing ones. By doing so, online firms constantly redefine the boundaries of digital markets and tend to **compete for markets** — or aim at creating new markets — rather than compete with each other in existing markets.

### Competition for audience

The competition for an audience is based on maximising the consumer's value of the total proposition offered. This translates in a marketing mix comprising of **four main dimensions**: 'Enable&Connect' 'Find&Obtain' 'Function&Content' and 'Experience' – see Figure 4 below. Price is presented as a smaller fifth dimension, we elaborate on this in the text below the figure.

**Figure 4: Marketing mix of digital platforms**



**Source:** Adapted from TNO et al (2014)

**Price** does not always appear as clearly in the marketing mix of online business models because it is not always profitable to charge a (direct) price to end-users. There is often more to be gained from selling access to the audience to advertisers. The market for **consumers' attention** is highly competitive as consumers find alternative content (legal or illegal) with one click. Instead of engaging in fierce price competition for an audience, online service providers rather compete on the four qualitative dimensions. A service may become unique in the eyes of end-users by successful differentiation; offering exclusive content plays an important role here. When consumers are less inclined to search for alternatives (or alternatives are not available) the service provider can charge user fees (e.g. Netflix). In these cases, price can be added to the above marketing mix.

### The role of user data and interoperability

The ability to compete for attention increases if a company has multiple platforms in different areas and creates synergies by linking them through user data. Consumers using various services from only one company (such as email, cloud computing, social networking, and web searching) allow this company to develop very detailed user profiles. The company can **use these profiles** to optimise the experience for end-users.

**Advertisers** are offered a **one-stop-shop** that allows for targeted ad campaigns to specific end-users and reach those end-users independent of what kind of service/platform they use. For example, consumers may search for a restaurant in Paris by using a search

engine, geolocation (or maps) services, social media, or something else. For advertisers it is therefore interesting to target their efforts at one or a few companies that offer multiple services/platforms.

By combining user-data from multiple platforms, a multi service/platform operator can optimise the experience for both end-users and advertisers. As such, digital platform operators aim at making themselves indispensable for both end-users as well as advertiser and place themselves in a **gatekeeper position**.

### The role of innovation

It is not difficult to enter the digital economy with an innovative business model or a new technology, the challenge is to survive. Chances of success are unclear and there are perhaps more failing initiatives than successful ones. However, among these potentially unsuccessful initiatives, there may be a disruptive innovator<sup>25</sup> who in the future will threaten today's business models<sup>26</sup>. This threat drives digital companies to prepare for the unexpected through constant innovation in all possible areas: new techniques, new products, new sales channels, new customers, etc.

Digital platforms can become very large and important when network effects are strong enough and are combined with high switching costs for end-users. However, a strong (dominant) position creates additional incentives for others to innovate and to contest that position by disrupting the market<sup>27</sup>.

As both incumbents and entrants constantly innovate, **the boundaries of the market are constantly redefined**.

#### 2.2.3. Role of Internet Service Providers (ISPs)

ISPs play an essential role in the value web as the access network to reach a consumer is difficult to bypass. As such, ISPs have a degree of bottleneck control over access to the end user<sup>28</sup>. ISPs are in a position to prioritise the data streams from some services over those of other services; they can even block services. ISPs may have reasons to throttle data streams, but they may also have reasons not to do so.

A reason to prioritise or block data streams is that some of the OTT services are substitutes for and compete with traditional services offered by ISPs and therefore erode traditional revenue streams. ISPs can block competing services, either traditional or new digital services, or degrade access to such services in order to retain existing customers or attract new consumers.

Another reason to prioritise some data streams over others is to **manage congestion**<sup>29</sup>. Congestion is caused by the growing number of services that are provided over the internet, as well as the growing size of the data that is needed to enhance the quality of

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<sup>25</sup> 'Disruptive innovation', a term of art coined by Clayton Christensen, describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors' <http://www.claytonchristensen.com/key-concepts/>.

<sup>26</sup> The threat of innovators disrupting existing markets is greater in digital markets than in other market because of Moore's law: the computing power capacity of a chip doubles every two years, while the costs of producing it remain the same or even go down.

<sup>27</sup> An example is the rise of the web browser and later the smartphone, both challenging the dominant position of Microsoft.

<sup>28</sup> Where the retail market for Internet access is not effectively competitive, the control may be enjoyed by the network operator rather than the ISP but the effect is much the same.

<sup>29</sup> See Box 1 in Section 2.1.1.

these services<sup>30</sup>. The alternative to data prioritisation would be to invest at large-scale in network capacity<sup>31</sup>.

A reason not to engage in throttling of data is that new digital services are complementary to the broadband access service offered by ISPs. They enhance the value of the broadband access service to the end-user. While the appeal of broadband access to the ISP's customers enhances, these customers are (most likely) willing to pay more for that service<sup>32</sup>. Throttling the data streams of these services reduces the experience for end-users and hence the value they place on having access to the internet.

### 2.3. Implications for competition

The specific characteristics of the sector as described in the previous sections result in specific ways in which players on digital markets compete.

#### 2.3.1. Competition among digital platforms

##### **Innovate to compete**

Digital platforms benefit from network effects and scale economies. As a result, markets can tip into a situation that resembles winner-takes-all<sup>33</sup>. At the same time, these big platforms face competitive pressure from new products and new business models that see opportunities to differentiate by responding to the heterogeneity of consumer preferences. Moreover, the challengers have an increasing variety of ways to reach end-users<sup>34</sup> which makes it easier for them to bypass gate keepers. The competitive pressures force large platforms to keep on innovating themselves. Even when some digital platforms are considered to be near monopolists, they can hardly afford to relax. If they do not innovate, they will be replaced by others (leapfrogging of dominant firms).

##### *Innovate to enter new markets*

In platform markets, a firm may innovate to strengthen its position in various related markets. The prime objective is not to directly extract profits by leveraging monopoly power, but to integrate services/platforms in order to develop synergies across those platforms by using end-user data profiles<sup>35</sup>.

##### *Innovate to defend current market positions*

Innovations can simultaneously be a tool to leverage and to defend a market position. For example, consider the manufacturer of a device (e.g. a smartphone) and an operating system (OS). After strengthening its position in the device/OS market through innovation, the manufacturer can leverage its financial resources into adjacent markets (like a music streaming platform). For the same reason and at the same time the innovations serve to

<sup>30</sup> Consider video quality improving from regular or Standard Definition (SD) to High Definition (HD) and three dimensional (3D). Every quality increase involves more data and hence requires more bandwidth.

<sup>31</sup> Alternatively, the online content provider (e.g. Netflix) could compress the data more, but this goes at the expense of the quality. When congestion is very high or when the ISP were to charge Netflix for passing through the signal (in the absence of net neutrality rules), Netflix may have more incentives to invest in better compression techniques.

<sup>32</sup> The degree of enhancement varies from end-user to end-user, depending on the intensity of use of new services and the range of such services accessed.

<sup>33</sup> In other words, it would result in all consumers using the services and platforms of a single company.

<sup>34</sup> More routes are available when consumers tend to *multi-home* (i.e. make use of various competing platforms). Moreover, challengers not only make use of the existing routes in the value web, they create new routes as well (like Apple did when it invented the App store).

<sup>35</sup> See Section 2.2.2.

defend the market position for in case dominant players from adjacent markets intend to leverage their financial resources into the OS/device market. A prime example of a firm that uses its financial strength to leverage and/or defend its market position is Amazon. The company has so-far retained all profits and re-invested these in its business case(s)<sup>36</sup>.

### Control over personal data to improve service quality and to lock-in end-users

Digital platform operators place themselves in a gatekeeper position by using personal data to create synergies<sup>37</sup>. The strategic role of personal data gives rise to different strategic valuations of interoperability<sup>38</sup> at different stages of a company's maturity. Small service providers as well as (potential) market entrants tend to prefer interoperability. Interoperability allows small service providers to quickly generate a large customer base. Consumer can switch more easily between different platforms and even use multiple platforms simultaneously (also referred to as *multi-homing*). Large multi-platform companies may not favour interoperability. The lack of interoperability prevents multi-homing and helps large platforms to maintain their market position by creating/maintaining/raising entry barriers that result from network and lock-in effects. Without interoperability large incumbent platforms face a lower threat of entry and have fewer incentives to keep on innovating<sup>39</sup>.

### Control the access to technology

Another potentially powerful gatekeeper position involves the control over access to technology. As such, patents play a prominent role in the battle for the leadership in OS market as they grant control over access to technology and standards (see Box 3 below).

#### Box 3: Role of patents in the competition between operating systems

Devices need to be technologically designed to support the provision of services; vice versa, technological solutions used for providing services need to be compatible with the technological specifications of the devices. The development of the smartphone allowed consumers to use their phone for accessing a much wider variety of services than just making a phone call. But this required vendors to develop/incorporate operating systems to act as a user-friendly interface for a large number of application developers. This interface makes it easier to develop apps that are interoperable with the technological specifications of the devices.

For device manufacturers and for the service providers it is essential that all devices are interoperable with each other, i.e. that they can communicate with each other. Devices communicate on the basis of technological standards (like GSM, UMTS and LTE). Standards are based on a combination of patented technologies owned by different parties that were involved in setting the standard. The patents on these fundamental technologies are called **Standard Essential Patents (SEPs)**. When standards comprise multiple technologies, the adoption of a standard requires licensing in multiple

<sup>36</sup> It is often stated in the news that Amazon makes no profits. It does not mean that the company breaks even with all its operations. Amazon simply re-invests all the margins they make in market A to grow in market A or in market B.

<sup>37</sup> See Section 2.2.2.

<sup>38</sup> Networks are interoperable if user profiles can be transferred easily from one platform to another. For example, when creating a new account in Netflix, you get the option to use your Facebook account.

<sup>39</sup> Only when another platform is highly complementary, large platforms may prefer being interoperable. For example, the option to integrate your Facebook and Netflix accounts, allows both companies to use each other's user profiles for optimising their service. Facebook can sell better advertisement spaces. Netflix can better help viewers with 'suggestions' for other content they might like.

SEPs from multiple owners. Each SEP owner controls access to the standard. In order to prevent the abuse of controlling access to the standard once the standard has turned out to be a success, the owners of SEPs commit to licensing out on the basis of Fair Reasonable and Non-Discriminatory (FRAND) terms.

Since OS developers typically own a wide portfolio of SEPs, they have to license in/out SEPs from/to each other. Monetary payments often balance out in these cross-licensing deals. As such, building up a SEP portfolio is like paying a lump sum fee for accessing technology, rather than having control over access to technology. Parties that do not own SEPs also have access to standard essential technologies, but they have to pay a fair and reasonable per-unit price.

Next to SEPs, OS developers may own **design patents**. Design patents can be highly valued and appealing for consumers<sup>40</sup>. Owners of such patents never commit to FRAND terms because, contrary to SEPs, design patents can be used without having to license in other patented designs or technologies<sup>41</sup> and because design patents are rarely essential for entering a market.

A company with a large portfolio of so-called appealing design patents, but with little or no SEPs, can license in SEPs at FRAND terms but is free to deny a competitor access to its design patents. As such, design patents may be of much higher strategic value than SEPs.

### 2.3.2. Competitive pressures on Internet Service Providers (ISPs)

Internet Service Providers need to review their earning models as traditional revenues from telephony and TV services are in decline. At the same time, investments in broadband capacity are required to prevent congestion.

More revenue may result from charging higher prices to end-users for broadband access services. This seems an attractive option for the ISP, given the enhanced appeal of broadband access to the end-user arising from the rapid growth in OTTs. When competition among ISPs is effective and end-users have the ability to switch to alternative access routes, the ability to sustain high retail price rises is limited<sup>42</sup>.

ISPs may try to create new revenue streams by charging digital service providers for getting premium access (e.g. to prioritise their data). Ultimately, in the absence of an agreement, between the ISP and digital service providers or between the ISP and consumers, the ISP could seriously degrade or block access to such services. A large OTT platform with a considerable number of users has countervailing bargaining power and can perhaps wait for the ISP's strategy to fail<sup>43</sup>. But start-ups and less popular OTTs may have less countervailing power and face the choice of paying for premium access or being unable to access one group of potential customers. In general, the ability of ISPs to charge for

<sup>40</sup> E.g. Apple's slide gesture which was used in the generation of industry-widely copied *slide to unlock* feature of handsets.

<sup>41</sup> As such, there are no multiple parties that can each individually block access to a technology and thereby impose an externality on other patent holders in the form of reduced demand for patents.

<sup>42</sup> ISPs may also seek to reduce the size of the free data available in a user's regular subscription without reducing the subscription price. However, this is just a disguised form of price rise and is subject to the same constraints described above.

<sup>43</sup> Especially since at least some of its customers will be able to get access to its OTT via other routes.

data prioritisation is limited when there is effective competition between ISPs, resulting in a sufficient number of customers that would switch to other ISPs<sup>44</sup>.

In a competitive broadband access market, throttling or blocking data may not be a reprehensible practice and specific net neutrality rules may not be necessary. The extent of control depends on several factors. It depends on how much value the end-user places on the digital services and on whether or not the ISP's own competing services are a reasonable substitute. The extent of control also depends on whether the customer can switch easily to another ISP without significant penalty and whether in practice the user has a choice of access route to the services of most value (e.g. via independent fixed and mobile subscriptions).

Where **bottleneck control** begins to have a significant adverse impact on end-users, there is an indication that competition between ISPs is not fully effective.

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<sup>44</sup> The success or failure of such a charging strategy depends on the relative balance of market power between ISP and OTT provider and on the ability and willingness of end-users to obtain access to the OTT by other routes. So far not many specific net neutrality incidents have been reported by NRAs in Europe (see BEREC 2014, BoR (14) 60).

### 3. COMPETITION POLICY IN THE DIGITALISED ECONOMY

On the basis of the questions raised by the ECON Committee<sup>45</sup> we discuss ten problems specifically related to the characteristics of the digital markets that are either caused by or result in a competition problem. In a further step we analyse whether these problems should be addressed by competition instruments or whether a problem is better addressed by different policies. For this purpose we develop a practical decision tree.

#### 3.1. Ten competition problems related to the digitalised economy

##### 3.1.1. Digital monopolies can hamper competition and innovation

Despite the dynamic market interactions in the digital economy, there is a concern that successful digital firms tend to become giants with considerable market power. Because competition resembles a winner-takes-all game, a market can tip and first-mover advantages make huge differences. It may be of equal importance to prevent others from being the first i.e. to **prevent entry into future markets**.

A firm may anticipate to future market entry by innovating, which is clearly to the benefit of end-users. Alternatively, a firm may acquire a company with an innovative technology/service. Such acquisition can also benefit end-users. For once because the prospects of being acquired invites small companies to innovate. Another potential benefit is that the larger firm typically selects those innovations that can better flourish within the sphere of activity of the larger firm, rather than on their own. A reason is for example that those innovations may have complementarities with other services being offered by the larger firm.

There is a risk that an acquisition has the sole purpose of **eliminating** the most threatening potential competitors or blocking potential alternative routes to end-users. In other words, its sole purpose is to prevent future competition by strangling it at birth. Such mergers which prevent innovations from being marketed or discourage innovations can be referred to as **pre-emptive mergers**<sup>46</sup>.

It is difficult to distinguish anti-competitive motives from normal business strategies; particularly because it involves future markets. In competition cases views may differ, which is illustrated by the dissenting statement by one of the FTC Commissioners that accompanied the FTC's decision to allow the Google/DoubleClick merger (see Box 4). Competition authorities may need to stick to a prudent enforcement of competition law.

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<sup>45</sup> The ECON committee specified the following questions:

- What are the problems/challenges for competition policy and in what sector do they apply?
- Are the current instruments to enforce competition sufficient to reach the target?
- What would be necessary to solve the problems/meet the challenges in the respective sectors?

The ECON committee expressed a number of specific areas for investigation. These were, amongst others, about tax planning, digital monopolies, access to radio spectrum, application of State aid to network investments, problems with patents, etc.

<sup>46</sup> The term *pre-emptive merger* was coined by Fishman (1988) where he developed a model to explain why some acquiring firms open with a bid with which they clearly overpay relative to the increase in the joint profits of the combined firms. The main driver is to pre-empt any rival firm's bid and to avoid an even larger profits loss resulting from a rival taking over the acquired firm.



#### Box 4: **Dissenting Statement of Commissioner Pamela Jones Harbour in Google/DoubleClick (F.T.C. File No. 071-0170)**

The acquisition of DoubleClick by Google in 2007 caused several concerns of foreclosure. Besides being active in online search, Google provides online advertising space on its webpages, as well as online advertisement intermediation services for both publishers and advertisers. At the time of the merger, DoubleClick was the leading provider of an ad-serving technology that ensures that specific ads appear on the right spaces of a webpage. The technology allows publishers and advertisers to better manage ads and to measure their performance.

There were concerns that the combination of Google's and DoubleClick's assets, in particular databases, could allow the merged entity to achieve a dominant position and hinder competition. However the FTC concluded<sup>47</sup> that the companies are not direct competitors in any relevant antitrust market; that, in the absence of the merger, a potential entry of Google in the third party ad-serving markets likely would not have a significant impact on competition; and that it is unlikely that Google could effectively foreclose competition in the related ad intermediation market following the acquisition<sup>48</sup>.

Eventually the U.S. FTC approved the Google/DoubleClick merger, but not all Commissioners unanimously agreed. Commissioner Pamela Jones Harbour issued a dissenting statement (F.T.C. File No. 071-0170) stating *'I dissent because I make alternate predictions about where this market is heading, and the transformative role the combined Google/DoubleClick will play if the proposed acquisition is consummated'*. She explained *'I have reason to believe that the proposed acquisition may substantially lessen competition [because] the parties likely would have competed head-to-head in the market for third party ad-serving tools. Google was developing and beta-testing its own third party ad-serving solution [...] which would have competed against [DoubleClick]. Development efforts ceased once the proposed acquisition of DoubleClick was announced. It is difficult to believe that Google [...] would have been unable to refine its beta product and release a highly competitive third party ad-serving solution of its own. [...] In addition, Google's vertical integration via internal development would have created its own synergies, which calls into question the merger specificity of any synergies that may result from Google's acquisition of DoubleClick.'*

See also Box 15 on market definition relating to the same case.

In order to foreclose future markets, a large platform can use its market power for **defensive leveraging**. Defensive leveraging is not about reaping additional monopoly rent from a second market, but it is an attempt to **defend the primary monopoly position**. For example, in the 1990's, Microsoft's position was uncontested for considerable time because of its dominant position in the market for operating systems. Microsoft controlled the compatibility of applications and services from other companies with its own operating system. The internet and the web browser then introduced an alternative route for competitors to deliver their services and applications to end users. Instead of trying to develop a better browser and thus to compete on merits it tried to counter that threat by

<sup>47</sup>

F.T.C. File No. 071\_0170, see [https://www.ftc.gov/system/files/documents/public\\_statements/418081/071220googledc-commstmt.pdf](https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf).

<sup>48</sup>

<https://www.ftc.gov/news-events/press-releases/2007/12/federal-trade-commission-closes-googledoubleclick-investigation>.



leveraging the market power it enjoyed in the OS market into the market for web browsers (see Box 5).

**Box 5: Commission decision Microsoft (tying) (COMP/C-3/39.530)**

In 2007 the Commission opened an investigation into an alleged abuse of a dominant position by Microsoft (COMP/C-3/39.530)<sup>49</sup>. The investigation followed a complaint by Opera Software ASA<sup>50</sup>. Microsoft was accused of leveraging its market power in the market for operating systems into the market for web browsers. The complaint was similar to the US case involving Microsoft and Netscape<sup>51</sup>.

Microsoft was found guilty of anti-competitive behaviour in the form of tying its own web browser (Internet Explorer) to its Windows OS. Neither computer manufacturers nor end users could technically or legally obtain Windows OS without Internet Explorer. Microsoft's conduct ensured a ubiquitous presence of its web browser on PCs world-wide and did not allow competing web browsers to be pre-installed. Alternative web browsers could only be installed by distributors or users **in addition** to Internet Explorer.

The Commission argued that Microsoft's behaviour resulted in foreclosure of competition on the market for web browsers. Microsoft had a considerably larger market share than its competitors. The Commission argued that, because of a certain degree of users' inertia, it required additional effort on behalf of distributors, vendors, and/or users to switch to using other browsers.

Ultimately, tying of Internet Explorer to Windows OS limited innovation in web development because it created artificial incentives for web developers and software designers to optimise their products for Microsoft, which was unrelated to the relative merits of its product.

Attempts to foreclose future markets are worrying when it allows large and powerful digital companies to **compete on other things than merits and/or when it prevents others (notably SMEs) from competing on merits**. In digital markets where competition is based on innovation (see Section 2.2.2) there are concerns that such behaviour slows down the development of new products, services or business models.

### 3.1.2. Digital monopolies can monopolise other markets

Digital business models compete by integrating services/platforms and find synergies through the use of user profiles. This strategy may result in a tendency to leverage market power into other (upcoming) platforms. Such **offensive leveraging strategies** are about reaping additional monopoly rents from a second market.

One should be careful about qualifying offensive leveraging as an unwelcome attempt to monopolise adjacent markets. Many digital monopolies are natural born innovators and when they use their deep pockets or their big data to gain a foothold in other industries, they often do this by competing on their merits. A welcome consequence is that incumbents in these industries are urged to innovate as well. For example, car manufacturers, producers of consumer electronics, or energy grid operators are well aware of the digitalisation of their industry; as well as the threats (i.e. potential leveraging by

<sup>49</sup> [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/39530/39530\\_2671\\_3.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/39530/39530_2671_3.pdf).

<sup>50</sup> Opera develops web browsers for client PCs, mobile phones and embedded device operating systems.

<sup>51</sup> *United States v. Microsoft Corporation*, 253 F.3d 34 (D.C. Cir. 2001), <http://law.justia.com/cases/federal/appellate-courts/F3/253/34/576095/>.

digital platforms) and the opportunities in the form of opening up entire new innovation paths. The incumbents in these industries are pushed to compete on their merits by innovating themselves.

Leveraging is **worrying when it hinders competition on the merits** because one party has gained control over an essential facility, input, interface or platform, or over essential information. The complaints made about Google in relation to manipulating search results and imposing exclusivity obligations on advertising partners at the expense of competing services may fall under this category (see Box 6). Also the anti-trust violations by Microsoft, relating to the refusal to supply essential information<sup>52</sup> as well as to tying its Media Player to its operating system (see Box 7), are examples of anti-competitive offensive leveraging.

**Box 6: Commission investigation Google Search (Case AT. 39740)**

Press statement IP/10/1624<sup>53</sup>: *Commission probes allegations of antitrust violations by Google*

*'In 2010 the Commission opened an investigation following complaints by search service providers about unfavourable treatment of their services in Google's unpaid and sponsored search results coupled with an alleged preferential placement of Google's own services.*

*Google's internet search engine provides for two types of results when people are searching for information. These are unpaid search results, which are sometimes also referred to as 'natural', 'organic' or 'algorithmic' search results, and third party advertisements shown at the top and at the right hand side of Google's search results page (so-called paid search results or sponsored links).*

*The Commission will investigate whether Google has abused a dominant market position in online search by allegedly lowering the ranking of unpaid search results of competing services which are specialised in providing users with specific online content such as price comparisons (so-called vertical search services) and by according preferential placement to the results of its own vertical search services in order to shut out competing services. The Commission will also look into allegations that Google lowered the 'Quality Score' for sponsored links of competing vertical search services. The Quality Score is one of the factors that determine the price paid to Google by advertisers<sup>54</sup>.*

*The Commission's probe will additionally focus on allegations that Google imposes exclusivity obligations on advertising partners, preventing them from placing certain types of competing ads on their web sites, as well as on computer and software vendors, with the aim of shutting out competing search tools. Finally, it will investigate suspected restrictions on the portability of online advertising campaign data to competing online advertising platforms<sup>55</sup>.'*

<sup>52</sup> That was indispensable for interoperability between Windows PCs and non-Microsoft powered work group servers.

<sup>53</sup> [http://europa.eu/rapid/press-release\\_IP-10-1624\\_en.htm?locale=en](http://europa.eu/rapid/press-release_IP-10-1624_en.htm?locale=en).

<sup>54</sup> The Quality Score influences the likelihood of an ad to be displayed by Google and its ranking. If two advertisers are using the same key words, the site which has a lower Quality Score will have to offer a higher price to rank at the same place.

<sup>55</sup> An online advertising platform is a virtual marketplace that brings together advertisers and publishers offering advertising space on the internet.

**Box 7: Commission decision Microsoft (Case COMP/C-3/37.792)**

In 2000 the European Commission started an investigation on potential anti-competitive conduct by Microsoft. There were two main issues: (1) Microsoft was accused of refusing to supply information indispensable for interoperability between Windows PCs and non-Microsoft powered work group servers; and (2) Microsoft was accused of tying its Windows Media Player to its Windows operating system with the aim of preventing rival media players from being installed under Windows and to foreclose competition.

The Commission's investigation established that Microsoft had indeed used its dominant position on the market for client PC operating systems as a leverage to expand its position of market power to the markets for work group server operating systems and for media players<sup>56</sup>.

The General Court upheld the Commission's finding that Microsoft violated Article 102 TFEU<sup>57</sup>. Microsoft's refusal to supply information (that was indispensable for interoperability) allowed it to undermine fatally the economic viability of potential entry into the market for work group server operating systems, to eliminate all effective competition there, and to hamper technological development of all relevant services involved. Also on the market for media players Microsoft was found guilty of **violating Article 102 TFEU by leveraging its dominant position** by presenting its media player as a constituent part of Windows and not as software application.

**3.1.3. Digital monopolies have an incentive to lock-in customers**

The integration of multiple platforms through user data creates synergies that both consumers and advertisers benefit from, but at the same time it also creates **lock-in effects for both parties**.

Consumers get used to services they like. Once these services have become an integral part of their daily lives, they are less willing to switch to other services. They are even less willing to switch when the experience of an individual service (e.g. using a search engine) depends on using other services (like email, geolocation services, or social media services, for example switching between the clouds of Apple and Microsoft). The use of personal data profiles causes this effect. Any limits to transferring these data to a competitor impose switching costs for consumers. In a way, **consumers lock themselves in by providing their personal data**<sup>58</sup>.

Advertisers develop campaigns to reach as many end-users as possible, independent of what kind of service they use. Developing such a multi-service/multi-platform ad campaign is a complex issue, even if these multiple platforms are operated by one single company. Large firms may run multi-platform ad campaigns with more than one company. Smaller firms, however, may find the investment too high and stick to only one. Smaller companies experience relatively high switching costs when switching means that they need to develop the ad campaign all over again. This problem was extensively analysed in the Google/DoubleClick case (see Box 8 below).

<sup>56</sup> [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/37792/37792\\_4177\\_1.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/37792/37792_4177_1.pdf).

<sup>57</sup> Case T-201/04, Microsoft Corp. v Commission, ECR [2007] II-3601; <http://curia.europa.eu/juris/liste.jsf?language=en&num=T-201/04>.

<sup>58</sup> Consumers are often not aware of the fact that they lock themselves in. Even when they try using competing services and experience that these do not function as well as the previous service, consumers in most of the cases do not understand the reasons behind.

Internet platforms have an incentive to move away from interoperability and **raise switching costs** once they have reached a critical mass. Switching barriers prevent customers (advertisers, content providers and consumers) from voting with their feet and thereby lessen competition. Moreover, being locked-in makes end-users susceptible to potentially exploitative practices by the owner of the platforms in terms of excessive pricing or misusing personal data<sup>59</sup>.

**Box 8: Commission decision Google/DoubleClick (COMP/M.4731)**

The possibility of locking-in and subsequent exploitation of advertising clients was extensively analysed by the European Commission in the Google/DoubleClick case (COMP/M.4731)<sup>60</sup>. Ad-serving technology is a key input in intermediation services and is also necessary for direct sales of ads. If the level of switching costs is high, customers are less likely to change between the suppliers of this technology in case of price increases, quality degradation or bundling.

In the case of ad-serving the Commission established that switching costs, including the training of personnel, re-tagging and transfer of data, were manageable. The frequent examples of actual switching and renegotiation of contract terms with DoubleClick to obtain lower prices were evidence to this. Moreover, when ad-serving was acquired separately by publishers and advertisers, its cost represented a negligible part of the total advertising costs/revenues (under 5%). For ad networks that offered intermediation services and acquired ad-serving separately, the costs were slightly higher.

The Commission found a distortion of competition unlikely, given the evidence on switching and the high degree of competition on ad-serving tools.

#### 3.1.4. Privacy and data protection

Access to digital platforms often seems to be free of charge, but by providing the platform operators with personal data consumers do at least pay a price in terms of switching costs. There are further ways for digital firms to capitalise on private information.

Consumers are not always aware that digital service providers **collect, analyse and market private data**; nor are consumers aware of the security risks involved when that data falls into the wrong hands. Even if consumers are aware, it is not clear to them how firms use or protect the information they retrieve via online transactions.

Firms may use disclosed customer information for purposes that are not in consumers' best interests. For example, health apps from health insurance companies or online payment apps by credit card companies may be used to gather data about a consumer's life style. This information can be used to set discriminatory prices or deny a service. Another example concerns multi-platform operators like Google and Apple who are developing online devices like bracelets, watches, and glasses that can be of great support in managing consumers' lifestyles. At the same time these devices give platform operators all kinds of information about lifestyles. End-users do not know whether that information is sold; or whether all information is safely stored away from hackers who want to sell that information as well.

<sup>59</sup> See also Section 3.1.4 below.

<sup>60</sup> [http://ec.europa.eu/competition/mergers/cases/decisions/m4731\\_20080311\\_20682\\_en.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_en.pdf).

A related issue concerns the question: **who owns the data that is gathered via these apps and services?** Consumer information has become an asset, so it may be of interest to consumers to sell their own personal data directly to the companies<sup>61</sup>. The questions concerning consumer's right to control their own data and also their right for data protection (or the right *'to be forgotten'*) are among the most prominent ones affecting consumer welfare in the digital market environment.

### 3.1.5. Geo-blocking may hamper the Digital Single Market

The Digital Single Market should allow networks to become interoperable across Europe allowing every European to have access to all content and services, everywhere throughout the EU<sup>62</sup>. This view was recognised by Vice-President Ansip in his Digital Single Market speech of 26 November 2014<sup>63</sup>. Absence of network or platform interoperability is not necessarily the main obstacle to the ability to access content everywhere throughout the EU. The ability to access content is often prevented by geographical restrictions imposed by the owners of **Intellectual Property Rights** (IPRs) in the licensing agreements.

In the pre-internet era, there may have been logic for treating regions differently in relation to the marketing and logistics of intellectual properties or **content**<sup>64</sup>. In the digital economy, the logic for treating regions differently no longer exists from a logistical or costs perspective. The internet allows individual artists to market their art to the entire world without the involvement of large production and distribution companies or national collecting agencies<sup>65</sup>. Digital platforms like YouTube, Spotify and Netflix are in a position to replace the nationally oriented supply chains.

From the perspective of the right holders, however, it may still be profitable to maintain regional price differences<sup>66</sup>. Upholding price differences in a market that *'allows material to be duplicated at low cost [and] allows information to be distributed worldwide at basically zero marginal cost to the publisher'* (Bill Gates 1996) requires some measures to **prevent parallel imports**. This is when geo-blocking becomes relevant. Geo-blocking is the practice of preventing users from accessing content based on location. Like the hindrance of parallel trade of medicines, cars, grain or any other good or service, geo-blocking may be found **incompatible with the notion of the Single Market** because it distorts trade and competition<sup>67,68</sup>.

<sup>61</sup> For instance, Handshake (see <http://handshake.uk.com/hs/index.html>) offers an application that allows consumers to negotiate price for their own personal data directly with the companies that are interested in buying the data.

<sup>62</sup> Ecorys, TUDelft, and TNO (2011). Steps towards a truly Internal Market for e-communications - In the run-up to 2020. *Study for the European Commission*, DG Information Society and Media, Brussels, [http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?doc\\_id=2648](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=2648)

<sup>63</sup> [http://europa.eu/rapid/press-release\\_SPEECH-14-2182\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-14-2182_en.htm).

<sup>64</sup> The logic followed from how physical logistical supply chains comprising of distribution companies and collecting agencies were organised around different language regions. Language barriers still exist today, but the organisation of digital logistical supply chains does not reflect different language regions.

<sup>65</sup> Like Dong Nguyen with his App *Flappy Bird* or Psy with his hit *Gangnam Style*.

<sup>66</sup> The regional differentiation in the pre-internet era developed into a tradition of price discrimination, which made the European entertainment market more lucrative compared to the United States. Obviously, IPR owners are interested in maintaining these regional price differences.

<sup>67</sup> The abolition of geo-blocking will be one of the main goals of the European Commission's strategy for the creation of a Digital Single Market, see the statement by Vice-President Andrus Ansip at the press conference on the adoption of the Digital Single Market Strategy [http://europa.eu/rapid/press-release\\_SPEECH-15-4926\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-15-4926_en.htm)).

<sup>68</sup> Rights owners often claim that geo-blocking allows them to protect their legitimate interest to be correctly paid for their art. While the problem perceived by rights holders is related to **illegal piracy**, this argument seems

### 3.1.6. Patents can be used to prevent access to technology

Many communication standards are based on patented technologies. The **lack of clear licensing terms** and a lack of a consistent approach to the enforcement of the rights of patent holders, lead to potential risks of patent injunction. A patent owner may ask a court for an injunctive relief – an order for an alleged patent infringer to stop using the technology protected by the patent in question including manufacturing and selling products on the basis of this technology. Over the past years several manufacturers of communication devices have been seeking injunctive reliefs in cases against competitors.

It is not always clear in patent injunction cases whether the rights of the patent holder are truly violated, or whether the patent holder aims to hinder his competitor by denying access to a technology<sup>69</sup>. For the Court it is important to answer this question, particularly when technologies are involved that are included in a standard. This is because each owner of a SEP controls access to a standard (see Box 3 in Section 2.3.1).

Patent injunction cases that involve SEPs are thus not about denying access to a single technology, but to a standard and as such to an **entire market**. Access to standards is essential for device manufacturers and developers of operating systems (see Box 3 in Section 2.3.1). The tendency towards a *winner takes all* competition between these developers results in an increased chance of litigations requesting injunctive relief in order to prevent competitors from being the first to move.

The owners of SEPs commit to licensing out on the basis of **FRAND terms** in order to prevent the abuse of controlling access to the standard, once the standard has turned out to be a success. But FRAND conditions are not always clear<sup>70</sup>. Bekkers et al <sup>71</sup> show that this leaves room for disagreement either about the level of a fair and reasonable royalty rate or, in the case of cross licensing agreements<sup>72</sup>, disagreement may arise about the question whether one party is allowed to require another party to (a) license out or (b) accept non-SEPs in return for SEPs. The lack of clarity about FRAND conditions results in an increased chance of litigations<sup>73</sup>.

### 3.1.7. Gatekeeper position of Internet Service providers (ISP's) may have a negative impact on market dynamics

Should ISPs be prohibited by law to manipulate (prioritise or block) certain data streams? The reasons for ISPs to engage in this behaviour have been explained in Sections 2.2.3 and 2.3.2. above.

**Net neutrality** is essentially a non-discrimination principle that requires ISPs to treat all

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not strong, as piracy can be effectively faced by other means. On the contrary, one can argue that geo-blocking promotes piracy because if consumers cannot consume the service legally they will more easily consume it illegally. A recent study by Sandive shows for example that the rise of legal streaming services has resulted in less use of illegal download services like BitTorrent, (see Sandive 2014).

<sup>69</sup> To make it even more difficult for judges is not always clear whether a patent is valid.

<sup>70</sup> Jones, Alison . Standard-essential patents: FRAND commitments, injunctions and smartphone wars. *European Competition Journal* 10, 2014, pp. 1-36.

<sup>71</sup> Bekkers et al, Patents and standards: a modern framework for IPR-based standardisation. Report for the European Commission, DG Enterprise and Industry, European Commission, Brussels, 2014 <http://ec.europa.eu/DocsRoom/documents/4843/attachments/1/translations/en/renditions/pdf>.

<sup>72</sup> In cross licensing agreements each party agrees on licensing out a portfolio of patents to a licensor who, in return, licenses out his portfolio of patents. The agreement may involve balancing payments if the portfolios are of unequal size (see also Box 3 in Section 2.3.1)

<sup>73</sup> Bekkers et al 2014, see above.



data equally and not to charge differently by content, platform, application or user<sup>74</sup>. If strictly imposed, net neutrality inhibits ISPs from charging digital platforms for network access. This means that more resources are available for innovation by digital platforms while at the same time the *open internet* lowers entry barriers to digital markets and promotes access of start-up companies.

Proponents of net neutrality are concerned that charging digital platforms for passing through their digital signals has a negative impact on the dynamics of digital markets. The biggest concern is that an obligation to pay for access to customers might strangle at birth the business plans of innovative internet start-ups and consequently deprive users of the next great innovation.

Opponents of net neutrality argue that strict net neutrality rules prevent ISPs from managing congestion and/or limit their options for finding new revenue streams to finance investments in broadband networks. In the end, it is possible that digital platforms and eventually consumers are worse off due to lower service quality.

### 3.1.8. State aid for broadband deployment can disturb markets

The Digital Agenda sets ambitious targets for broadband deployment<sup>75</sup> and relies on market players to realise them. In some rural parts of Europe this is not realistic<sup>76</sup> and governments want to step in with State aid, notably because investment in NGA networks is regarded as having a large positive spill over to economic activities in a region.

There are risks that State aid unnecessarily **disturbs market dynamics**<sup>77</sup>. One of the reasons that State aid may be distortive is that government decisions are not free from lobbying<sup>78</sup>. Lobbying can be distortive if governments are hindered by asymmetric information and are subjected to electoral pressures from particular interest groups.

Under these circumstances, State aid may have the effect of **favouring domestic ISPs** in and **discourage entry** from foreign competitors (who shift profits to their home country). The risk of a bias in State aid increases if governments own shares of local ISPs. The latter is not uncommon in Europe<sup>79</sup>.

These risks generally apply to all matters concerning State aid and are not specific to broadband markets. However, these risks may be particularly high in broadband markets. Electoral pressures may be higher due to the positive economic spill overs, there is a great lack of knowledge among local policy makers about the market dynamics in broadband markets and fibre roll out business cases, and the incumbents often have a strong position

<sup>74</sup> Wu, Tim, Network Neutrality, Broadband Discrimination. *Journal of Telecommunications and High Technology Law* 2, 2003, pp. 141-179.

<sup>75</sup> All households should have broadband access with a bandwidth of more than 30 Mb/s and 50% of the households should have broadband access with a bandwidth of more than 100 Mb/s.

<sup>76</sup> When a region is only thinly populated and only serviced by one single operator despite access regulation by the authorities the costs of rolling out a fibre network are relatively high and the competitive pressure to invest are low.

<sup>77</sup> Buelens et al (2007) explain that the aim of State aid control is 'to identify competition-distorting effects arising from changes in firm-behaviour triggered by the reception of state aid'. Furthermore, they state that '[r]educing the volume of state aid [...] reflects a wide-spread view that a significant proportion of state aid is inefficient and distortive'. A similar view was expressed by Massimo Motta (Chief Economist of DG Competition) in a presentation that he gave during a workshop in the European Parliament on 20 January 2015.

<sup>78</sup> Buelens et al (2007, p. 6) specifies a number of conditions under which uncontrolled State aid would result in an overall increase in welfare. However, Buelens et al concludes that these conditions are rarely met because of (inter alia) asymmetric information on the part of both governments and firms, tight constraints to public budgets, and because government decisions are not free from lobbying, regulatory capture or corruption.

<sup>79</sup> E.g. the Belgian government still holds shares in the Belgian telecom provider Belgacom.

that allows them to better lobby compared to other companies. The Commission has recognised the higher risks to State aid and responded with dedicated Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks<sup>80</sup>.

### 3.1.9. Spectrum auctions potentially raising entry barriers

The allocation of spectrum rights is typically orchestrated by means of an auction. Mobile operators bid against each other to obtain the best possible combination of spectrum rights. The amounts eventually paid for these rights often seem very high (several billions) and may raise concerns about auctions (unnecessarily) creating/raising entry barriers.

Organising auctions is a complex issue and does not guarantee a most efficient outcome (see Box 9). A potential solution to correct these inefficient outcomes is to allow rights holders to trade spectrum in a secondary market. Radio spectrum is however a lumpy good, because it is bought and sold in blocks of frequencies, which lowers market liquidity. So far, the experience with secondary markets is that they do not work<sup>81</sup>. Most spectrum rights are traded through mergers and are thus subject to merger control. The latter is not surprising since selling radio spectrum renders the network equipment useless and hence requires selling the equipment; this practically means selling the entire company<sup>82</sup>.

#### Box 9: Challenges for organising spectrum auctions

One of the factors that make auctions difficult is that **auction design** has to account for many complex game theoretic insights applied to market specific circumstances. E.g. the number of bidders may determine how easily bidders can coordinate their bids; this requires taking particular measures in the design of auctions. Sometimes these measures have unanticipated side effects on the bidding behaviour.

Another problem is that the design of auctions may be so complex that bidders have difficulty in formulating and executing a bidding strategy. Bidders need to hire game theory experts to assist them; and even then it remains complex to form and execute the ideal strategy.

A third problem is that an auction may be designed to serve **multiple objectives**. For example, one objective may be to maximise the total revenues from the auction, while another objective is to invite entry in the market. These objectives can confound each other.

Another reason that auctions may not result in the most efficient outcomes is that, in an ideal world, all relevant frequencies are auctioned at once in order to account for the substitutability and complementarity of different types of spectrum<sup>83</sup>. But not all frequencies become available at the same time, sometimes there are other users (e.g. wireless microphones) who have to move first (this is called *refarming*).

<sup>80</sup> European Commission (2013b), Communication from the Commission. EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks, OJ C 25 of 26.01.2013.

<sup>81</sup> See Van Gorp et al (2012).

<sup>82</sup> In the UK there has been one application for clearing a trade in spectrum rights. This involved a merger. see <http://stakeholders.ofcom.org.uk/spectrum/spectrum-trading/applications/>

<sup>83</sup> There are basically two types of spectrum high spectrum (above 1GHz) and low spectrum (below 1Ghz). Telecom operators need high spectrum to provide enough bandwidth in densely populated areas and low spectrum to realise coverage in less densely populated areas. High and low spectrum are each other's complements. The different frequencies within the low spectrum category (700 MHz band, 800 MHz band, 900 MHz band) are substitutable, provided that equipment is available that is compatible with these frequencies. Similarly, the various frequencies in the high spectrum category (1.8 GHz, 2.1 GHz, and 2.6 GHz) are substitutable. See Van Gorp et al 2010.



### 3.1.10. Tax planning/avoidance potentially distorting competition

Within the boundaries of the law, multinational enterprises often make use of gaps between different tax systems to avoid direct taxes (notably taxes on profits). They do this by tax planning, i.e. by shifting profits to low-tax jurisdictions even if the actual economic activities are not performed there. Tax competition between countries is a root cause of these gaps and, while some jurisdictions may have benefited, this practice seems very likely to have reduced aggregate corporate tax revenue. Moreover, tax competition distorts competition between companies by raising the tax burden for local companies while lowering them for multinationals<sup>84</sup>.

Countries (including European Member States) develop policies to attract foreign direct investments (FDI) in order to promote growth and prosperity. In fact, countries are competing with each other for FDI by differentiating themselves in terms of e.g. quality of infrastructure, quality of the labour force (e.g. in terms of health and education), regulatory burden, and taxes. Because capital is fairly mobile across countries, the competition among countries can be rather fierce, particularly in times of an economic crisis. Many of the differentiating factors on which countries compete, however, involve long term policies that cannot be changed overnight<sup>85</sup>. Taxation is one of the few differentiating factors that can be changed relatively quickly and may even be customised to particular firms or individuals via so-called tax rulings. Fierce competition among countries to attract FDI may therefore translate into tax competition.

Tax competition is harmful if it leads to a race to the bottom on tax rates and/or if it results in an erosion of the tax base. Tax competition thereby lowers public finances and/or shifts the tax burden to less mobile factors of production (e.g. labour) or less mobile companies. Notably SMEs are among those less mobile companies.

Multinational Enterprises (MNEs) can relocate their headquarters or open subsidiaries which can provide for a different profit tax regime. In addition, MNEs can develop transfer pricing regimes to artificially reduce income in high tax countries. For example, when an MNE has a large IP portfolio, it may charge high royalty rates (taxed as income in low tax countries) to its entities located in high-tax countries. MNEs shift the profits away from a high tax country to the low tax jurisdiction; even if no real economic activity is taking place in that jurisdiction. Some jurisdictions promote this behaviour even further by treating intangible assets, which are unrelated to real economic activities and can thus easily be shifted, more generously.

Local SMEs can hardly avail themselves of the options to lower their tax burden in the same manner as MNEs. Tax competition therefore increases the tax burden of SMEs and puts them at a competitive disadvantage vis-à-vis MNEs.

While the **digital economy** does not generate unique base erosion issues, some of its key features **exacerbate erosion risks**. For example, digital companies have relatively many intangible assets that they can easily shift around for tax avoidance purposes. Moreover, digital platforms often have large patent portfolios allowing them to benefit more from generous treatments of foreign source income<sup>86</sup>. Finally, the whole production process is highly centralised and local markets are serviced from a remote location with minimal use

<sup>84</sup> OECD, The Digital Economy, *OECD Hearings*, 2013, DAF/COMP(2012)22. <http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf>.

<sup>85</sup> And competition on infrastructure investments, health and education may benefit society at large. From that perspective, competition among countries for attracting FDI on the basis of these factors is a good thing.

<sup>86</sup> Some tax jurisdictions treat foreign source income more generously than local source income.

of personnel. This opens a wide variety of ways to creatively use transfer prices for tax avoidance purposes.

In 2013, the OECD has developed its Action Plan to address the issue of base erosion and profit shifting (BEPS)<sup>87</sup>, supported by the G20. This project pays special attention to the digital economy as it recognises its effect on the BEPS problem. The European Commission closely follows the OECD/G20 BEPS project and has set up an *Expert group on taxation of the digital economy*<sup>88</sup>. Recently, also the European Parliament has installed a special committee on tax competition (TAXE)<sup>89</sup>. The field of aggressive tax planning is an issue that affects competition law because tax rulings have the potential to be qualified as State aid.

### 3.2. The relation of these problems to competition policy

While the above mentioned problems all somehow relate to competition, not all of the identified problems can or should be addressed by competition policy. Three categories of problems can be distinguished:

1. competition problems that are caused by other policies and should be fixed by amending these other policies;
2. competition problems caused by other policy fields, but other policy fields cannot be adjusted to fix the problem; and
3. genuine competition problems.

#### 3.2.1. When to use competition policy?

A first step in assessing whether a problem should be addressed by competition policy instruments is to analyse whether there is a competition problem. Reference to the objectives and principles of competition policy can guide this assessment. The rule of thumb is that, **if the problem results from flaws or limitations of other policies (e.g. tax laws), the use of competition policy tools is a second-best option**. Solutions are preferred within the realm of those other policies because they are more specifically designed to tackle such problems.

### Objectives and principles of competition policy

Competition policy is primarily a public policy aimed at ensuring that '*competition in the marketplace is not restricted in a way that is detrimental to society*'<sup>90</sup>. To this end, the goals of competition policy are directed at shielding society from harmful competitive behaviour.

One way to assess whether competition is harmful is on the basis of the outcome of the competitive process. For example, some argue that it should primarily be assessed on the

<sup>87</sup> OECD (2013a), Action Plan on Base Erosion and Profit Shifting, OECD Publishing, <http://dx.doi.org/10.1787/9789264202719-en>.

<sup>88</sup> European Commission (2014a), Report by the Commission expert group on taxation of the digital economy (28.5.2014) and European Commission (2014b) the working paper by the expert group (13-14 March 2014). See: [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/gen\\_info/good\\_governance\\_matters/digital/report\\_digital\\_economy.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/good_governance_matters/digital/report_digital_economy.pdf) and [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/gen\\_info/good\\_governance\\_matters/digital/2014-03-13\\_fact\\_figures.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/good_governance_matters/digital/2014-03-13_fact_figures.pdf).

<sup>89</sup> Special Committee on Tax Rulings and Other Measures Similar in Nature or Effect (TAXE), <http://www.europarl.europa.eu/committees/en/taxe/home.html;jsessionid=507250023992BD3541AAD66A6C0F6D99.node2>.

<sup>90</sup> Motta, M., *Competition Policy: Theory and Practice*. Cambridge: Cambridge University Press, 2004.

basis of consumer welfare<sup>91 92</sup>. Others have argued that it should be assessed on the basis of the broader concept of economic efficiency<sup>93</sup> which has different dimensions<sup>94</sup>. Recently innovation (or dynamic efficiency) gained in significance in the relevant debates and practices of antitrust enforcement in the USA, especially in the internet-related context<sup>95 96</sup>.

Another way to distinguish harmful from beneficial competition is on the basis of assessing whether the competitive process is free from any obstacles arising from the behaviour of public agents or more powerful private actors<sup>97,98</sup>. As such, economic freedom and fairness in competition are two goals of competition policy that can be traced to the origins of European integration<sup>99</sup>.

### Relation with other policy fields

Competition policy cannot serve its objectives in isolation from other policies; particularly if a competition problem results from flaws or limitations of other policies.

For example, suppose that property rights of asset X are not clearly defined by law and a company claims sole ownership over that asset. The objectives of competition policy are harmed if the claim of the company restricts competition in the marketplace in a way that is detrimental to society. But since the problem is caused by how property rights have (not) been defined, the problem should be solved by fixing property right laws and not by competition policy/law.

Sometimes it is difficult to adjust other policies because of practical/political reasons (e.g. when the subsidiarity principle requires Member States to coordinate and they fail to do so). In such cases we may have to rely on competition policy as a second-best alternative to deal with resulting competition problems, but the option for using competition policy tools should be critically assessed for their **proportionality**.

### A decision tree to assess whether to use competition policy tools

We develop a practical decision tree for assessing whether it is appropriate to use competition policy tools for addressing a particular problem. The decision tree is based on the previous sub-sections.

Figure 5 below schematically presents each of these steps in a decision tree.

<sup>91</sup> Jones, Allison and Brenda Sufrin, *EU Competition Law: Text, Cases & Materials*. Oxford University Press, 2011.

<sup>92</sup> Consumer welfare is to be understood as the welfare of all direct and indirect users (including intermediary customers, not only private end-users).

<sup>93</sup> Monti, Giorgio, *EC Competition Law*. Cambridge: Cambridge University Press, 2007.

<sup>94</sup> If refers to productive efficiency (translating into lower costs), allocative efficiency (which translates into lower prices), and dynamic efficiency (translating in new products, processes and/or business models). Moreover, the Commission regards efficiency as an intermediary goal and an instrument to achieve consumer welfare (Parret 2012, p. 68-69). Both in the doctrine and in practice, the exact meaning of 'economic efficiency' is contested (productive, allocative, and dynamic) (Lianos 2013).

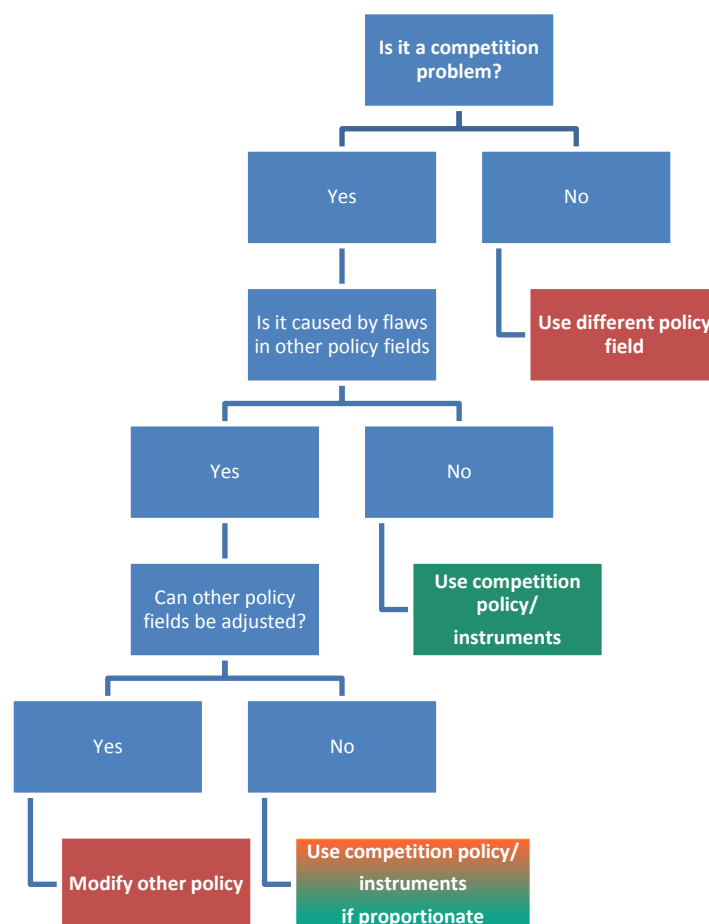
<sup>95</sup> Baker, Jonathan, Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation. *Antitrust Law Journal* 74, 2007, pp. 575-602.

<sup>96</sup> Shelanski, H., Information, Innovation and Competition Policy for the Internet. *University of Pennsylvania Law Review* 161,2013, pp. 1663-1705.

<sup>97</sup> Whish, R., and D. Bailey, *Competition law*. Oxford University Press, 2012.

<sup>98</sup> Geradin, D., N. Petit, and A. Layne-Ferrar, *EU Competition Law and Economics*, Oxford University Press, 2012.

<sup>99</sup> Preamble to the Treaty establishing the European Economic Community of 25 March 1957, p. 2 'recognising that the removal of existing obstacles calls for concerted action in order to guarantee steady expansion, balanced trade and fair competition'; [http://ec.europa.eu/archives/emu\\_history/documents/treaties/rometreaty2.pdf](http://ec.europa.eu/archives/emu_history/documents/treaties/rometreaty2.pdf).

**Figure 5: Decision tree for assessing the need for competition policy intervention**

The first step (analyse whether a problem is a competition problem) should be based on an assessment of whether competition in the marketplace is restricted in a way that is detrimental to society.

### 3.2.2. Problems to be addressed by other policy fields

If companies gain unfair competitive advantages by breaking or avoiding certain non-competition rules (like tax laws or privacy legislation), this should be dealt with within the scope of that particular law/policy field. Accordingly, specific legislation is typically required to deal with public interests and market failures that are not primarily problems of market power.

Three of the above mentioned ten competition problems fall under the category of problems that need to be addressed by other policy fields. These are the problems related to privacy and data protection, to geo-blocking, and to spectrum auctions.

#### Privacy and data protection

The problems we identified with privacy and data protection in Section 3.1.4 are not caused by or cause a competition problem. These problems concern a lack of transparency on how the data is used, the possibility that the data is used against consumer's best interests, a possible theft of data, and a lack of clarity on who owns the data.

Following our decision tree, we can stop our analysis here. This conclusion is confirmed by the Commission in the Facebook/WhatsApp merger (see Box 10). When Facebook acquired

WhatsApp, concerns were raised about data protection and privacy. After examining the concentration under the EU Merger Regulation, the Commission confirmed that '*privacy-related concerns following from [...] the transaction **do not fall within the scope of the EU competition law rules** but within the scope of the EU data protection rules*'<sup>100</sup>.

We noted earlier, however, that the use of personal data for creating synergies across platforms may create a competition problem as it may lock-in end-users and advertisers (see Section 3.1.3). The Commission expressed similar worries in the Facebook/WhatsApp merger case, but dismissed these worries for being unlikely to materialise (see Box 10). The Commission could also have argued that this concern was not a problem for competition policy to solve. As we concluded in Section 3.1.3 the competition problem is primarily caused by the lack of interoperability between platforms which is **caused by a lack of data portability**. It follows that the potential competition problem can perhaps be fixed/mitigated by amending data protection regulation. In fact, Article 18(2) of the Commission's proposal for the General Data Protection Regulation<sup>101</sup> introduced data portability as a right to transfer one's own data from one platform to another (commonly-used electronic format). This would have had a great positive impact on the interoperability between platforms and hence the competitive process<sup>102 103</sup>.

**Box 10: Commission decision Facebook/WhatsApp (COMP/M.7217)**

When Facebook acquired WhatsApp, concerns were raised in relation to data protection and privacy. Both companies offer applications (WhatsApp and Facebook Messenger, respectively) for smartphones that allow users to communicate by sending text, photo, video and audio messages. Facebook also provides online advertising services on its social networking platform. The data for the purposes of online advertising is collected regarding the users of the social networking platform who are the same users as the Facebook Messenger users because the messaging service is available only with a Facebook account.

WhatsApp had a strict privacy and data protection policy: it stores only limited information about its users that is necessary for connection and transmission of messages and does not use it for advertising purposes. The fear was expressed that Facebook might change relevant WhatsApp policies – as happened when Facebook purchased Instagram in 2012. WhatsApp messaging data is perceived to be of high value because, by comparison to the more public platform of Facebook, WhatsApp contacts are more permanent and close, and the information shared is more accurate.

When examining the concentration under the EU Merger Regulation<sup>104</sup>, the Commission clearly defined the reach of competition law rules in this regard. It stated that '*any privacy-related concerns flowing from the increased concentration of data*

<sup>100</sup> See para. 164 of the Commission decision COMP/M.7217– Facebook/WhatsApp; [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

<sup>101</sup> Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data, COM (2012) 11 final of 25 January 2012. Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52012PC0011>.

<sup>102</sup> This effect was not specifically accounted for in the Commission's impact assessment.

<sup>103</sup> The European Parliament amended the text and merged the portability right into Article 15 as the 'right of access and to obtain data for the data subject' which grants an individual the right to obtain a copy of its personal data in a 'commonly used, electronic and interoperable format'. The European Parliament made some further qualifications and exceptions to portability.

<sup>104</sup> [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

*within the control of Facebook as a result of the transaction do **not fall within the scope of the EU competition law rules but within the scope of the EU data protection rules***<sup>105</sup>. The accumulation of data by Facebook was analysed in so far as it could strengthen Facebook's position on the market for online advertising services. The Commission dismissed competition law concerns in this regard because both introduction of advertising on WhatsApp and use of WhatsApp data to improve targeting of Facebook advertising were found unlikely.

## Spectrum allocation

The problem identified in Section 3.1.9 (spectrum auctions creating/raising entry barriers) is a potential competition problem. The problem seems to be caused by how governments allocate spectrum rights via auctions. But this is not entirely correct. The problem is more fundamental and caused by the scarcity of radio spectrum in combination with that fact that radio spectrum is an essential input for mobile communication. Spectrum **management** policies are better equipped to deal with this problem than competition policy.

The scarcity of radio spectrum results from that fact that it is a semi-public good and that, if spectrum remains unmanaged, it will largely become useless due to interference (congestion). The solution is to make the resource excludable by assigning user rights (like having to pay a toll on public roads)<sup>106</sup>. The price paid for these user rights is high because radio frequencies are scarce<sup>107</sup> and at the same time they are an essential input for mobile operators.

The problem (creation of entry barriers) can best be mitigated by introducing **counter-measures in the design of auctions**. For example, particular *blocks* of radio spectrum can be reserved for entrants, or the total number of user rights that incumbents can obtain can be capped. User rights can be subject to specific licensing terms that prevent anti-competitive behaviour. For example, licensees can be subjected to a roll-out requirement, meaning they have to install the network equipment and operate the network.

## Geographical restrictions in accessing content

Geographical restrictions in accessing content (geo-blocking) distort trade and competition within the Single Market by hindering parallel trade. Clearly this is a competition problem. The problem is caused by restrictions imposed upon the licensee of copyrights.

Competition law can be used to address these issues, as was done in the Murphy case (see Box 11 below). However, besides being a competition issue, the hindrance of parallel trade is also an Internal Market issue. Moreover, the problem directly results from flaws in the legal framework governing copy rights<sup>108</sup> and **should therefore primarily be fixed by amending copyright laws**.

<sup>105</sup> See para. 164 of the Commission decision COMP/M. 7217 – Facebook/WhatsApp, [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=2\\_M\\_7217](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_7217); [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

<sup>106</sup> Spectrum is like a public road: nobody can prevent others from using it (it is non-excludable), but two cars cannot drive at the same place at the same time (which is referred to as rival consumption). The combination of non-excludability and rivalry creates inefficiencies in the use of the resource when the resource is scarce. With roads congestion occurs; with spectrum there is potential interference, Van Gorp et al (2010).

<sup>107</sup> Scarcity of radio frequencies stems from the fact that large parts of the radio spectrum are used for other purposes; e.g. by the military, by the emergency services, by astrology, by TV, by Radio, etc.

<sup>108</sup> European Commission (2009), Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions, *A Single Market for Intellectual*



### Box 11: European Court of Justice Judgement Murphy (C-403/08 and C-429/08)

The Murphy case<sup>109</sup> was about exclusive territorial licensing of broadcasting rights on live transmissions of Premier League football matches combined with the prohibition to supply the territorially based decoding devices outside the licence territory. The issue that the Murphy case was about can be considered analogous to geo-blocking. Both practices are aimed at matching audience to territories, for which intellectual property rights have been assigned, and at preventing users from accessing protected material based on their location.

In the Murphy case, the Court found the licensing practices to be in breach of Article 101(1) TFEU. The geographical restrictions to supply decoding devices effectively recreated national barriers on the Single Market and eliminated competition between broadcasters.

The Court decided the matter by evaluating the effects of the practices on competition – as it would do in any other case concerning agreements or concerted practices. However, the question whether **territoriality of intellectual property rights are compatible with the Single Market is beyond the reach of competition law**. It is appropriately studied by the Commission in a number of Communications<sup>110</sup> and during the public consultation 'On content in the Digital Single Market' in 2012 with a view to propose a reform of intellectual property rights.

As stated by Vice-President Ansip during the presentation of the DSM strategy<sup>111</sup>, the abolition of geo-blocking will be one of the main goals of the European Commission's strategy for the creation of a Digital Single Market.

#### 3.2.3. Competition policy addressing problems caused by other policies

When other policies are difficult to adjust, we may have to rely on competition policy to deal with resulting competition problems. It should not deter governments from seeking solutions within the policy field that primarily causes the problem.

Two of the ten problems described in Section 3.1 fall under this category of problems. These are the problems related to tax avoidance and to injunctive relief in relation to standard essential patents.

#### Tax planning/avoidance

Companies that make use of gaps in the international framework of corporate taxation do not break the law *per se*. Their behaviour may have anti-competitive effects, but the

*Property Rights: Boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe*. COM(2011) 287 final of 24 May 2011; European Commission (2012a), Communication from the Commission on the content in the Digital Single Market. COM(2012) 789 final of 18 December 2012; European Commission (2013a) Communication from the Commission, *Green Paper on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values*, COM (2013) 231 final of 24 April 2013.

<sup>109</sup> Joined cases C-403/08 and C-429/08, Football Association Premier League Ltd et al. v Karen Murphy, ECR [2011] I-43, <http://curia.europa.eu/juris/document/document.jsf?jsessionid=9ea7d0f130de999f157e48764ea5a29fcd42d687c4d6.e34KaxiLc3eQc40LaxqMbN4ObxyMe0?text=&docid=110361&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=279366>.

<sup>110</sup> See footnote 108.

<sup>111</sup> See the statement by Vice-President Andrus Ansip at the press conference on the adoption of the Digital Single Market Strategy [http://europa.eu/rapid/press-release\\_SPEECH-15-4926\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-15-4926_en.htm)).



problem is caused by failure of governments to coordinate their tax policies. Coordination of tax policies in the EU is problematic because, following the subsidiarity principle, tax policies fall within the competence of Member States while at the same time Member States are competing with each other to attract FDI.

**If national tax decisions harm the competitive process in the Internal Market, there is a legal basis for using competition law** to intervene, notably State aid rules (see Box 12). Cases involving State aid are not addressed to firms but to governments.

**Box 12: Commission decision Amazon (Case SA.38944)**

The Amazon case<sup>112</sup> is about State aid allegedly provided by Luxembourg to Amazon in the form of corporate tax reduction. More specifically, the Commission investigates national tax rulings concerning transfer pricing arrangements (prices for goods and services traded within the same group of companies) that are used in order to optimally allocate the group's taxable profit between the subsidiaries of one group situated in different jurisdictions.

The problem is that EU Member States are in a state of tax competition with each other due to the absence of the harmonised tax policy<sup>113</sup>. Various taxation methods and strategies are used to attract large multinationals to a certain tax jurisdiction resulting in legal loopholes and opportunities for tax avoidance.

Taxation remains within the competence of EU Member States. Hence, from the European law perspective, such practices are only problematic if they violate EU competition law, in particular State aid or the Internal Market rules. The European Commission assesses if national tax decisions distort competition and trade in the internal market by giving a selective advantage to individual undertakings (Article 107 TFEU).

The problem arises because EU tax policy is not designed to prevent harmful tax competition between Member States. As such, competition law may not provide a durable and universal solution for the tax avoidance problem. A legislative and/or policy action is necessary along the lines of the already existing proposals on a Common Consolidated Corporate Tax Base<sup>114</sup>, automatic exchange of information between tax authorities of Member States about tax rulings<sup>115</sup>, and the Code of Conduct concerning business taxation<sup>116</sup>. However, until the bug in tax policy is fixed, **State aid rules can be a tool to control** for harm to competition among enterprises.

State aid allegedly provided by Luxembourg to Amazon in the form of corporate tax reduction (case SA.38944) cannot be considered a challenge that is specific to digital markets. Three more cases (case Apple SA.38373, case Starbucks SA.38374 and case Fiat Finance and Trade SA.38375) were opened by the Commission at the same time involving

<sup>112</sup> [http://ec.europa.eu/competition/state\\_aid/cases/254685/254685\\_1614265\\_70\\_2.pdf](http://ec.europa.eu/competition/state_aid/cases/254685/254685_1614265_70_2.pdf).

<sup>113</sup> In the times of the financial crisis Member States may compete more fiercely than in other times.

<sup>114</sup> A collection of Commission's documents on the issue can be found under [http://ec.europa.eu/taxation\\_customs/taxation/company\\_tax/common\\_tax\\_base/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/company_tax/common_tax_base/index_en.htm).

<sup>115</sup> The Commission presented a package of measures to boost tax transparency on 18 March 2015. See the respective press release: [http://europa.eu/rapid/press-release\\_MEMO-15-4609\\_en.htm](http://europa.eu/rapid/press-release_MEMO-15-4609_en.htm). The documents of the proposed package can be found under [http://ec.europa.eu/taxation\\_customs/taxation/company\\_tax/transparency/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/company_tax/transparency/index_en.htm).

<sup>116</sup> Conclusions of the ECOFIN Council meeting on 1 December 1997 concerning taxation policy, OJ C 2/1 of 6 January 1998, [http://ec.europa.eu/taxation\\_customs/resources/documents/coc\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/coc_en.pdf).

multinational companies in traditional industries, and, potentially, hundreds of other may follow<sup>117</sup>.

### Standard Essential Patents

Standards essential patents (SEPs) and the use of injunctive relief by a patent holder has gained attention in the context of digital markets. The problem is however not exclusively related to digital markets<sup>118</sup>. Competition law is equipped to address this challenge because an injunction involving SEPs has the effect of foreclosing an entire market (see Section 3.1.6)<sup>119</sup>. But there are limits to the ability to intervene on the basis of competition law because the **scope of the problem goes beyond the scope of competition law** and requires additional measures in the field of IPR policy/law.

Competition law struggles with addressing the lack of clarity about the definition of FRAND terms. The current standard is that if a SEP holder has undertaken a FRAND commitment, it cannot seek an injunction against parties that are willing to negotiate a FRAND licence. The legal test to establish willingness on the part of the licensee and the precise meaning of **fair or reasonable terms and royalties are contested**<sup>120</sup>. **Courts fail to agree on consistent approaches** (see Box 13 below). The inconsistency of approaches to enforce the rights of patent holders limits the ability to intervene on the basis of competition law (see Box 13 on the Motorola case).

Clarification of rules on patent disclosure and licensing on FRAND terms would be a first-best solution to increase legal certainty<sup>121</sup>.

#### **Box 13: Commission decisions Samsung (Case AT.39939) and Motorola (Case AT.39985)**

In the Samsung case<sup>122</sup> and the Motorola case<sup>123</sup> the Commission started proceedings under Article 102 TFEU. The companies were accused of violating Article 102 TFEU by seeking injunctions against Apple on the basis of SEP which they had committed to license on FRAND terms.

From the competition law point of view, the relevant question is whether and in what circumstances the behaviour of a patent holder seeking an injunction can constitute an abuse of dominance. The Court needs to establish whether there is **willingness** on the part of the licensee. In Samsung and Motorola the Commission has applied a

<sup>117</sup> Commissioner Vestager, interview to Euranet plus, 2015, see <http://euranetplus-inside.eu/vestager-we-need-new-laws-to-fight-tax-avoidance/>.

<sup>118</sup> See for example the case FTC 1210081/C-4377 involving Robert Bosch. The summary of the case reads: 'The FTC approved an order settling charges that Robert Bosch GmbH's acquisition of the SPX Service Solutions business of SPX Corporation [...] Bosch also agreed to resolve allegations that, before its acquisition by Bosch, SPX harmed competition in the market for this equipment by reneging on a commitment to license key, standard-essential patents (SEPs) on fair, reasonable and non-discriminatory (FRAND) terms. The FTC alleged that SPX reneged on its obligation to license on FRAND terms by seeking injunctions against willing licensees of those patents. Bosch has agreed to abandon these claims for injunctive relief.'

<sup>119</sup> Recent practices of Union courts and of the Commission demonstrate that EU competition law is equipped to address this challenge. Depending on circumstances of an individual case, seeking injunctive relief in relation to SEPs can be qualified as an abusive refusal to supply, abusive litigation, or as foreclosure (see Petit 2013 for an overview).

<sup>120</sup> Bekkers et al 2014.

<sup>121</sup> See also Bekkers et al 2014.

<sup>122</sup> [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/39939/39939\\_1501\\_5.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/39939/39939_1501_5.pdf).

<sup>123</sup> [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/39985/39985\\_928\\_16.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/39985/39985_928_16.pdf).

rather low legal standard to establish willingness on the basis of direct documentary evidence.

The low standard applied by the Commission is in a sharp contrast with the practice of national courts. In Germany, for instance, the Federal Supreme Court introduced the so called *Orange Book Standard Test* to evaluate willingness on the basis of observed conduct of the licensee. It requires that once a potential licensee has made an offer, it must behave as an actual licensee and pay the royalties resulting from the licensing contract.

The different approaches by the Commission and the German Court illustrate that there is an **inconsistency of approaches** to enforce the rights of patent holders. This limits the ability to intervene on the basis of competition law. For example, in *Motorola*, the Commission concluded that Motorola's conduct constituted an abuse under Article 102 TFEU. However, *'the Commission decided not to impose a fine on Motorola in view of the fact that there is no case-law by the European Union Courts dealing with the legality under Article 102 TFEU of SEP-based injunctions and that national courts have so far reached diverging conclusions on this question'*.

Despite these shortcomings, competition law enforcement may have remedial effects. For example, in *Samsung* the Commission issued Statements of Objections against Samsung over SEP abuse. Bekkers et al (2014) explain that the case was quickly resolved as *'Samsung subsequently decided to take steps back in [all] law cases it had instigated in Europe against implementing firms; among other things it gave up seeking preliminary injunctive relief.'*<sup>124</sup>

### 3.2.4. Problems to be addressed by competition policy

Five of the ten problems identified in Section 3.1 may require a competition policy intervention. With each of these issues there is a potential competition problem that is not caused by other policy fields. These five problems are:

1. Digital monopolies potentially hampering competition and innovation;
2. Digital monopolies potentially monopolising other markets;
3. Digital monopolies exploiting locked-in users;
4. Gatekeeper position of ISPs having a negative impact on market dynamics;
5. State aid for broadband deployment disturbing markets.

The issue of **State aid** in relation to broadband deployment indeed involves risks that should be safeguarded by State aid rules. The Commission's Broadband State aid Guidelines (published in January 2013) clearly lay down the principles for assessing whether State aid can be allowed. So far there have been no examples of governments unnecessarily disturbing the market process. We will not further elaborate on this.

The problem of **gatekeeper position** falls within the reach of anti-trust law (notably Article 102 TFEU). However, the debate on net neutrality is ongoing and the core question still to answer is whether (*ex post*) enforcement of anti-trust law can manage the problem or whether specific *ex ante* net neutrality rules are necessary. We elaborate on the arguments involved when assessing the need for *ex ante/ex post* interventions in Chapter 4 (Section 4.3). The key question to be answered is whether by reacting to anti-competitive

<sup>124</sup> See also C(2014) 2891 final: Summary of Commission Decision of 29 April 2014 relating to a proceeding under Article 102 of the Treaty on the functioning of the European Union and Article 54 of the EEA Agreement — (Case AT.39939 — Samsung — Enforcement of UMTS standard essential patents) ( notified under document number C(2014) 2891 final ) [http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014XC1004\(01\)](http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014XC1004(01)) .

behaviour (once identified), the consequences of anti-competitive conduct are still reversible, i.e. the risks to *long-lasting harm* are low.

The first three of these five problems also fall within the reach of anti-trust law (Articles 101 and 102 TFEU and merger control regulation), provided there is a competition problem<sup>125</sup>. The latter is not always clear. Digital firms compete largely on the basis of innovations resulting in firms constantly redefining the boundaries of the market (see Section 2.2.2). These dynamics impose various practical challenges for the application of competition law. How to define a market that is constantly redefined by competitors? How to determine dominance in such circumstances? How to distinguish anti-competitive motives from normal business strategies? We elaborate on these issues in Chapter 4.

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<sup>125</sup> On the third issue we explained in Section 3.2.2 (on privacy and data protection) that regulating data portability may mitigate the problem by lowering switching costs for end-users. If that condition is met, competition policy may focus on safeguarding advertisers.

## 4. CHALLENGES FOR COMPETITION POLICY IN THE DIGITALISED ECONOMY

Digitalisation of the economy creates many challenges for policy makers. Not all of these challenges require involvement of competition law (see Chapter 3). But when competition law is involved, competition authorities are faced with a different set of challenges that originate from the **specific characteristics of digital markets**. These challenges do not concern the basic principles of EU competition law<sup>126</sup> but the analytical steps and instruments that are used to assess the relevant market and dominance.

The problem is that the analytical steps typically follow a one-way procedure starting from the assumption that the market definition is a given concept that can and must be figured out first, and then forms the background for the rest of the analysis. In digital markets in particular this traditional approach does not work because digital firms often compete by developing new business models and, by doing so, continuously redefine the boundaries of a market or create new markets<sup>127</sup>.

To clarify this point it is useful to relate the analytical steps taken by competition authorities to the development of economic insight in the theory of industrial organisation.

The analytical steps followed in competition law cases start with describing the market structure (defining the relevant market, identifying competitors, and establishing if firms have substantial market power – in that order). The next step is to analyse the behaviour of firms and to judge whether this behaviour is anti-competitive (as defined in Section 3.2.1). This approach reflects the theoretical economic thinking in the 1950's and 1960's that there are one-way causal relations running from structure to conduct to market performance<sup>128</sup>. Figure 6 visualises this traditional approach.

**Figure 6: The 'traditional' Structure-Conduct-Performance Paradigm<sup>129</sup>**



The main problem with the traditional one-way causal approach was that it did not capture causal relations that run the other way around, from performance to conduct and from conduct to structure. An example of these feedback loops is that high profits (performance)

<sup>126</sup> These basic principles are (see Whish and Bailey (2012), Larouche and Schinkel (2013), and Motta (2015)):

- Collusion is bad, unless they achieve efficiency gains that are (partly) passed on to consumers;
- There is no problem if firms are dominant because of investments; but there is a problem if they abuse it by preventing rivals from challenging it;
- Mergers are allowed if they create synergies/efficiencies; they are prevented if they allow firms to increase profits at the expense of end users; and
- The analysis should be based on the use of economics, with close attention to market realities ahead of any intervention, and with focus on end-users.

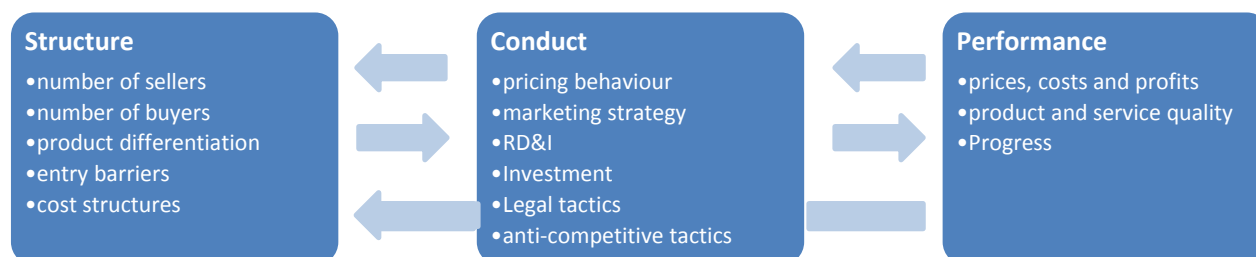
<sup>127</sup> See Sections 2.2.2 and 2.3.1.

<sup>128</sup> For example, high entry barriers and a low number of competitors (structure) increase the chances of collusion and reduce incentives to innovate and invest (conduct), which leads to high prices, fewer products, and low service quality (performance) - see Bain (1950).

<sup>129</sup> Adapted from Scherer and Ross (1990).

induce market entry (conduct), leading to a larger number of sellers (structure)<sup>130</sup>. The New Industrial Economics School in the 1980s extended the traditional analytical framework to capture the feedback effects from performance to conduct and structure, and from conduct to structure. Figure 7 visualises the new approach.

**Figure 7: 'New' Structure-Conduct-Performance Paradigm<sup>131</sup>**



Although the economic insights from the 1980's have been incorporated in European competition policy and legal cases<sup>132</sup>, they did not change the basic analytical steps followed by competition authorities. The analytical steps taken in all of today's competition law cases still follow the one-way causal logic starting with defining the market first and then do the rest of the analysis. As such, the analytical steps that are typically applied in competition law cases may be at odds with economic insights as well as real-world causal relationships in markets where the above mentioned **feedback effects are particularly strong**. This is the case in digital markets.

The main message in the sections that follow below is that particularly (but not exclusively) in the context of digital markets, the analytical steps taken by competition authorities should treat the relevant market as a dynamic concept that is endogenously defined (i.e. as a function of firm behaviour), rather than as a static given concept serving as a starting point for assessing market power. In order to do that we suggest for competition authorities to start their analysis with a **focus on the business case** of the firm under investigation and to identify what other companies or business models may steal away its profits.

Besides a review of the analytical steps, competition authorities may also need to review their analytical tools. Because of the strong feedback effects in digital markets, market power and dominance are fleeting attributes that depend on the behaviour of the firm and the behaviour of others. As such, market shares or profit margins are less useful for determining market power. It is better to **use indicators that inform about contestability**, such as the presence of entry barriers, the availability of alternative routes to reach end-users, and the extent to which both incumbents as well as challengers are trying to create new markets by engaging in innovation in unexplored technologies/services.

<sup>130</sup> Other examples are that R&D and investments (conduct) affect production processes and cost structures (structure), or that strategic firm behaviour (conduct) may focus on raising entry barriers (Structure). Moreover, the performance indicator **progress** turned out to be an ambiguous indicator as it stands for (amongst others) the creation of new products, new business models and new markets. As such, progress inherently embeds feedback loops.

<sup>131</sup> Based on Scherer and Ross (1990).

<sup>132</sup> Jacquemin, Alexis (2000), 'Theories of Industrial Organisation and Competition Policy: What are the Links?', Working Paper by the European Commission's Forward Studies Unit, Brussels 2000.

#### 4.1. Market definition and dominance

In relation to market definition and the assessment of dominance<sup>133</sup>, the main challenges for competition policy are to develop new concepts and instruments that help to define the relevant market and to assess dominance and more generally, the intensity of competition. Moreover, competition authorities may want to focus on analysing future markets and follow a more integrative approach to the analysis of market definition and market power<sup>134</sup>. Integrating the analysis of market definition and market power is essential for accounting for **interdependencies between all sides of (potentially multiple) platforms**<sup>135</sup>. One suggestion is to start by analysing the business case of the firm and to identify what other companies or business models may compete and steal away its profits.

##### 4.1.1. The relevant market

Defining the relevant market is an intermediate step that helps to focus the assessment of competitive constraints experienced by firms. Below we explain that in digital markets, the delineation of relevant markets is particularly challenging because:

1. **more than one market is relevant with multi-sided platforms,**
2. **the reliance on price based indicators is vulnerable because many digital services are zero priced, and**
3. **boundaries between markets are fluid.**

Below we elaborate on each of these reasons and provide a solution that might address all three simultaneously.

#### Challenge 1: more than one relevant market

A first challenge is to determine whether one, two, or more relevant markets should be defined in the case of multi-sided platforms. A wrong choice may hamper competition authorities from accounting for the interdependencies between markets that are served by multi-sided platforms. Filistrucchi et al (2013) analyse several European and national anti-trust cases involving two-sided markets, related to both digital as well as non-digital markets<sup>136</sup>. They conclude, amongst other, that competition authorities struggle with determining the number of markets when they fail to **distinguish two-sided transaction markets and two-sided non-transaction markets**. This distinction is essential because in the case of transaction markets, competition authorities should define one relevant

<sup>133</sup> Defining the market is done in relation to all anti-trust cases, i.e. in relation to Article 101, 102 TFEU and the Merger Regulation. The *Commission Notice on the definition of relevant market for the purposes of Community competition law* (97/C 372/03), gives guidance on how to define the relevant market (see European Commission 1997). The assessment of dominance is done in relation to Article 102 TFEU and is elaborated on in the Commission's *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings* (2009/C 45/02) (see European Commission 2009).

<sup>134</sup> Rather than following the traditional approach of taking separate successive steps.

<sup>135</sup> Note that platforms can be two- or multi-sided and that a platform owner can own more than one multi-sided platforms. E.g. the Google search engine is a multi-side platform offering end-users (side one) the ability to find out where the nearest barber is; it allows the barber (side two) to be found more easily; and it offers advertisers of hair products (side three) to advertise their products to a targeted audience. Google maps is a second platform that (potentially) serves the same sides. YouTube allows the barber to present a promotional video of his business and offers the advertisers of hair products to display their brands simultaneously.

<sup>136</sup> E.g. Commission decisions Mastercard (case COMP/34.579), Google/DoubleClick (case COMP/M.4731), Travelport/Worldspan (Case COMP/M.4523), GIMD/SOCRESSE (Case COMP/M.3420) and Bloemenveiling Aalsmeer – FloraHolland (case NMa/5901), and more.



market; in the case of non-transaction markets, competition authorities should define multiple relevant markets for each side of the platform, see Box 14 below<sup>137</sup>.

**Box 14: Transaction and non-transaction markets**

Filistrucchi et al (2012, 2014)<sup>138</sup> explain that '*market definition should always take into account both sides of the [platform] but that whether one or two relevant markets need to be defined depends on the type of two-sided market*'.

One can distinguish **two types of two-sided markets**: *transaction* and *non-transaction* markets. The first involves a direct transaction between users on both sides of the platform (as in the case of eBay between seller and buyer), the latter does not (as in the case of free to air TV that is funded through advertisement). An operator of a two-sided platform sets two prices at each side of the platform. It chooses a mix of prices that optimises its revenues. The resulting price mix is a function of 1) responsiveness (elasticity) of each side to price changes and 2) the responsiveness of each side to changes in the number of users on the other side of the platform. Usually it follows that one side subsidises the use of the platform by the other side (sometimes the other side pays nothing). When using the platform involves a transaction between end-users at both sides, the *unequal* pricing structure will be incorporated in that transaction<sup>139</sup>.

With **transaction markets**, Filistrucchi et al explain that competition authorities should define **one relevant market** because the transaction between users on both sides fully incorporates the indirect network effects. As a result, retailers of e.g. books compete on both sides of the platform; i.e. they compete with other book shops for the same group of readers. As a virtual market place connecting retailers to readers, Amazon strives for the transaction to take place on its platform rather than through another market place or by a direct sale. In this example, there seems to be a market for books in which Amazon plays a crucial role. With **non-transaction markets** this is different. It is possible that a product competes on one side of the market, but not the other. E.g. broadcasters compete with publishers of printed media for advertisers, but they do not compete with these publishers for the same end-users. As such, there seems to be a market for advertisement space, a market for broadcasted media, and a market for printed media<sup>140</sup>. The owner of a platform (multiple platforms) may play a significant role in all these markets. On the basis of this logic, Filistrucchi et al explain that competition authorities should define **multiple relevant markets** in case of non-transaction markets.

In digital markets, determining the number of relevant markets may be more challenging than in non-digital markets involving platforms<sup>141</sup>. In Section 2.2.2 we have explained that

<sup>137</sup> We note that making a distinction between transaction and non-transaction markets is also important when assessing merger cases – see Section 4.2.2.

<sup>138</sup> Filistrucchi, L., Geradin, D., Van Damme, E., & Affeldt, P., Market definition in two-sided markets: theory and practice, *Journal of Competition Law and Economics*, 10(2), 2014, pp. 293-339, Filistrucchi, Lapo, D. Geradin, and E. van Damme, Identifying Two-Sided Markets, TILEC Discussion Paper. No. 2012-008, Tilburg, 2012, Available at SSRN: <http://ssrn.com/abstract=2008661>.

<sup>139</sup> To illustrate, when consumers can freely use eBay and retailers have to pay eBay a fee for using the platform, the price that consumers have to pay for goods/services to the retailers reflects the fee that retailers have to pay to eBay (as well as any other cost of production and distribution).

<sup>140</sup> And perhaps other markets that we have not yet identified.

<sup>141</sup> Such as the market for credit card payments for example.

digital firms compete by integrating multiple platforms and creating synergies by linking them through user data. There is a risk that competition authorities analyse two sides of one platform but subsequently ignore relationships with other platform markets. This risk has materialised, according to some observers, in the Google/DoubleClick decision (see Box 15). In this case, making the distinction between transaction and non-transaction markets may have helped the competition authority in the analyses.

**Box 15: Critique on the market definition in the Commission decision Google/DoubleClick (Case COMP/M.4731)**

The Commission analysed several concerns in relation to the Google/DoubleClick merger<sup>142</sup>. A first concern was that the combination of Google's and DoubleClick's assets, in particular databases, could allow the merged entity to achieve a position of strength that could not be replicated by its integrated competitors. A second concern was that Google could use DoubleClick's market position to raise cost of ad-serving for rival intermediaries. There were also concerns that Google could bundle its sales of search ads or its intermediation services with DoubleClick's ad-serving tools with the aim of foreclosing competition in the ad-serving market. The Commission found that none of the three scenarios was likely to be implemented and distort competition<sup>143</sup>. Also the United States FTC analysed the merger and came to a similar conclusion (see Box 4).

A well-known critique on the conclusions of both the FTC and the Commission in the Google/DoubleClick case is that both authorities correctly defined a single market for online intermediation, but missed the point that other two-sided markets were at stake (like movie streaming platforms or navigation services). As a result the FTC and the Commission may have overlooked the point that the acquisition of DoubleClick may have strengthened Google's position on the *multi-platform* online advertising market. Digital platforms/websites sell not just advertising spaces, but ultimately also access to their viewers<sup>144</sup>.

Filistrucchi et al (2013) argue that '*the Commission should have [...] defined one or more non-transaction markets for users of (Google) websites or at least discussed why it thought that such additional markets were not relevant to the decision.*' Acquisition of DoubleClick by Google potentially allowed Google to obtain data of online users and use it to improve targeting of advertising (also for Google's other platforms) and, thus, to increase attractiveness of all its platforms for publishers and advertisers. The acquisition of DoubleClick may have strengthened Google's position on the *multi-sided* online advertising market because the acquired assets (DoubleClick's database of user preferences and internet behaviour that is based on cookie-enabled tracking) would allow it to improve both its search algorithm and targeting of advertisement on its own platforms.

<sup>142</sup> [http://ec.europa.eu/competition/mergers/cases/decisions/m4731\\_20080311\\_20682\\_en.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_en.pdf).

<sup>143</sup> DoubleClick could not exercise its market power effectively due to extremely short ad-serving contracts, low switching costs for customers and frequent switching, and preference of the customers for *multi-homing* (using several platforms simultaneously). Additionally, there were many strong vertically integrated rivals with similar or even superior technology. Google would have had practical difficulties to bundle its own advertising tools with DoubleClick technology and therefore could not foreclose effectively. Additionally, it already faced strong competition from vertically integrated rivals, like Yahoo, AOL and others.

<sup>144</sup> See Van Loon (2012).

## Challenge 2: the absence of nominal prices

A second challenge is how to define a market for zero priced services such as social networks or freeware. When services are offered at a zero price, competition authorities often argue that where there is no price, there is no market. This conclusion follows from the observation that the SSNIP test<sup>145</sup>, which is used to for the assessment of substitutability between products/services, fails when services are zero priced. However, this should not lead to the conclusion that there is no market. The traditional SSNIP test is designed to analyse single prices in one-sided markets. As such it cannot account for **interdependencies among prices** in markets that are served by multi-sided platforms. Several authors have suggested modifications of the traditional SSNIP test in order to incorporate indirect network effects between the two sides of the market<sup>146</sup>.

The argument where there is no price, there is no market also fails to recognise that some zero priced services compete with price based services and/or that consumers may pay a **price in other forms**. This may take the form of nuisance stemming from being exposed to advertisements or by giving up privacy or by providing their data, hence using data as a kind of currency to pay with. The choice for charging end-users a price reflects a choice of business model; it does not reflect whether or not two services compete with each other. One may argue that if the content is substitutable, both business models are each other's competitors<sup>147</sup>. But even if content or the service is less comparable in the eyes of consumers, as for Facebook and WhatsApp, the companies providing those services may still be regarded as each other's competitors. WhatsApp and Facebook, or more general social media, may be perceived by end-users as different services: WhatsApp provides private one-to-one communication services whereas social media provide (often public) one-to-many communication services. However, if Facebook subscribers communicate most of their time one-to-one via WhatsApp rather than one-to-many on Facebook, Facebook loses that audience (and money) for most of the time. As such, WhatsApp is stealing away profits of Facebook, even if WhatsApp was barely realising profits itself<sup>148</sup>. Whether or not digital services are each other's competitors can thus **not always be determined on the basis of demand side substitutability**. What is also very important is whether one company is able to steal away profits from the other.

## Challenge 3: fluid market boundaries

A third challenge is that the market definition tool tends to generate a rather static perspective on the relevant market. This may hinder competition authorities incorporating the dynamic ever-changing nature of digital markets that results from companies continuously creating new markets by competing on developing new business models.

<sup>145</sup> The general approach for defining markets is based on an analysis of demand-side and supply-side substitutability. The assessment of substitutability heavily relies on the hypothetical monopoly or SSNIP (**S**mall but **S**ignificant and **N**on-transitory **I**ncrease in **P**rice) test. The SSNIP test starts with a single product as the smallest possible market definition and expands this definition with other products (with similar characteristics) on the basis of an analysis of substitutability. The SSNIP test expands the definition of the relevant market with products until a hypothetical monopolist could profitably increase the price by 5 % to 10 %. I.e. end-users cannot/will not respond to such price increase by switching to substitute products/regions, and suppliers from other products/regions cannot switch production facilities to start competing with hypothetical monopolist. If the price is zero, a 5 % to 10 % increase in price remains zero and hence the test breaks down.

<sup>146</sup> Filistrucchi et al (2013), Evans and Noel (2005, 2008), Evans (2009) and Hesse (2007).

<sup>147</sup> To illustrate, a particular free-to-air TV channel may compete with a particular Pay TV channel if they both broadcasts game shows and sitcoms; they also may not compete if the latter only broadcasts the latest blockbusters and the first only broadcasts sponsored cooking programmes.

<sup>148</sup> WhatsApp realised all its profits at once when it was acquired by Facebook.

### Solution approach: focus on business models

All of the above challenges illustrate that assessing competitive constraints, the ultimate objective of the analysis, requires a close look at business models and the externalities/interdependencies between all sides of potentially multiple platforms. We suggest that rather than analysing whether end-users regard services as each other's substitutes, the assessment of competitive constraints should start by **analysing how digital platforms generate turnover and profit** and to focus on what/who may steal turnover/profits.

What difference would such an approach make for competition policy? Regarding the first challenge (multiple relevant markets), such an approach might have alerted the FTC and the Commission in the Google/DoubleClick case to consider the fact that more than one platform was involved. Regarding the second challenge (absence of nominal prices), the Commission could have reached the conclusion that WhatsApp did impose competitive constraints on Facebook, as do various services offered by other multi-platform operators such as Google, Microsoft, and Apple. Regarding the third challenge (fluid market boundaries), the focus on business/earning models helps to identify potential rivals which may steal away profits, not so much by introducing substitute products but by undermining existing business models. This approach reflects the notion that competitive pressure does not only come from demand-side and supply-side substitution, but more generally from disruptive entry and innovation.

The aim is not to define and *freeze* a market, but to identify in a forward looking manner the potential forces of innovation, entry and contestability<sup>149</sup>, that may change and overturn markets, rather than affect competition on given markets.

#### 4.1.2. Assessment of dominance

When a market is not defined properly, competition authorities may misjudge market power (see also Box 15 above). Even when competition authorities have correctly defined the relevant market, the assessment of dominance in digital markets is challenging.

The European Court of Justice has defined a dominant market position as: '*a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of consumers*'<sup>150</sup>. This definition of dominance is universally applicable, but it is challenging to concretely identify what determines the ability to act independently.

Having market power is a prerequisite for having a dominant position. In their analyses, competition authorities often use quantitative indicators such as concentration ratios, market shares, price levels, or profit margins to determine market power<sup>151</sup>. In digital markets, the use of these (static) indicators is sometimes impossible as some services are offered for free and some business models make very little or no turnover or profit (such as

<sup>149</sup> A competitor who would just copy the business without innovation would not succeed against a strong incumbent once the market has tipped due to network effects. Furthermore, the option to offer lower prices does not work if services are offered without payment.

<sup>150</sup> United Brands Company and United Brands Continentaal BV v Commission of the European Communities - Case 27/76 (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435590929760&uri=CELEX:61976CJ0027>) and Hoffmann-La Roche & Co. AG v Commission of the European Communities - Case 85/76 (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61976CJ0085>).

<sup>151</sup> Note that some of these indicators, such as market shares and concentration ratios, can be defined only when the delineation of the market has been settled and it is clear which players are active in the market. As we pointed out in Section 4.1.1, this is problematic if the rate of technological change is high.

WhatsApp). This does not mean that these companies are without market power. Stock values and take-over prices indicate that these companies may generate considerable future profits. The use of stock-values or take-over prices as alternative indicator is, however, problematic as these indicators do not inform about particular markets but about the overall profitability of a firm in all of the markets in which it operates. Another problem with using static indicators for assessing dominance is that they are less reliable in digital markets than in other markets due to the dynamics and innovation happening in the sector. Dominance in digital markets, like the definition of the relevant market, is a notion that may be subject to (fast) change over a relatively short period of time. An example of a how fast a market position can be challenged is the social media service Myspace<sup>152</sup>.

There is a need to find a relevant and manageable interpretation of behaving independently in digital markets. A starting point is an analysis of the **strength of competitive constraints**. This is not uncommon for competition authorities. The OFT (2004) as well as the European Commission (2009)<sup>153</sup> distinguish as competitive constraints *buying and selling power*, including the degree of vertical integration, and the presence of (*potential*) competitors or level of entry barriers. Buying and selling power typically depends on how much horizontal market power vis-à-vis competitors the buyer and seller have<sup>154</sup>. As such, the analysis of vertical power relations often relies on the same static indicators which we concluded above are less useful. Alternatively, the **analysis of vertical power relations throughout the value web** may be based on an analysis of the variety of current and future alternative routes available to reach end users and the identification current and future bottlenecks<sup>155</sup>. Moreover, when incumbents and/or challengers are innovating in unexplored technologies or services, this may be an indication that the incumbent firm under investigation is about to face disruptive innovations/services<sup>156</sup>. In such cases, dominance would appear a short-lived phenomenon. This is particularly true when the firm under investigation is a single platform operator. In the case of a multiplatform operator, the firm may face the threat of a disruptive innovator for some of its platforms, but not for all.

#### 4.1.3. Conclusion

From the above arguments, it follows that for analysing competitive constraints, competition authorities should focus more on the **actual business models** of companies and on indicators that inform about **contestability** and **entry barriers**. A closer integration of the market definition and market power assessment stages is required to account for externalities/interdependencies between all sides of potentially multiple

<sup>152</sup> Myspace was founded in 2003 and grew to become a very popular social media services. In 2006 it had more US visitors than Google. However, in 2008 Myspace was overtaken by Facebook and the number of Myspace users has declined ever since. This information was retrieved from Wikipedia (<http://en.wikipedia.org/wiki/Myspace>) with reference to [http://news.cnet.com/Googles-antisocial-downside/2100-1038\\_3-6093532.html](http://news.cnet.com/Googles-antisocial-downside/2100-1038_3-6093532.html); <http://mashable.com/2006/07/11/myspace-americas-number-one/>; <http://www.pcmag.com/article2/0,2817,2348822,00.asp>; [http://www.bloomberg.com/bw/magazine/content/11\\_27/b4235053917570.htm](http://www.bloomberg.com/bw/magazine/content/11_27/b4235053917570.htm).

<sup>153</sup> Communication from the Commission 2009/C 45/02 (see European Commission 2009), Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings,.

<sup>154</sup> For example, compare a monopolist mill buying wheat from 100 different farmers to a monopolist farmer selling his wheat to a hundred different mills.

<sup>155</sup> See Section 2.1.2.

<sup>156</sup> As explained in Section 2.2.2, the threat of a potential disruptive technology/service drives digital companies to prepare for the unexpected through constant innovation in all possible areas.

platforms. The analysis requires a more forward looking approach to be followed by the authorities when assessing dominance.

## 4.2. Anti-competitive conduct

Once a dominant position of a digital company is identified, the next challenge is to determine if its conduct should be considered anti-competitive<sup>157</sup>. Anti-competitive behaviour refers to rival interactions that are not based on the merits but on collusion, foreclosure or leveraging and impose harm to competitors and consumers. The dynamic nature of digital markets makes collusion unlikely. The challenges for analysing anti-competitive behaviour in digital markets mainly relate to foreclosure and bottleneck leveraging.

In the dynamic context of digital markets, it is challenging to **distinguish anti-competitive behaviour from normal business strategies**. In the sections below we elaborate on this. A first challenge is that benchmark tests, such as the *equally-efficient-competitor test* or *margin squeeze test*, are less useful for capturing the heterogeneity of digital business models. A second challenge is that the dynamics of competition require competition authorities to focus on the obstruction of entry of future competitors. A strategy that may be used to prevent future entry is to acquire future competitors while they are still small, or to obtain control over exclusive content. A third challenge is to distinguish leveraging of innovative qualities into adjacent markets (which is good) from leveraging of market power (which is bad).

### 4.2.1. Benchmark tests fail in digital markets

The Commission guidance paper on the *assessment of abusive exclusionary conduct by dominant undertakings*<sup>158</sup> recommends relying on the *equally-efficient-competitor benchmark test* for distinguishing healthy competition from anti-competitive foreclosure. Although the test has been applied in cases in relation to telecom and technology firms<sup>159</sup>, the test is of limited use in relation to digital markets<sup>160</sup>.

The *equally-efficient-competitor benchmark test* is often related to anti-competitive pricing strategies (e.g. margin-squeezes and predation). The test examines whether a competitor with a similar cost structure would be able to compete with the dominant firm when it applies the same end-user price. This test runs into two problems that relate to the variety of competing digital business models. First, multi-sided platforms charge multiple prices,

<sup>157</sup> Anti-competitive behaviour in the form of collusive practices and abuse of a dominant position are prohibited under Article 101 and 102 TFEU respectively.

<sup>158</sup> European Commission (2009), Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, Communication from the Commission 2009/C 45/02 (see European Commission 2009).

<sup>159</sup> The test was applied inter alia in the Commission decisions *Telefónica* (case COMP/38.784 Wanadoo España vs. Telefónica), *Intel* (case COMP/37.990) and in the European Court of Justice judgement *TeliaSonera* (Case C-52/09 Konkurrensverket v TeliaSonera Sverige). see:

[http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=1\\_38784](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_38784) (Telefónica).

<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=OJ:C:2009:227:TOC> (Intel).

<http://curia.europa.eu/juris/liste.jsf?language=en&num=C-52/09> (TeliaSonera).

<sup>160</sup> But also in other markets, the test is not always sufficient. In *Intel* (COMP/37.990) the Commission tried to identify foreclosure by using the equally efficient competitor test. The Court said that '[A] foreclosure effect occurs not only where access to the market is made impossible for competitors, but also where that access is made more difficult' (para. 88). The equally efficient competitor test does not fully cover this interpretation because 'an [equally efficient competitor] test only makes it possible to verify the hypothesis that access to the market has been made impossible and not to rule out the possibility that it has been made more difficult' (para. 150).



one to each different sides of the platform. The question is which prices should be compared and when are prices anti-competitive? While zero pricing can sometimes be considered as predation in regular markets, it is a very common and objectively justifiable strategy in two-sided markets. A second problem with this test is that digital rivals are unlikely to have similar cost structures when they compete with different products (compare Facebook and Google).

#### 4.2.2. Pre-emptive mergers

Competition among digital companies is based on continuously creating new markets by competing on developing new business models. A potentially effective foreclosure strategy in digital markets is to buy the most threatening (potential) competitors while they are still small. This introduces a new concept: the defensive or pre-emptive merger, aiming to take away the threat of potential competition. A pre-emptive merger differs from an acquisition of complementary business models in that the former reduces the number of (potential) routes to reach end-users.

An indication of pre-emptive motives is whether the acquiring firm is already engaging in the development of similar technologies/services that are close to the heart of the company's earning model<sup>161</sup>. However, in a prospective analysis, such indicators are rarely available. Usually the acquired firms are small, business models or technologies are new and chances of success are unclear. In Section 2.2.2 we explained that the presence of a disruptive innovator amongst these potentially unsuccessful initiatives drives digital companies to prepare for the unexpected through constant innovation. By doing so, digital companies embrace former Intel CEO Andrew Grove's management motto '*Only the paranoid survive*'<sup>162</sup>. The paranoia may also stimulate large firms to go on shopping sprees with intention to eliminate potential disruptive innovators. But these take-overs could equally be motivated by the urge to attract engineering talent<sup>163</sup>.

The long-run impact on consumer welfare and the competitive process of the remarkable number of take-overs<sup>163</sup> by some digital multi-platform operators is unclear. On the one hand, the prospect of being acquired by a larger company is a stimulus for SMEs to innovate. On the other hand, acquiring a potential disruptor may be the dynamic equivalent of acquiring a maverick competitor that always launches price wars; competition authorities tend to frown on the elimination of mavericks, for instance because their presence makes collusion less likely<sup>164</sup>. As such, a merger involving a small company may be dealt with under Merger Regulation, but this would require further **developing the definition of a maverick competitor in a dynamic context**.

A starting point for identifying potentially anti-competitive mergers could be to identify whether a merger reduces the number of potential routes to reach end-users. But as with the assessment of dominance, this is a challenge in the context of future markets. Competition authorities are unlikely to be able to pick up market trends better than firms and entrepreneurs. There is something to be said for sticking to a prudent enforcement of merger control and relying on anti-trust law, notably Article 102 TFEU, to control for

<sup>161</sup> As when Google acquired DoubleClick's advertisement platform – see Box 8 and Box 15.

<sup>162</sup> Grove, Andrew S. (1996). *Only the paranoid survive: How to identify and exploit the crisis points that challenge every business*. New York: Currency/Doubleday, 1996.

<sup>163</sup> For an overview of the many mergers by large digital firms see <http://www.exploringmarkets.com/2014/03/the-largest-acquisitions-by-apple.html>.

<sup>164</sup> See Article 20d of the Commission's horizontal merger guidelines OJ 2004/C 31/03, see: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:031:0005:0018:en:PDF>.



possible damages<sup>165</sup>. On the other hand, when a merger has the effect of tipping the market, i.e. leading to a winner who takes it all, the consequences may be difficult to reverse. This may increase the number of future anti-trust cases<sup>166</sup>.

The chances of a tipping effect increase with the size and market power of the merging firms and the size of the network effects. To this regard mergers may be particularly detrimental to welfare when the merger concerns non-transaction markets with indirect network effects where firms strive to become multi-platform operators. A merger between two of such large platforms (like Facebook and WhatsApp), whose businesses may not seem to fully overlap today, has potential negative effects for future competition. It takes out one large player that, in the near future, might have diversified further and competed more fiercely with its rival. It follows that the size of the acquired firm remains an appropriate measure for setting a threshold value for merger control. A question is how to measure the size of a firm. Turnover is not a practical metric because some firms may make minimal turnover (like WhatsApp). Given the importance of scale economies and network effects, a better metric would be the **number of users** together with an estimation of the **size of the network effects**<sup>167</sup>.

#### 4.2.3. Exclusivity agreements and selective distribution

The availability of multiple routes to deliver content to end users is critical for competition in the market and for contestability of the market. Exclusive agreements on particular content and selective distribution agreements are strategies that may be used to foreclose routes. As such competition authorities need to critically monitor exclusive deals between content or technology providers and digital platforms. This would mean a change in current policy as such agreements are currently block exempted.

Exclusivity arrangements are part of the Google search case<sup>168</sup>. Exclusivity agreements are not a problem *per se*, as long as there is alternative content and/or there are alternative routes for competitors to compete. As such, a set of multiple exclusive agreements or a network of exclusive agreements may be problematic and found incompatible with both Article 101 and 102 TFEU<sup>169</sup>. Box 16 illustrates how Google might have excluded accessibility to competing search engines through multiple exclusivity agreements.

<sup>165</sup> This approach was explicitly followed by the FCC in the Google/DoubleClick merger. The FCC's statement concluded: *'The markets within the online advertising space continue to quickly evolve, and predicting their future course is not a simple task. Accounting for the dynamic nature of an industry requires solid grounding in facts and the careful application of tested antitrust analysis. Because the evidence did not support the theories of potential competitive harm, there was no basis on which to seek to impose conditions on this merger. We want to be clear, however, that we will closely watch these markets and, should Google engage in unlawful tying or other anticompetitive conduct, the Commission intends to act quickly.'*; see <https://www.ftc.gov/es/node/61435>.

<sup>166</sup> Or the opposite as there may be no competitors to complain; that would even be worse.

<sup>167</sup> Scale economies make that a large number of users on one side of the platform gives more market power on the other side of the platform. Due to network effects a large number of users makes the platform more attractive for other users to join, resulting in a self-reinforcing growth effect that may lead to a tipping effect. For more information about measuring the size of network effects see Filistrucchi et al (2012).

<sup>168</sup> [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=1\\_39740](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39740), see also Box 6 and Box 16.

<sup>169</sup> Geradin and Kuschewsky (2013).

**Box 16: Exclusivity agreements in the Google Search case (Case AT. 39740)**

Geradin and Kuschewsky (2013) explain that *'it is alleged that Google entered into intermediation agreements under which publishers must exclusively use Google's search and search advertising services on their websites. [As a result] Google has become the exclusive search provider on many of the most heavily trafficked websites [...] allowing Google to collect substantial query volumes [...] while excluding other search engines from being accessible on such websites'*.

According to Geradin and Kuschewsky there are no particular challenges for competition policy when dealing with exclusivity agreements in the context of digital markets: *'The principles established for vertical single branding agreements in the Commission's Guidelines on Vertical Restraints and the framework set out in the Guidance Paper on Article 102, offer the right analytical framework to assess whether such agreements give rise to anticompetitive foreclosure'*<sup>170</sup>. Following the Guidance Paper, the Commission would need to consider a number of factors when assessing the allegations against Google Search case: the **market position** of Google vis-à-vis competitors, the duration and market coverage of the agreements, the presence of barriers to entry, and anti-competitive effects and consumer harm. The first of these factors is particularly challenging in digital markets (see Section 4.1), and consequently also the assessment of anti-competitive effects and consumer harm. As such, Geradin and Kuschewsky may be correct when they mean that there are no particular challenges in addition to the ones related to determining the relevant market and the assessment of dominance.

**4.2.4. Leveraging of market power into adjacent markets**

Leveraging of market power, i.e. using the market power in market A to gain foot in market B, is very common in digital markets. Competition authorities should be careful to avoid an automatic conclusion that such behaviour is an unwelcome attempt to monopolise adjacent markets. It is helpful to **distinguish between leveraging on the basis of merits and leveraging (purely) on the basis market power**.

Applying digital technologies in other industries (e.g. automotive or energy) expands the innovation frontier in those industries by introducing new technologies and new (platform based) business models in those other industries. Digital companies that are familiar with both the technology and the new business models are looking to leverage their qualities into other industries. They compete on the basis of their merits as well as on the basis of market power. By doing so, they urge incumbents in those industries to innovate as well.

When monopolies are controlling bottlenecks that are contested by new business models, there is a risk for **defensive leveraging**. Defensive leveraging is not about reaping additional profits from a second market, but it is an attempt to defend the primary monopoly position. For example, Microsoft had a dominant position in the market for operating systems and thereby controlled a bottleneck. Software developers were depending on Microsoft to provide the necessary code that allowed them to make their software compatible with the Windows operating system. The internet then introduced a new threat for Microsoft. Web browsers and media players allowed service and content providers to circumvent Microsoft's bottleneck. As any company would do, Microsoft tried to counter that threat, but in several cases both the European Commission<sup>171</sup> as well as the

<sup>170</sup> Geradin and Kuschewsky (2013).

<sup>171</sup> See Box 5 and Box 7.

United States FTC<sup>172</sup> concluded that Microsoft did not compete on its merits, but rather leveraged its market power and violated anti-trust law.

We conclude that in digital markets offensive leveraging, i.e. trying to get a foothold in adjacent markets, is a lesser problem than defensive leveraging, i.e. trying to prevent others from gaining ground in your market. The former is often based on a mixture of competition on merits and leveraging of market power, and could have positive effects on innovation in adjacent markets. The latter is often purely based on leveraging of market power and rarely has positive effects on innovation in adjacent markets.

#### 4.2.5. Conclusion

It is not always clear if a particular behaviour can be considered anti-competitive or not. Quantitative benchmark tests do not work in the context of digital markets, and many current businesses that seem to have strong market positions are contested by future business models.

Evaluating mergers is particularly challenging. The take-over of a smaller firm may dampen future competition, but it is very difficult for a competition authority to foresee such effect. Too vigorous enforcement of merger control in such cases may hamper innovation and hence we advocate sticking to a prudent enforcement of merger control and relying on existing anti-trust law. When a merger concerns two parties that both have considerable numbers of users, competition authorities should be aware of a tipping effect. **Particular attention should be given to mergers involving non-transaction markets with indirect network effects where actors typically follow a multi-platform strategy.**

In some cases there is less doubt. Exclusive agreements only become a problem if they block competitors to compete with alternative content and/or are alternative routes. A set of multiple exclusive agreements is more likely to have this effect than a single agreement. Offensive leveraging can have positive effects when it is based on merits; leveraging has negative effects when it is defensive.

#### 4.3. Competition law versus sector regulation

The choice between relying on competition law (notably article 101 and 102 TFEU) or sector specific regulation depends on the degree of confidence in the self-correcting powers of the market, the time horizon that one allows for such forces to take effect, and the assessment of risks of regulatory failures.

Reliance on competition laws may be preferable when a reaction to anti-competitive behaviour (once identified) is likely to allow the consequences of anti-competitive conduct to be reversed, i.e. the risks to long-lasting harm are low. The risk of long-lasting harm is lower when the market has self-correcting powers that challenge dominance within a reasonable time frame. It is not always immediately clear whether long-lasting harm may result from anti-competitive conduct. This becomes clear, for example, from the discussion about net neutrality (see Box 17 below).

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<sup>172</sup> *United States v. Microsoft Corporation*, 253 F.3d 34 (D.C. Cir. 2001).

**Box 17: Net neutrality in Europe**

Some proponents of net neutrality believe that in the absence of net neutrality rules, there is potential abuse by dominant ISPs having harmful effect on innovation by both ISPs and content and application providers<sup>173</sup>. Some governments (including the Netherlands and Slovenia) share this view and have imposed net neutrality rules. From Sections 2.2.3 and 2.3.2 it follows, however, that ISPs may have incentives to block or throttle data streams, but that they also have incentives not to do so. In any case, BEREC reports in 2014 that *'very few NRAs have reported specific relevant net neutrality incidents'*<sup>174</sup>.

The discussion in Europe seems to focus on the ability of NRAs to deal with net neutrality issues. BEREC believes that *'existing regulatory tools, when fully implemented, should enable NRAs to address net neutrality-related concerns'*<sup>175</sup>. These regulatory tools include the strengthening of competition among ISP on the basis of Article 7 of the Framework Directive<sup>176</sup>, and promoting transparency and switching as well as and guaranteeing a minimum level of service quality on the basis of the Universal Service Directive<sup>177</sup>. In other words, BEREC states that it has the regulatory tools to intervene *ex ante*. As such, BEREC says little about the effectiveness of the use of general competition law to mitigate risks<sup>178</sup>.

Several legal commenters have expressed the view that competition law can be used to mitigate net neutrality risks<sup>179</sup>. Maniadaki<sup>180</sup> analyses this question more thoroughly. She concludes that competition law can address the issue from various angles, including refusal to deal, discrimination and unfair pricing, and excessive pricing. Maniadaki does not answer the question whether there is a risk to long-lasting harm when using competition law.

So far, there has been little to no research into the question whether there is a risk to long-lasting or permanent harm when relying on competition policy for dealing with net neutrality issues. As such, we share the view expressed by Marcus (2014)<sup>181</sup> that *'it is important to avoid inappropriate, disproportionate, or premature action. [...] Preventative measures for threats that may or may not appear risk doing more harm than good'*<sup>182</sup>.

<sup>173</sup> See SEO, 2013.

<sup>174</sup> BEREC (2014), 'BEREC Annual Reports – 2013', BoR (14) 60.

<sup>175</sup> BEREC (2012), 'Summary of BEREC positions on net neutrality', BoR (12) 146.

<sup>176</sup> Electronic Communications Framework, Directive 2002/21/EC, OJ L 108, 24.4.2002, p. 33–50. <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435591760003&uri=CELEX:32002L0021>.

<sup>177</sup> Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services. OJ L 108, 24.4.2002, p. 51–77. <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435591819986&uri=CELEX:32002L0022>.

<sup>178</sup> Except for in footnote 9 where it admits that general competition law can also be used to further foster competition.

<sup>179</sup> <http://www.lexology.com/library/detail.aspx?g=8e217437-7d78-44be-800f-d312261543e4> and [http://www.taylorwessing.com/download/article\\_comp.html#.VVp5KE0w-0E](http://www.taylorwessing.com/download/article_comp.html#.VVp5KE0w-0E).

<sup>180</sup> Maniadaki K. (2014), 'EU Competition Law, Regulation and the Internet. The Case of Net Neutrality', *International Competition Law Series*, Wolters Kluwer Law, Vol. 59, 2014, p. 416.

<sup>181</sup> Marcus, S. (2014). Network Neutrality Revisited: Challenges and Responses in the EU and in the US. A study for the European Parliament IP/A/IMCO/2014-02, [http://www.europarl.europa.eu/RegData/etudes/STUD/2014/518751/IPOL\\_STU\(2014\)518751\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2014/518751/IPOL_STU(2014)518751_EN.pdf).

<sup>182</sup> On 26 February 2015, the United States FCC passed rules to ensure net neutrality in the US. The FCC has prohibited blocking and throttling of data as well as paid prioritisation (see <https://www.fcc.gov/openinternet>).

Because of scale economies and network effects, anti-competitive conduct in digital markets can result in tipping a market. As such, there is a risk that anti-competitive conduct creates monopoly positions. The potential harm to competition is probably not permanent because of the presence of potentially disruptive innovators. It may be long-lasting though; as the question is *when* will these disruptive innovators be successful?

Applying competition law to digital markets involves the **risk that interventions are too late** and/or result in a false positive outcome, for instance allowing anticompetitive practices to occur without detection and remedy. These risks are inherent in the fast moving nature of digital markets, but current practice by competition authorities may elevate these risks:

- The OECD (2013b) and Filistrucchi et al (2013) claim that competition authorities often lack the **necessary expertise** with digital technologies and/or experience difficulties in incorporating the latest economic insights;
- the OECD (2013b) states that competition authorities from various nations/continents fail to **cooperate** while the digital economy and thus the relevant geographical market has become worldwide in scope; and
- competition authorities may be tempted to rigidly stick to applying **established competition law concepts** in the digital context<sup>183</sup>.

### Sector specific regulation as a solution?

Would sector specific regulation, possibly enforced by a dedicated sector specific regulator, be a solution? It may improve the level of expertise of the authorities, but it does not help solving the other two of the above mentioned problems. On the contrary, sector specific regulation may add two additional problems.

The first additional problem is that public authorities can only use the **tools available** to them according to their legal mandate. Where there is pressure to solve a perceived problem in a particular sector, there is a risk that authorities will get to work using their available tools whereas better alternatives are available<sup>184</sup>. In principle, both sector regulators and competition authorities could fall into this trap, but the risk is larger for regulators as they may perceive larger (political) pressures to solve a sector specific problem. As a result, setting up a dedicated regulator may enlarge the risk of false negative outcomes when inhibiting competitive behaviour by wrongly labelling it as anti-competitive. In the dynamic context of digital markets, a false negative outcome may result in considerable harm for future consumer welfare because the consequences of hindering innovations have a long term impact. Regulatory intervention can sometimes be more speedy and effective than action by a competition authority, especially where there is a risk that competitive harm cannot be undone. However, in the context of rapidly evolving digital markets, we think this is the lesser risk and therefore advocate sticking to competition law, unless evidence builds up of its ineffectiveness in this area.

The second additional problem is that specific regulators may be made responsible for addressing problems that can easily and more efficiently be addressed by applying general competition law. As a result, **regulation may even be slower** than applying competition law. For example, the Commission has relied on regulators to safeguard end-users against

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<sup>183</sup> See Section 4.1, Filistrucchi et al 2013, and OECD 2013b. This argument could follow from the lack of necessary expertise (first bullet point) or because legal services within competition authorities find this an unwise strategy to follow in the particular case at hand, or for other reasons.

<sup>184</sup> Here we refer to *Maslow's hammer problem* - '[it] is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail' (Maslow 1966).

excessive roaming charges within the context of Article 7 of the Framework Directive<sup>185</sup>. This approach turned out to be ineffective because NRAs were struggling with defining and regulating cross border markets<sup>186</sup>. Consequently, the Commission developed an additional roaming regulation<sup>187</sup>. No initiative was ever taken by the Commission to examine whether the roaming problem could have been addressed on the basis of Article 101 TFEU. Ecorys et al<sup>188</sup> present arguments on the basis of which Article 101 TFEU could have been used for addressing the roaming problem (see Box 18 below).

**Box 18: The roaming problem from the perspective of Article 101 TFEU**

Ecorys et al (2011) explain that *'Initially roaming at wholesale level was arranged [in 1987] via a memorandum of understanding (MoU) between MNOs obliging all mobile operators to grant access to foreign operators. One can see the MoU as a form of self-regulation addressing the problem of very large transaction costs involved when every operator on its own has to shop around in 27 countries to offer its clients EU wide coverage. However, as with every form of self-regulation, there is a danger to rent seeking. In effect the MoU eliminated competition among national MNOs and thus led to monopolistic wholesale prices. As such, the MoU functioned de facto as an institutional arrangement for collusion.'*

**Problems when sticking to competition law**

If case of relying on competition law to solve the challenges of the digitalised economy, the first problem (competition authorities lacking expertise) may be addressed by<sup>189 190</sup>:

- setting up an EU wide **collaboration platform** among competition authorities and DG Competition where they meet and exchange views and insights **on the digital economy**;
- regularly invite expert advisors at such meetings to keep the **authorities informed about technological developments and new economic insights**;
- participate in industry **coordinative processes**<sup>191</sup>;

<sup>185</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108, 24.4.2002, p. 33–50. <http://eur-lex.europa.eu/legal-content/AUTO/?uri=CELEX:32002L0021&qid=1435591935980&rid=1>.

<sup>186</sup> see Ecorys et al 2011.

<sup>187</sup> Regulation (EC) No 717/2007 on roaming on public mobile communications networks within the Community (OJ L 171, 29.6.2007, p. 32–40), which was later replaced by Regulation (EC) No 531/2012 on roaming on public mobile communications networks within the Union (OJ L 172, 30.6.2012, p. 10–35). See: [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2007.171.01.0032.01.ENG](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2007.171.01.0032.01.ENG) (717/2007). <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435592145292&uri=CELEX:32012R0531> (531/2012).

<sup>188</sup> Ecorys, TUDelft, and TNO, 'Steps towards a truly Internal Market for e-communications - In the run-up to 2020', Study for the European Commission, DG Information Society and Media (2011).

<sup>189</sup> Some of these suggestions have also been proposed by participants in the *Digital Economy hearings* of the OECD in 2012 (OECD 2013b).

<sup>190</sup> Some relate to views expressed by stakeholders (not specifically related to digital markets) in the Eurobarometer (2014): *'Half of the participants were less positive and raised a number of issues [...] They questioned DG Competition's willingness to have open dialogues with local experts/companies and find out what they need to know' and 'Around a third of participants felt that at times DG Competition lacks understanding of specific market dynamics and felt they would like to see DG Competition dialogue more with companies and sector experts.'*, see Eurobarometer (2014) *'DG Competition stakeholder survey: Companies Report'*, Eurobarometer Qualitative Study, December 2014.

<sup>191</sup> For example, the Commission already participates as an observer in standard setting bodies like ETSI.



- conduct **sector inquiries** into digital markets<sup>192</sup>; and
- use external expert advisors with **expertise in the respective specific digital field** while building a case.

Concerning the second problem (intervening in global relevant markets), competition authorities could coordinate and **cooperate more** when dealing with the digital economy. This point was recognised by the participants in *The Digital Economy* hearings of the OECD in 2012<sup>193</sup>. An example of where coordination and cooperation might have saved time and effort are the Microsoft cases of the 1990s and 2000s<sup>194</sup>.

Concerning the third problem (rigidly sticking to traditional concepts that have clearly shown deficiencies), a solution is to develop new concepts that do work (see Section 4.1 and 4.2) and be more ready to **depart from previous practices** rather than being consistent with them, when there is a factual justification to do so. The European Commission may support this e.g. by issuing/reviewing guidance on assessing competitive constraints that specifically focus on the lessons from Section 4.1.

Finally, the timing of interventions in digital markets can be improved by developing an **early warning monitoring system**. A similar suggestion was made by participants to the OECD's hearing *The Digital Economy* in 2012<sup>195</sup>. However, relying on a monitoring system involves the risk that it creates false security because of the difficulties involved with picking up disruptive innovative trends. Rather than developing systematic monitoring tools, competition authorities may engage in **regular interaction** with stakeholders and sector experts, attend industry conferences, and, once more, conduct sector inquiries to learn constantly about digital business concepts.

#### 4.4. Some observations on the use of structural and behavioural remedies

In the previous sections we have discussed the many challenges that competition authorities face when analysing digital markets and distinguishing anti-competitive behaviour from normal business strategies. It is equally challenging to determine when the application of legal instruments is beneficial or when applications are too intrusive and start hampering innovation. In our view it makes sense to first deal with the challenges involving the assessment of dominance and anti-competitive behaviour, before one can elaborate on challenges regarding **choosing appropriate remedies**. As such, we remain with some general observations concerning the choice between structural and behavioural remedies.

Structural remedies impose changes to the structure of an undertaking or impose changes in product design. Behavioural remedies affect the conduct of firms, potentially in combination with a fine.

Council Regulation No. 1/2003 (Recital 12) states that '*[s]tructural remedies should only be imposed either where there is no equally effective behavioural remedy or where any*

<sup>192</sup> Like the recently started e commerce sector inquiry, see [http://ec.europa.eu/competition/antitrust/sector\\_inquiries\\_e\\_commerce.html](http://ec.europa.eu/competition/antitrust/sector_inquiries_e_commerce.html), which has been announced while the research for this study was well under way.

<sup>193</sup> See OECD (2013b).

<sup>194</sup> While the FTC investigated a case against Microsoft involving web browsers (*United States v. Microsoft Corporation* 253 F.3d 34 (D.C. Cir. 2001), the Commission focussed on other behaviour of Microsoft (Case COMP/C-3/37.792 see Box 7). Seven years later, the Commission opened an investigation against Microsoft involving web browsers (Case COMP/C-3/39.530, see Box 5). Some coordination between the FTC and DG Competition when starting the first investigations against Microsoft might have saved the efforts of the latter case.

<sup>195</sup> See footnote 193.



*equally effective behavioural remedy would be more burdensome for the undertaking concerned than the structural remedy. Changes to the structure of an undertaking as it existed before the infringement was committed would only be proportionate where there is a substantial risk of a lasting or repeated infringement that derives from the very structure of the undertaking*'.<sup>196</sup>

The OECD (2001) states that '*behavioural policies, unlike structural policies, do not eliminate the incentive of the regulated firm to restrict competition*'. This quote may be more applicable to digital markets than to other markets. Digital firms often compete in a winner-take-all game. Under these circumstances a first-mover advantages may be so important that it is more favourable to a company to infringe the law, for example to occupy a given position and prevent the rise of competitors, and subsequently pay the consequences in terms of liability under competition law, rather than play fairly from the outset.

The previous paragraphs suggest that structural remedies may be preferred over behavioural remedies in the context of digital markets. However, the key word in Recital 12 of Council Regulation No. 1/2003 is **proportionate**. Structural remedies may do more harm than good given the dynamic nature of digital markets, the limitations of competition authorities to pick up disruptive innovations, and hence the risks to false negative interventions. Under these circumstances there is some value to **sticking to a prudent enforcement of competition law, reminding everyone that there are rules and trying not to impair market dynamism too much**. As such, starting an investigation, e.g. a sector inquiry and/or an anti-trust case, has some potential remedial effects in itself. An inquiry or official investigations against a company creates precedents making large firms with strong market positions more aware of their special responsibilities<sup>197</sup>.

#### 4.5. Conclusion

It has become clear that the established procedures in applying competition law do not provide adequate answers when firms compete by developing new business models, and by doing so, constantly push the borders of existing markets, as well as create new markets. Hence the **established procedures in competition policy need to be refined** — not so much for today's digital markets in particular, but for many other markets as well, as regular markets are digitalising rapidly. We also pointed out that accompanying measures in other policy domains will remain necessary, as competition policy cannot solve everything<sup>198</sup>.

When applying competition law, competition authorities need to take the **business models as a starting point** for the analysis. The analysis should primarily focus on how a company makes profits and on how other companies or business models may steal that profit away. By doing so, competition authorities can better integrate the market definition and market power assessment stages. It allows them to better account for interdependencies between multiple platforms.

<sup>196</sup> Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty (Text with EEA relevance). Official Journal L 001 , 04/01/2003 P. 0001 – 0025. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003R0001:EN:NOT>.

<sup>197</sup> As only two examples see the echo in the press when the Commission announced that it opened an official investigation in the case of Google in April 2015, see press release [http://europa.eu/rapid/press-release\\_IP-15-4780\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4780_en.htm) or its announcement to open investigations on the e-book distribution agreements of Amazon in June 2015, see press release [http://europa.eu/rapid/press-release\\_IP-15-5166\\_en.htm](http://europa.eu/rapid/press-release_IP-15-5166_en.htm).

<sup>198</sup> E.g. consumer protection, intellectual property right laws, privacy laws, data protection, etc.

In the assessment of dominance, competition authorities may rely less on traditional indicators such as market shares or profit margins. They rather focus on indicators that inform about **contestability**, such as the presence of **entry barriers**, the availability of alternative routes to reach end-users, and the degree of **innovation in unexplored technologies/services**.

**The key to distinguishing anti-competitive behaviour from normal business strategies is to establish whether a dominant firm's conduct is closing down routes to reach end-users.** For example, mergers may have such effect when they involve the merger of large platforms with many users, of which at least one operates a business model that exploits indirect network effects in non-transaction markets. Similarly, a set of multiple exclusive agreements may close down routes to reach end-users and defensive leveraging may prevent the creation of alternative routes.

Competition authorities need to follow a more **prospective approach** because of the central role of *potential* competition. Rather than developing systematic monitoring tools, competition authorities may engage in **regular interaction** with stakeholders and sector experts, attend industry conferences, and conduct sector inquiries into digital markets. In addition, competition authorities from different countries/continents should **coordinate and cooperate** more when dealing with the digital economy in order to account for the globalisation of the relevant market.

We advocate against setting up a digital economy regulator. Setting up a dedicated regulator does not help addressing the problems we identified. Moreover, it enlarges the risk to inhibiting competitive behaviour and thus innovation by wrongly labelling it as anti-competitive.

## 5. CONCLUSIONS ON POLICY MEASURES

### 5.1. Competition in digital markets

Competition in digital markets is characterised by scale economies and network effects. In the competitive process, access to user data is essential for improving the experience of a digital service for end-users on both sides of the platform. The experience can be further enhanced when a company operates multiple platforms. The company can obtain end-user data from multiple platforms and use that data to improve the experience across the platforms. As such, digital platform operators aim at making themselves indispensable for (i.e. lock-in) end-users at each side of the platform and place themselves in gatekeeper positions.

The competitive process among digital firms gives rise to potential tipping markets with winner-takes-all outcomes. However, even when some digital platforms are considered to be near monopolists or gatekeepers, they can hardly afford to relax. First, it is not easy to create or maintain gatekeeper positions as there are many alternatives for bypassing a gatekeeper. The digital economy can be described as a **complex structure of platforms stacked on each other allowing for multiple routes to reach end-users**. Second, if dominant digital firms do not innovate, they will be replaced by others. As a result the digital economy is characterised by a very **high degree of innovations by both challengers and incumbents**. Digital firms compete by developing **new business models** and, by doing so, continuously **redefine the boundaries of a market or create new markets**.

### 5.2. The role of competition policy

The fast developments in the digital economy are not only challenging existing markets, but also existing policy frameworks. This includes competition policy, but also policies with respect to inter alia consumer protection, privacy, taxation, and intellectual property rights. While current policies are being challenged, the public values they primarily aim to preserve may be at stake. In addition, these fast developments may result in competition problems.

We have discussed ten competition problems in relation to digital markets<sup>199</sup>. The Horizontal conclusions that we draw from the analysis of these ten problems are that competition authorities and policy makers should focus on **preventing the creation of entry barriers, facilitate entry into markets, and foster innovation**. Competition authorities should have a cautious attitude towards competition problems and to trust in the self-correcting powers of the market, provided that certain public values such as taxation, privacy and security are protected by appropriate (other) policy frameworks. If the latter is not the case and this causes competition problems, competition policy instruments can sometimes be used to temporarily fix the problem if changing other policy fields is problematic.

Below we present an overview of the ten problems and summarise our conclusions on the options for competition authorities and/or for policy makers. After briefly summarising each problem, we first discuss options for competition authorities to respond to these challenges within their current legal mandate as these options require no change in policy.

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<sup>199</sup> See full list of problems in Section 3.1.

### 5.3. Problems involving particular challenges for the application of competition law

The first three of the ten problems concern the tendency of digital markets to tip, resulting in digital monopolies. The three problems are closely related: once digital giants have placed themselves in a gatekeeper position, they **lock-in end-users** at both sides of the platform and aim to make themselves indispensable; once they have made themselves indispensable, large digital giants could potentially **hamper competition and innovation**; not only in their own markets, but also in other markets via the **leveraging of market power**.

In relation to these problems we discuss pre-emptive mergers as potentially problematic. A pre-emptive merger is aimed at preventing a (potential) competitor from disrupting one's business model by acquiring the company. Similarly, leveraging of market power and entering into a set of multiple exclusive agreements are potentially problematic behaviours when they close down or prevent the creation of alternative routes to reach end-users. Such behaviours would fall within the reach of anti-trust law (Articles 101 and 102 TFEU and the Merger Regulation).

It is difficult to distinguish anti-competitive motives from normal business strategies; particularly because it involves future markets. Wrongly labelling behaviour as being anti-competitive may have adverse effects on the dynamics in the market. For example, while there may be pre-emptive motives for the acquisitions of small company, competition authorities should remain cautious not to consider all acquisitions as anti-competitive. This might have serious adverse effects on innovations as the prospects of a take-over forms an incentive to innovate.

When applying competition law, competition authorities face a different set of challenges. These challenges involve the analytical steps and instruments used for assessing the relevant market and dominance. The analytical steps typically start with describing the market boundaries, followed by an analysis of market power and whether the behaviour of firms is anti-competitive. Digital firms, however, constantly redefine the boundaries of the market by competing largely on the basis of innovation. It follows that **in digital markets, the traditional step-by-step analytical approach does not work because of strong dynamic feedback effects running from firm behaviour to market structure**<sup>200</sup>. For the same reason, market shares or profit margins are less useful for determining market power.

In response to these challenges, competition authorities may want to:

- take the **business models** as a starting point, focussing on how a company makes profits and what other companies or business models may steal that profit away. Such approach integrates the market definition and market power assessment stages. It allows to better account for interdependencies between multiple platforms and the interactions between firm conduct and market boundaries;
- rely less on traditional indicators such as market shares or profit margins. They rather focus on indicators that inform about **contestability**, such as the presence of **entry barriers**, the availability of **alternative routes to reach end-users**, including the presence of measures aimed at locking-in end-users, and the degree of innovation in unexplored technologies/services;

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<sup>200</sup> See Section 4, figure 7.

- follow a more **forward looking approach** because of the central role of *potential* competition. In practice this means following a cautious approach and relying on self-correcting powers of digital markets that make permanent harm less likely;
- involve more **external IT experts** to help to better understand business models and future trends;
- intensify cooperation with competition authorities from various nations/continents because the digital economy is operating globally with consequences for defining the relevant geographical market.

In order to support competition authorities, policy makers may:

- potentially mitigate competition problems by amending data protection regulation. Introducing **data portability** as a right to transfer one's own data from one platform to another in a commonly-used electronic format would have a positive impact on the interoperability between platforms, lower switching costs, and improve the competitive process;
- draft a guideline/a guidance paper on **assessing competitive restraints in digital markets**;
- **review existing guidelines on horizontal mergers**, where particular attention should be paid to:
  - mergers involving non-transaction markets with indirect network effects;
  - defining new metrics used in setting the threshold values for determining when a merger needs to be notified;
  - developing the concept of *maverick firms* in the context of dynamic markets.

#### 5.4. Other problems to be addressed by competition policy

Two problems that we discussed seem to involve little or no challenges for competition authorities in addressing these.

The first problem involves the risk that **State aid for broadband deployment can unnecessarily disturb market dynamics**. The reasons that State aid may be distortive is, that government decisions experience electoral pressures, are not fully informed (asymmetric information), and that governments are not free from being lobbied. In relation to broadband markets, all of these factors are prominently present at local level governments. Recognising these risks, the European Commission issued the Broadband State aid Guidelines. To ensure proper implementation of these guidelines, the following could be done:

- Despite scarce resources, competition authorities should screen the behaviour of governments and check whether it is in line with the Commission's Broadband State aid Guidelines.
- No additional policy action is needed in addition to the Commission's Broadband State aid Guidelines.

The second problem involves the risk that **ISPs may exploit a potential gatekeeper position vis-à-vis digital service providers**. The biggest concern raised by proponents of net neutrality is whether an obligation to pay for access to customers would strangle at birth the business plans of innovative internet start-ups and consequently deprive users of the next great innovation. The following could be done to mitigate the risk:

- Competition authorities can use Article 102 TFEU to establish whether traffic management techniques are used in an anti-competitive manner.

- Policy makers need to rely on competition authorities until a clear line of argumentation has been developed that specifies if and how *ex post* control for anti-competitive use of traffic management techniques might have a long-lasting/irreversible impact.

### 5.5. Competition policy addressing problems caused by other policies

Two competition problems that we discussed may require an intervention by competition authorities. The problems originate however from a limited effectiveness of other policies in addressing non-competition problems. Changing these other policies would be a first-best solution, but it is difficult to adjust these policies because of practical/political reasons.

The first problem is that **Standard Essential Patents (SEPs) are potentially used to prevent access to technology via patent injunction**. The problem is caused by a lack of clear licensing terms and a lack of a consistent approach to the enforcement of the rights of patent holders. It is not always clear in patent injunction cases whether the rights of the patent holder are truly violated, or whether the patent holder aims to hinder its competitor by denying access to a technology. The following could be done to mitigate the risk:

- Competition authorities are equipped to address this challenge because an injunction involving SEPs has the effect of foreclosing an entire market. However, competition law struggles with addressing the lack of clarity about the definition of FRAND terms.
- Policy action on the clarification of rules on patent disclosure and licensing on FRAND terms would be a first-best solution to increase legal certainty.

The second problem is that **tax planning and avoidance have the potential effect of distorting competition**. Within the boundaries of the law, multinational enterprises engage in tax planning, i.e. shifting profits to low-tax jurisdictions even if the actual economic activities are not performed there. Tax competition between countries is a root cause, leaving gaps between different tax systems. Tax competition is harmful if it leads to a race to the bottom on tax rates and/or if it results in an erosion of the tax base. Tax competition thereby lowers public finances and/or shifts the tax burden to less mobile factors of production (e.g. labour) or less mobile companies. Notably SMEs are among the less mobile companies. The following could be done to mitigate the risk:

- Competition authorities can use State aid rules to control for harm to competition among enterprises where tax rulings constitute State aid<sup>201</sup>. In general, competition law may not provide a durable and universal solution for the tax avoidance problem.
- A legislative and/or policy action is necessary along the lines of the already existing proposals on a Common Consolidated Corporate Tax Base, an automatic exchange of information between tax authorities of Member States about tax rulings, and the Code of Conduct concerning business taxation.

### 5.6. Problems to be addressed by other policy fields

Three problems should primarily be addressed by other policies:

The first problem concerns **privacy and data protection**. Consumers are not always aware that digital service providers collect and analyse private data; nor are consumers aware of the security risks involved when that data falls into the wrong hands. Even if

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<sup>201</sup> This is currently the case in Amazon (Case SA.38944) see Box 12.

consumers are aware, it is not clear to them how firms use or protect the information they retrieve via online transactions. The following could be done to mitigate the risk:

- Competition authorities can do little to address to the problem because the problem exceeds their legal mandate.
- Policy action should aim at adapting data protection and privacy regulation. While doing so, the impact on the competitive process between digital platforms should be specifically analysed in the impact assessment of a related policy proposal<sup>202</sup>.

The second problem is that **geo-blocking may hamper the Digital Single Market**. The ability to access content everywhere throughout the EU is not always hindered by a lack of network or platform interoperability. The ability to access content is often prevented by geographical restrictions imposed by the owners of Intellectual Property Rights (IPR) in the licensing agreements. The following could be done to mitigate the risk:

- Competition authorities can use Article 101 and 102 TFEU to address the imposition of geographical restraints as it has the effect of recreating national barriers on the single market and eliminating competition between broadcasters. However, competition law can only be used when restrictions are imposed by dominant companies.
- Policy action in the field of copyright law is preferred to an intervention by competition authorities because the problem directly results from flaws in the legal framework governing copyrights<sup>203</sup>.

The third problem relates to the possibility that **spectrum auctions may raise entry barriers into telecom markets**. The allocation of spectrum rights is typically orchestrated by means of an auction. Mobile operators bid against each other to obtain the best possible combination of spectrum rights. The amounts eventually paid for these rights often seem very high (several billion euros) and may raise concerns about auctions unnecessarily creating/raising entry barriers. The following could be done to mitigate the risk:

- Competition authorities should do nothing beyond the monitoring of collusive practices in advance of and/or during an auction.
- Policy makers can mitigate the problem of entry barriers by introducing countering measures in the design of auction. Such measures include, inter alia, imposing spectrum caps, reserve blocks of spectrum for new entrants, and impose role out obligations on rights holders.

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<sup>202</sup> European Commission (2015) - the recent European Commission staff working document on *A Digital Single Market Strategy for Europe* SWD(2015) 100 final - indicates that once the General Data Protection Regulation COM(2012) 11 final is adopted, most of the problems will be addressed. Notably the right to data portability and the right to be notified when the security of personal data is breached are promising ideas reflected in the Regulation.

<sup>203</sup> The staff working document SWD(2015) 100 final recognises the limitations of competition law as well as the limitations of the Services Directive. The working document is not concretely spelling out specific actions: '*Geo-blocking may be examined from a competition law perspective, as well as from other legal perspectives (e.g. non-discrimination and freedom to provide services, enforcement of consumer rights, commercial practices and contract law).*' See European Commission (2015, pp. 24-25).



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