



Bundeskartellamt

# Working Paper

## Market Power of Platforms and Networks

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## A. Introduction

The Internet has changed the way in which we engage in economic activity in numerous ways, reducing search and transaction costs and contributing to a broader supply and dynamic development of markets and competition.

From a competition policy perspective, it is in particular the special features of multi-sided platforms and networks that pose a challenge. In many cases, the alleged paramount market power of enterprises operating in the digital economy has raised concerns. Competition authorities and courts need to take into account the underlying principles and the complexity of business models and economic relations when they review specific cases on the basis of competition law.

In early 2015, the Bundeskartellamt (Federal Cartel Office) set up its Think Tank assigned to the 6th Decision Division<sup>1</sup> because of the authority's need to respond adequately to the challenges of the digital economy for antitrust enforcement. The Internet is relevant for many cases. Large US Internet companies such as Google, Facebook and Amazon are operating on a national and European level with a high-profile online presence. At the same time, their competitive conduct and their strategies always provoke intensive discussions about competitive harm caused by such strategies and the question of whether they are legal or should be dealt with under a regulatory framework. These debates are conducted in a multitude of different contexts and, aside from questions of antitrust legislation, pertain to regulatory questions of media and telecommunication law as well as the future consumer protection issues. They are conducted in a European context as well as on a federal and regional level in different political, scientific and economic organisations.

Many of the problems identified by these debates raise the question of whether they can be resolved on the basis of competition rules already in place or by a revised competition law regime. The Internet companies in question are considered to have superior market power and their conduct is seen as problematic and potentially abusive within the meaning of competition law. The above question is directed in particular to the competition authority which would have to review the legal basis and specify any potential need for new legislation if enforcement of competition law revealed significant legal gaps.

The extremely high degree of complexity of the subject matter, which is also new in many respects, requires an in-depth analysis of the digital economy and antitrust questions on the basis of specific cases. Therefore, the Think Tank has been established as part of one of the

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<sup>1</sup> Members of the Think Tank Internet: Dr Irene Sewczyk, Holger Dubberstein, Sandro Gleave, Julia Nitsch, Dr Sebastian Wismer, Julia Topel

Bundeskartellamt's operational decision divisions to establish the necessary link to case practice. The 6th Decision Division is largely responsible for all media communication and in particular web contents and, as such, reviews in particular cases in which the big Internet players such as Google, Facebook or Amazon are involved. In addition to (five) members of the Decision Division, the Bundeskartellamt's General Policy Division is also represented in the Think Tank.

## I. General Approach and Selection of Relevant Topics

With the support of the Think Tank, it is the Bundeskartellamt's goal to expand its expertise in the field of the digital economy, to develop **antitrust investigation concepts** including relevant **case practice** and – to the extent required – highlight any need for legislative action. This goal requires a general approach which combines theory and case practice. At the same time, the specifics of economic relations in the World Wide Web have important implications for the competitive conduct of businesses and antitrust law enforcement. The economic models and analyses available are complex. Therefore, the Think Tank compiled an extensive list of topics which addresses the most important antitrust questions and topics of discussion raised by the digital economy from an economic and legal point of view. The Think Tank screens economic and legal literature for these topics, as well as antitrust rulings and practice, and reviews existing concepts for their relevance in and applicability to antitrust investigations. This is a necessary step in particular with regard to economic models, as these usually consider market processes on the basis of certain assumptions without considering antitrust aspects as well. The same applies to current legal concepts found in literature and legislation; these need to be reviewed one by one for their applicability and development potential with regard to antitrust questions of the digital economy. The Think Tank addresses these topics on the basis of specific cases in ongoing proceedings as well as current input and complaints to the 6th Decision Division. To this end, assessment and investigation concepts are being developed which will be used for immediate validation.

The **topics selected** are meant to reflect both the competition policy discussion and the phenomena typically encountered in the digital economy:

When considering Internet businesses and the services they offer, this inevitably raises questions for competition law which relate to **two-sided or multi-sided markets** (platforms in an economic sense) and **networks**. This is because the services used for structuring and finding web-based contents often perform an intermediary function and bring together relevant users or groups of users.



The “setting” of the services in the Internet leads to the question of how economic relations are designed and competitive positions are established in the web. An important element in this context is the **need for automation** of economic processes in view of millions of connections and operations that can only be processed with automated technology. Consequently, in many cases there is hardly any specific contact or negotiation between the parties to a transaction; these are replaced by factual behaviour adapted to the Internet’s function. The common “**everything for free culture**“ of the Internet is another element that generates or necessitates certain business models and relations between users.

Whenever the conduct of major Internet companies is the subject of political debate, the issues of **market power** and business conduct based on market power are often at the top of the agenda. Consequently, the Bundeskartellamt primarily addresses the question of **market power of platforms and networks** in this paper. For the purpose of antitrust investigations, market power is particularly relevant in cases where the market power amounts to a dominant market position (Sect. 18 of the German Competition Act, GWB). Market dominance is a relevant criterion because, firstly, dominant companies are subject to special abuse control regulations (Sect. 19 GWB) and, secondly, the creation or strengthening of a dominant market position represents the standard example of a significant impediment to effective competition (SIEC) as a result of a merger (Sect. 36 (1) GWB). However, the SIEC test applied in merger control is also able to identify increases in market power (unilateral effects) below the threshold of market dominance. In addition, market power may also be a relevant factor in assessing contractual restrictions. This paper, however, does not address the different theories of harm in the areas of abuse control, merger control or the ban on cartels. It does not intend to preempt any antitrust decisions in this respect either.

## II. List of topics

On the basis of the factors outlined above, the Think Tank compiled a list of topics that, in a first step, examines platforms and networks separately.

The following topics are relevant in this context:

### 1. Market power of platforms

- **Terms and definitions** for platforms which take account of relevant aspects for anti-trust law;
- How economic views on so-called **transaction platforms** and **non-transaction platforms** can be used for antitrust assessments;

- **Questions of market definition, in particular**
  - **Possibility of defining a platform as one market** or separate analysis of a platform's two or more market sides on the basis of demand-side substitutability;
  - Do relations in the Internet **without a monetary payment** qualify as markets – considering the consumers' attention and/or provision of data as alternative forms of payment; internet conventions;
  - Applicability of certain methods for **definition of relevant markets** (SSNIP, supply-side substitutability);
- Definition and relevance of **indirect network effects** and **economies of scale**: applicability of economic considerations to so-called market tipping (**self-reinforcing positive feedback loops**);
- Assessment of types of user behaviour "**single-homing**" and "**multi-homing**" as well as the phenomenon of **platform differentiation**; how does this relate to the definition of a relevant market;
- Relevance of **market shares** in the context of platforms and relevant **performance indicators** in the Internet;
- **Innovative potential of the Internet**: principles and relevance for the market power assessment of platforms; concepts of **potential competition** in the Internet;
- **Data** as a factor of market power.

## 2. Market power of networks

- **Terms and definition** of networks which take account of relevant aspects for antitrust law;
- Relevance of **direct network effects**; relevance of compatibility and connectivity between networks; significance of installed base;
- Can points of examination for platforms be transferred to and are they also relevant for networks (economies of scale, multi homing, platform differentiation, market shares, innovative potential of the Internet, data).

So far, the Bundeskartellamt has predominantly been working on the **topics summarised under 1** in the context of specific cases, and continues to develop them on an ongoing basis. The network-related topics summarised under **2** have been subject to conceptual discussions and

are, to some extent, the subject of ongoing cases. Consequently, this paper will discuss them only briefly and cannot present a conclusive opinion on them at this stage. When addressing these topics, the Bundeskartellamt found that a primarily iterative process was required and that each topic raised anew issues discussed before and every new constellation in a case required all topics to be reviewed. Consequently, this report cannot provide a conclusive assessment of these topics, even though some points have meanwhile proven to be robust by case practice.

### III. Case practice

The 6th Decision Division has concluded three cases with conceptual input from the Think Tank during the reporting period. It reviewed another case together with the 8<sup>th</sup> Decision Division since the platform in question provides comparisons of energy prices. Three cases pertained to mergers, one of which was cleared unconditionally after a phase II review. The mergers of **Immonet/Immowelt** and **P7S1/Verivox** (joint case with the 8<sup>th</sup> Decision Division) were cleared after a phase I review. The 6th Decision Division decided on the case of **Parship/Elitepartner** after a phase II investigation. The fourth case concerned **Google's** behaviour in relation to the publishing houses of **VG Media**; The 6<sup>th</sup> Decision Division examined the case with respect to abusive behaviour and concluded it with a decision pursuant to Section 32c GWB.

In addition, the 6<sup>th</sup> Decision Division has two ongoing cases of abusive behaviour regarding Internet platforms and networks in which the Think Tank is also involved. The first case pertains to the conduct of the **ticketing platform CTS Eventim**. The second case involves data compilation and use by **Facebook** with respect to abuse of contractual terms and conditions. The Division is currently deliberating on other potential cases.

The Bundeskartellamt has applied the assessment concepts developed by the Think Tank in the cases concluded and resolved a number of questions, in particular in the phase II proceedings relating to the Parship/Elitepartner case. Summaries of the cases are provided in the annex to this report. The case decisions can be downloaded (in German) from the Bundeskartellamt's website.

### IV. Structure of the report

This report outlines the topics addressed in conjunction with conceptual considerations by the Bundeskartellamt's Think Tank and the relevant case practice.

The topics will be presented in the form of an antitrust examination model to assess market power, preceded by a brief overview of literature and practice under the heading "status of

discussion“. The report does not provide a full picture of literature and practice but only selected references that appear particularly suitable for application in competition law.

The status of discussion is followed by deliberations by the Think Tank on the subject that relate in particular to the applicability and transferability of concepts found in literature and practice to platform and network cases. These deliberations do not have decision quality, they merely illustrate assessment concepts for antitrust cases whose applicability needs to be re-evaluated for each specific case and which need to be developed further in case practice. The Think Tank does not develop any economic theories or models; it merely analyses the findings available in research and practice. Its purpose is to ensure an efficient application of the law by providing systematic assessment points and categorising problems.

The Think Tank's deliberations are complemented by examples from the Bundeskartellamt's case practice and other well-known cases from the digital economy.

The Bundeskartellamt has made available case summaries on its website. The relevant case summaries for this report have been attached to the report as an annex.

## **B. Platforms: Concepts for assessing market power**

In the Internet, services that economic theory defines as platforms are very common. They are characterised by at least two levels – the platform sides – between which a close economic connection exists. Economics refer to e.g. computer operating systems and credit card systems as well as advertising financed media such as in particular newspapers and journals as typical traditional platforms. Hence, platforms are not limited to the digital economy only. However, the Internet offers an exceptionally large number of such services. On the one hand, because of advertising financing which is particularly common on the Internet, and on the other hand, because of the communication and intermediation function of platforms.

So far, antitrust case practice has hardly addressed platforms as a separate category and the implications following from this, even though the phenomenon as such has often been identified in decisions and assessed in one way or another in some concepts. Yet, in the digital economy, platform constellations seem to pose new competition problems. The dynamic environment and the so-called externalities of platforms – indirect network effects – may allow companies to grow to enormous sizes at rapid speed, reaching dimensions that imply market power. The latter often seems to be regarded as obvious – to some extent even by the expert community.

At a closer look, however, it is difficult to examine the market power and market dominance of such companies on the basis of traditional assessment concepts, as this raises many questions that are new or at least have to be addressed anew in the context of the digital economy. This applies to both defining a relevant market (see Chapter I) and selecting the factors relevant to ascertaining market power (see Chapter II).

### **I. Markets affected**

Identifying the markets affected in a specific case is the first step in determining market power. A market definition serves as an instrument to determine competition forces that affect the companies concerned. Consequently, definitions of relevant markets in platform cases need to take into account the special characteristics of platform markets. This raises the question of what constitutes a platform from the perspective of competition law and what are its special characteristics (I.1.). This paper will illustrate that different types of platforms can be found (I.2). The differences between these types of platforms may be significant e.g. in the context of market definitions, in particular when it comes to the question if and when a single platform market can be assumed. (I.3.). Another phenomenon commonly found is the fact that Internet platforms usually offer their services for free. Thus, Chapter I.4. of this report will explore the question of whether a market within the meaning of the GWB can in principle be assumed even

without any monetary cash flow. Lastly, it will be necessary to discuss whether other concepts of market definition can also be used in addition to the market concept of demand-side substitutability applicable to platforms. This concerns in particular the SSNIP test and the concept of supply-side substitutability (under I.5.).

## **1. Definition of a platform under competition law**

From the perspective of competition law, it makes sense to use the term “platform” if and to the extent that it describes and defines a group of constellations with special characteristics that should be subjected to a special analysis in the context of antitrust law enforcement. This pertains to questions of identifying relevant market relations, analysing market power and exploring theories of harm. Hence, the definition formulated here should not be understood in the sense of a strict legal category; its purpose is to specify the phenomenon and to provide structure for an assessment.

Against this background, it is necessary to distinguish a platform as defined by competition law from other platform definitions, in particular the definition applied in media law (cf. Sect. 2 (14) RStV (Interstate Broadcasting Agreement)), and the platform topics<sup>2</sup> discussed in the context of media policy (for instance the fact that the platform aggregates online content and filters it for distribution, thus influencing diversity of opinion).

### **a) Status of discussion**

For some time now, economic literature has been addressing the phenomenon of platforms and their impact. In this context, platforms are defined as two-sided or multi-sided markets, where they serve as intermediary between two or more groups of users. Though the way two-sided markets work and how they differ from “classical” one-sided markets is generally accepted in literature<sup>3</sup>, there is no such consensus when it comes to a precise definition of two-sided markets for application in individual cases. There are various approaches for a precise definition of platforms and/or “two-sided markets“; however, they are not congruent.

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<sup>2</sup> Cf. Gutachten im Auftrag der Rundfunkkommission der Länder, “Konvergenz und regulatorische Folgen“, p. 32; available at [http://www.hans-bredow-institut.de/webfm\\_send/1049](http://www.hans-bredow-institut.de/webfm_send/1049).

<sup>3</sup> Cf. on this topic from an economic point of view e.g. Wright, “One-sided logic in two-sided markets”, *Review of Network Economics* 2004, 3(1); Schiff, “The “waterbed“ effect and price regulation”, *Review of Network Economics* 2008, 7(3); King, “Two-sided markets”, *The Australian Economic Review* 2013, 46(2), 247-258.

### (1) Indirect network effects

One possible platform definition is based on indirect network effects between the different sides of a platform which can be regarded as externalities.<sup>4</sup> In general, an externality occurs when actions or decisions of a protagonist do not only affect his own utility or profit but also the utility or profit of a third party. In the case of network effects, this basic assumption is applied to the members of a group (network), that is, network effects are externalities that occur between different groups or members of groups who are connected to one another (as a network). In this context, direct network effects are often distinguished from indirect network effects. Within these categories, one can further differentiate between positive or negative network effects.

*Direct* network effects occur when members of a group profit directly from more members of the same group (positive direct network effects) respectively fewer members of their group (negative direct network effects) joining the platform. Operating systems where users profit from others using the same operating system are a typical example of positive direct network effects, as users can support each other in using the operating system and engage in an exchange of information. A negative direct network effect occurs, for instance, when a growing number of users in a group create a fiercer competitive situation in this group.

There is no common use of the term *indirect* network effects in economic literature, particularly in economic models:

According to one definition, indirect network effects occur when the members of group A profit indirectly from more members of their group joining the platform. This way, they create an incentive for members of a second group B to also join the platform, which in turn has a ping pong effect on the members of group A.<sup>5</sup> For instance, users profit from many people using the same operating system, as it becomes more attractive for software developers to develop software for this particular operating system. This will increase the choice of software, which will be beneficial for users of the operating system.

Another approach to define indirect network effects is based on the idea that the utility or profit for users of a group may depend on the number of users of another group.<sup>6</sup> According to this approach, it is possible to distinguish whether users of a group profit when another group increases its platform membership (positive network effects), or when the other group's membership on the platform is not that large (negative network effects). Contrary to the definition

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<sup>4</sup> Caillaud/Jullien, "Chicken & egg: competition among intermediation service providers" *RAND Journal of Economics*, 2003, 34(2), 309-328; Armstrong, "Competition in two-sided markets", *RAND Journal of Economics*, 2006, 37(3), 668-691.

<sup>5</sup> Shy, "A Short Survey of Network Economics", *Rev Ind Organ*, 2011, 38, 119-149.

<sup>6</sup> Cf. for instance Armstrong, *ibid.*, and Rochet/Tirole, "Two-sided markets: a progress report", *RAND Journal of Economics*, 2006, 37(3), p. 645-667.

outlined before, indirect effects within a group would not be required for indirect network effects to occur but merely effects from one group on another; according to this understanding, network effects could to some extent be described as cross-group. According to this definition, a *negative* network effect would occur if the value of a service/product decreased for one user group as a result of another group's growth. Consequently, an increase in viewers may be positive for clients of TV commercials; on the other hand, these viewers might be discouraged by "too many commercials", thus reducing the value of the service (TV programme). A network effect in this direction would be negative. However, if TV viewers had a neutral opinion of TV commercials, the network effect would be uni-directional, that is positive in our example.

If the network effects described above (cross-group effects) are not only transferred from one group to another but at the same time vice versa (bilaterally) and if they are positive in both directions, they generate indirect network effects according to the definition outlined first.<sup>7</sup>

*Caillaud/Jullien*<sup>8</sup>, *Armstrong*<sup>9</sup> and *Evans/Noel*<sup>10</sup> define the term *platform* as bringing together two or more different groups of users with indirect network effects, which are internalised by the platform (at least to some extent). This definition is primarily based on an understanding of indirect network effects as bilateral positive effects.<sup>11</sup> In this context, prices charged to users for using the platform are based in particular on the externality created by the relevant user group on the other group. This may lead to a situation where one group uses the platform for free, while the other user group has to pay a positive price because the group that uses the platform for free generates pronounced (positive) externalities for the other user group.

Regarding network externalities with a uni-directional effect, *Luchetta* in particular questions whether this constitutes a platform.<sup>12</sup> Instead, *Luchetta*<sup>13</sup> believes that Google, for instance, provides search results to users in return for their attention and "refines" this attention specific to target groups for advertising customers. Hence, Google was a "merchant" of data, which Google obtained in return for its search results and sold to advertising customers for targeted advertising.

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<sup>7</sup> Cf. Hagiu/Wright, "Multi-sided platforms", *International Journal of Industrial Organization*, 2015, 43, p. 163.

<sup>8</sup> Caillaud/Jullien, "Chicken & egg: Competition among intermediation service providers", *RAND Journal of Economics*, 34(2) 2003, 309-328.

<sup>9</sup> Armstrong, "Competition in two-sided markets", *RAND journal of Economics*, Vol. 37 (2006), p. 668 et seq.

<sup>10</sup> Evans/Noel, "Defining antitrust markets when firms operate two-sided platforms", 2005, *Columbus Law Review* 667 (2005)

<sup>11</sup> Model development in Armstrong, *ibid.* generally allows for negative cross-group network effects.

<sup>12</sup> Luchetta, "Is the Google platform a two-sided market", *Journal of Competition Law & Economics* 2014, 10 (1), p. 191.

<sup>13</sup> Luchetta, "Is the Google platform a two-sided market", *Journal of Competition Law & Economics* 2014, 10 (1), p. 196 et seq.



However, other authors in particular *Filistrucchi/Geradin/van Damme*, believe that uni-directional network effects are not contradictory to the assumption of two sides and thus to the platform definition. To that effect, newspapers could also be regarded as platforms if readers were neutral to the ads printed in these newspapers.<sup>14</sup>

## **(2) Non-neutrality of price structure**

In their definition of platforms, *Rochet/Tirole*<sup>15</sup> focus on the platforms' price structure. The basic assumption of this definition is that platforms enable transactions between two groups of users and these groups of users pay a price to the platform that is related to the transaction conducted. The price structure is given by the two individual prices, while the aggregated price level describes the sum of the two individual prices. In this context, *Rochet/Tirole* define a platform by a non-neutral price structure, that is to say, given a constant aggregated price level, changes in price structure affect the transaction volume and therefore the profit of a platform. In fact, it might be ideal for a platform to charge prices below marginal costs to one side and above marginal costs to the other. This may even lead to a price of zero or a negative price on one side of the platform e.g. for credit card systems. As the platform sets prices on both sides simultaneously and interdependently, it would not be accurate to consider pricing for each side separately.

The possibility of influencing the volumes of interaction on a platform through the price structure depends on whether user groups are able to negotiate a transfer of these costs. According to the so-called Coase theorem, market players (here: user groups) would be able to resolve inefficient market results, which could also be generated by externalities, through negotiations if property rights can be assigned clearly, are tradable and if there are no transaction costs. Thus, when the Coase theorem applies, the platform definition of *Rochet/Tirole* is not fulfilled because the possibility of negotiations makes the price level rather than the price structure the relevant factor.

However, *Rochet/Tirole* point out that the assumptions of the Coase theorem do not apply to certain market constellations where the price structure is non-neutral. This is the case, for instance, when there is no monetary transaction between user groups (*Rochet/Tirol* describe a telephone network with callers and callees as user groups by way of an example) or when transaction costs accrue that do not allow for a transfer of costs. For instance, this may be the case when costs are transferred to a large group of users and individual user costs would be

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<sup>14</sup> Filistrucchi/Geradin/van Damme: "Identifying Two-Sided Markets", *World Competition*, 2013, 36(1), p. 33-59.

<sup>15</sup> Rochet/Tirole, "Two-sided markets: a progress report", *RAND Journal of Economics*, 2006, 37(3), p. 645-667.

low while the effort required to arrange this would be fairly high. Rochet/Tirole further point out that platforms to some extent explicitly prohibited the possibility of negotiations assumed by the Coase theorem. Consequently, it is not permissible for a seller on Ebay, for instance, to pass on fees and commission to buyers or to charge a higher product price that includes credit card fees in case of card payment.<sup>16</sup>

*Rochet/Tirole* therefore emphasise that it is necessary to consider both price level and price structure in the context of two-sided markets. Against this background, *Rochet/Tirole* define two-sided markets through the “non-neutrality of price structure“, i.e. changes in price structure make it possible to change the transaction volume of a platform.

### **(3) Enabling direct interaction between groups**

In their platform definition, *Hagiu*<sup>17</sup> and *Hagiu/Wright*<sup>18</sup> focus on the difference between merchants and platforms. A merchant buys a product from a producer and then sells it to consumers. There is no direct transaction between producers and consumers; instead, the merchant is in control of strategic transaction variables. He is able to set in particular the product price he charges to consumers (or at least negotiates a price with consumers). By contrast, the platform’s function is limited to enabling and mediating direct transaction between the platform sides without being involved in the transaction itself.<sup>19</sup> In this respect, the platform – in contrast to a merchant – has no direct influence on strategic transaction variables with respect to the traded product (e.g. pricing).

On the basis of these deliberations, *Hagiu/Wright* define a platform as enabling and mediating direct transaction<sup>20</sup> between both sides of a platform. In doing so, the relevant sides maintained control over the transaction variables, but at the same time, it was necessary for them to be affiliated with the platform by way of deliberately making platform-specific investments. Thus, both sides use the platform with the intention of facilitating transaction; therefore, they are prepared to make specific investments (registration with the platform, time, platform fee).

*Hagiu/Wright* reason that their platform definition was more useful than the definition on indirect network effects.<sup>21</sup> Hence, according to their definition, a supermarket is not a platform although

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<sup>16</sup> Rochet/Tirole, “Two-Sided Markets: A Progress Report“, *The RAND Journal of Economics*, Vol. 37, No. 3, 2006, 645-667.

<sup>17</sup> Hagiu, “Merchant or two-sided platform?“, *Review of Network Economics*, 2007, volume 6, issue 2.

<sup>18</sup> Hagiu/Wright, “Multi-sided platforms“, *International Journal of Industrial Organization*, 2015, 43, p. 162-174.

<sup>19</sup> Hagiu/Wright, *ibid.*, p. 164.

<sup>20</sup> Strictly speaking, Hagiu/Wright focus on direct *interactions* in their definition, however, they do not explain the difference between the term transaction and the (more general) term interaction in more detail.

<sup>21</sup> Hagiu/Wright, *ibid.* p. 164.

indirect network effects probably occur (customers enjoy greater benefit from a bigger group of suppliers) as the supermarket controls the key transaction variables in its capacity as merchant. However, what remains ambiguous in an individual case is which transaction variables controlled by the relevant sides have to be regarded as key variables. Thus, it remains open to question how to assess Amazon's influence on the way it presents and advertises individual retailers and their offers on Amazon Marketplace even though prices are set by the retailers themselves.

## **b) Conceptual Considerations**

In order to find relevant indicators for assessing market power it makes sense to select a platform definition that is based on aspects relevant for competition. In this context, the Bundeskartellamt considers a combination of almost all the elements described here as applicable. Only the non-neutrality of price structure considered by *Rochet/Tirole* that is certainly justified in theoretical models is less operable for the purpose of a definition, which can be applied to specific cases. There are doubts whether the connection between price structure and transaction volume with indirect network effects can be established at reasonable effort, if at all. In any case, this approach is not suitable as a basis in a concept for assessing market power.

Against this background and as it stands, the Bundeskartellamt regards the following definition of platforms as a reasonable basis:

*Businesses are to be viewed as platforms if they provide intermediation services that enable direct interaction between two or more user sides between which indirect network effects occur.*

### **(1) Indirect network effects as typecasting distinctive feature**

For the purpose of a definition relevant for competition law, the focus should in particular be on indirect network effects between two or more user groups as they describe the interrelation between different user groups of a platform and can be considered as characteristic particularly for Internet-based services. Indirect network effects are relevant factors for assessing market power and should therefore be emphasised in antitrust law enforcement.

In this context, the Bundeskartellamt deems it necessary to apply a *wide* definition of indirect network effects that also comprises unilateral (uni-directional) or asymmetrical network effects in order to also cover advertising financed products – particularly in the context of the digital economy. For the purpose of a definition, a certain scope of the indirect network effects is not required. The question of whether the effects are appreciable, considerable or significant is part of assessing the effects from the perspective of market power. The sole purpose of the

definition is to draw attention to the assessment points that are particularly relevant for platforms.

**(2) “Enabling direct interaction“ as a defining characteristic to distinguish platforms from trading markets**

Aside from indirect network effects, the direct interaction and/or transaction facilitated by a platform without the platform having control over key parameters of the transaction should also be considered. This aspect is especially relevant for platforms that enable transactions between two or more groups of users, as it can help to distinguish the platform as an intermediary from a merchant. In the case of trading markets, the competition economic issues raised in particular with a view to market power differ fundamentally from the conceptual problems of platforms,<sup>22</sup> which necessitates a differentiation between platforms and trading markets in order to identify the problems associated with market power.

While it is true that the definition of indirect network effects largely is a differentiation criteria in itself, the portfolio effects of a supermarket or department store can be quite similar to indirect network effects. Transaction platforms (where the transaction is conducted via the platform) are also not so very different from trade relations in that they serve a distribution purpose as well. For these reasons a second differentiation parameter is helpful. This parameter can be found in the *direct interaction* between the individual user groups of a platform.

In this context, direct interaction means that the platform is not commercially or legally involved in the interaction or transaction between user groups<sup>23</sup>. In particular, it does not have direct control over negotiations on key parameters specific to the transaction (prices, terms and conditions etc.) and, legally speaking, is not a contractual partner to the transaction. In specific individual cases, a platform’s products may differ considerably: for instance, trading platforms may simply provide a technical solution for both sides in order to look for and find each other. In doing so, platforms may play a supportive role by pre-selecting suitable members for the respective other side based on appropriate search options. In addition, platforms could also offer additional services for transactions (e.g. clearing) without direct involvement in the transaction. Even if the transaction facilitated between user groups is conducted via the platform, this constellation has to be distinguished from a typical relation in terms of market power. To

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<sup>22</sup> If a platform relinquishes control over key parameters specific to a transaction on its own account, this does not exclude the platform having a trading function on the transaction market (see also bottom of this paragraph).

<sup>23</sup> Trading markets raise difficult questions about a concept for assessing market power on the demand side in particular with a view to the procurement side, cf. in particular a sectoral analysis of market power on the demand side in the food retail sector, 2014, [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

what extent a platform may, in certain cases, still qualify as a buyer with a view to the transaction market and pursuant to risk distribution agreements within the meaning of the Vertical Block Exemption Regulation and its relations consequently qualify as vertical relations within the meaning of the rules on distributors is a completely different question<sup>24</sup> that is not the subject of this paper.

### c) Case practice

When applied to case practice, it soon becomes evident that the facts of a specific case may be rather complex and any distinction of online retail platforms from (Internet) trading is not straightforward.

This can be seen from the example of **Amazon**:

Amazon operates an online sales platform to sell an extensive portfolio of products by Amazon as well as third parties on its so-called **Amazon Marketplace**. In doing so, Amazon presents both segments as a single integrated shop that does not distinguish between Amazon's own business and the Marketplace business.<sup>25</sup>

Amazon's own business is clearly a trading business where Amazon obtains goods from producers and sells them in the online shop under its own name and for own account.

By operating the Marketplace, Amazon also acts as an intermediary enabling direct interaction and/or transaction between marketplace retailers as one user group and end consumers as another group. Amazon is no longer involved in the transaction between Marketplace retailer and end consumer, although Amazon plays a supportive role providing certain services of transaction processing, such as handling of payment, dispatch of goods and complaints handling. The end consumer and the retailer conclude a sales contract for the goods.

To what extent indirect network effects occur between these groups on Amazon Marketplace could be doubted at first glance. In any case, unilateral indirect positive effects can be identified: the Marketplace's benefit for retailers depends on an increasing number of consumers who shop at Amazon Marketplace. Vice versa, customers' user behaviour does not necessarily suggest indirect network effects: a user who wants to buy a certain product will benefit only a little from other products offered on the Marketplace in addition to the one that he is specifically

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<sup>24</sup> Cf. to this extent Art. 1 (1) (h) of the VBE Regulation regarding the classification of distributors as buyer in agreements subject to Sect. 101 TFEU; Commission, Guidelines on vertical restraints, notice of 19 May 2010, C130/1, para. 12 et seq. on the definition of distributors covered by the scope of application of Art. 101 (3) TFEU.

<sup>25</sup> This is based on a strategic decision by Amazon: to begin with, Amazon started as a retailer and in 2000, decided to open its trading portal to other retailers, see also <http://www.gruenderlexikon.de/serie/die-entwicklung-von-amazon-in-deutschland>.

looking for. However, a user who has not made a definite choice profits from the platform supply – thus, from the number of retailers represented on the platform. In addition, a consumer who is looking for a particular product may also benefit from a growing number of retailers, as he is able to buy from the retailer who offers the best price. Moreover, when a consumer is looking for a particular product, he is more likely to find it on Amazon Marketplace the more retailers are active on the platform. Thus the number of retailers also creates an indirect network effect, which should be rather weak compared with the effects generated by the group of end consumers.

Lastly, it can be established that Amazon acts as a platform by operating Amazon Marketplace, while Amazon's own retail business cannot be regarded as a platform activity. However, Amazon's own online retail business represents a vertically integrated part of the retailers' group that contributes to possible indirect network effects.

**Google's search engine** is another example<sup>26</sup> of the complexity of market relations: the search engine meets the platform definition with regard to the two user groups - search engine users and advertisers - albeit added benefit can only be ascertained on the part of the advertisers resulting from a growth in search engine users and leading to more advertisers using Google's (search-related) online promotions (positive network effects). Vice versa, a growing number of ads on the search engine might have a positive gain for users of the search engine;<sup>27</sup> however, too many ads could reduce the benefit for search engine users (negative indirect network effects). The wide definition of indirect network effects underlying the platform definition does also cover this constellation of asymmetrical effects. The search engine also enables advertising-induced contacts between search engine users and the advertisers, that is, an interaction in which the search engine is no longer involved.

By contrast, it is more difficult to assess the relationship between the search engine and the websites listed in the search result list: in this context, the search engine could be seen as an intermediary between search engine users and websites; the search result list and the links enable subsequent direct interactions between them. However, it seems doubtful whether indirect network effects occur here. One aspect in this context is the question of whether the presence of network effects requires all sides to actively approach the platform in order to use it, thus responding to an increase in numbers in the respective other user group. If one presumed such a requirement, the group of website operators would not meet it, at least when considering only the process of website "crawling" which Google undertakes itself. Hence,

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<sup>26</sup> Bundeskartellamt, Decision of 8 September 2015, Ref. B6-126/14 – *Google/VG Media*, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>27</sup> This may also depend on the type of the search query.

website operators will possibly not react to a growth of the group of search engine users. However, with regard to website operators using search engine optimisation and allowing for crawlers on the basis of a technical protocol, another perspective may be valid. As an alternative to classifying websites as a platform side, Google could be considered as using the (mostly) freely available content of Internet websites as an input for its search engine.

## 2. Distinguishing different types of platforms

What is immanent to all platforms according to the above definition is that they bring two or more sides (groups of users) together and enable direct interaction between them.

However, the objective of this direct interaction may differ. Trading platforms, for instance, aim at enabling direct trade in a product between suppliers and consumers, i.e. the intermediation service of the platform aims at direct transactions between the platform's user groups. As opposed to that, a newspaper enables a different kind of interaction between readers and advertisers. Media platforms (newspapers, magazines, online media) are used on a regular basis to trigger readers' interest in products advertised in them. Though from the perspective of advertising companies, readers' interest should ideally prompt them to take a purchase decision, the platform's primary purpose is to generate attention.

For the purpose of antitrust investigations it would be useful to distinguish concepts with different types of platforms as they raise different questions for assessments, e.g. regarding market definition.

### a) Status of discussion

Economic literature distinguishes platforms on the basis of objectives envisaged and/or user groups<sup>28</sup>. This distinction is reflected in the relevant models considered and their underlying assumptions, though it is generally not made with a view to questions of competition law.

For instance, *Hagiu*<sup>29</sup> and *Hagiu/Wright*<sup>30</sup> predominantly consider trading platforms for their models where a product is traded between vendors and buyers via the platform. *Etro*<sup>31</sup> and

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<sup>28</sup> Filistrucchi/Geradin/van Damme, "Identifying two-sided markets", *World Competition: Law and Economics Review* 2013, 36 (1), 33-60.

<sup>29</sup> Hagiu, "Merchant or Two-Sided Platform?", *Review of Network Economics* 2007, 6 (2), 115-133.

<sup>30</sup> Hagiu/Wright, "Marketplace or reseller?", *Management Science* 2015, 61 (1), 184-203

<sup>31</sup> Etro, "Advertising and search engines. A model of leadership in search advertising", *Research in Economics*, 2013, 67, 25-38.

*Lianos/Motchenkova*<sup>32</sup>, however, base their models on platforms that bring together search engine users and advertising companies.<sup>33</sup>

### (1) Transaction platforms vs. non-transaction platforms

*Filistrucchi, Geradin, van Damme and Affeldt*<sup>34</sup> and *Luchetta*<sup>35</sup> made a systematic distinction between **transaction platforms** and **non-transaction platforms**.

The authors define a *transaction platform* as an intermediary between two sides whose aim is to enable direct (observable) transactions between them. In this process, both sides share the same objective, i.e. conducting transactions with the respective other side. There are positive bilateral indirect network effects between the groups of users that are internalised by the transaction platform.

The intermediation service provided by the transaction platform requires both sides to seek intermediation via the platform. One side by itself would not be sufficient for the transaction (and existence) of the platform. Therefore, transaction platforms are ultimately seen as an expression of the market structure. At the same time, transaction platforms pose a “chicken and egg problem“. If both sides are required for a transaction platform, they both need to be taken on board. At the same time, neither side has an incentive to join the platform without the respective other side. Hence, the basic problem of a transaction platform is to encourage both sides simultaneously to join the platform.<sup>36</sup>

According to *Filistrucchi, Geradin, van Damme and Affeldt* and *Luchetta*, non-transaction platforms are also intermediaries between two or more sides who come together for an unspecific interaction (e.g. looking at advertisements) rather than direct transaction. Non-transaction platforms usually lead to positive indirect network effects in one direction only, i.e. only one group

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<sup>32</sup> Lianos/Motchenkova, “Market Dominance and Search Quality in the Search Engine Market“, *Journal of Competition Law and Economics*, 2013, 9 (2), 419-455.

<sup>33</sup> The papers referred to by way of examples only reflect an extract of economic literature on platforms and/or two-sided markets. In addition, there is a large number of additional papers whose assumptions cover different types of platforms or which are dedicated to certain sectors of industry, e.g. Software providers or payment service providers. As an indicator for the scope and additional references cf. the bibliography in Evans/Schmalensee, “The Antitrust Analysis of Multi-Sided Platform Businesses“, in: Blair/Sokol, *The Oxford Handbook of International Antitrust Economics*, Vol. 1, p. 404-447, and the papers quoted in other parts of this report.

<sup>34</sup> Filistrucchi/Geradin/van Damme/Affeldt, “Market definition in two-sided markets: Theory and practice“, *Journal of Competition Law and Economics* 2014, 10 (2), 293-339.

<sup>35</sup> Luchetta, “Is the Google platform a two-sided market“, *Journal of Competition Law & Economics* 2014, 10 (1), 185-207.

<sup>36</sup> Economic literature, to a certain extent, differentiates whether users already profit from (positive) network effects when users of another group are members of the platform (“membership externalities“ resp. “membership values“), or whether the benefit is generated only by usage, e.g. conducting a specific transaction (“usage externalities“ resp. “interaction values“); cf. e.g. Weyl, “A Price Theory of Multi-Sided Platforms“, *American Economic Review*, 2010, 100(4), p. 1642-1672; Rochet/Tirole, “Two-sided markets: a progress report“, *RAND Journal of Economics*, 2006, 37(3), p. 645-667.



of users profits from the other group's growth. As outlined before, this applies, for instance, to newspaper readers and advertising companies: a growing number of readers has a positive effect for the advertising companies, while readers often do not necessarily perceive more advertisements as positive, which in turn may even have adverse effects on the number of readers.

Indirect network effects diverge in this case because both groups of users join the platform with different objectives in mind – unlike transaction platforms. Readers are interested in the editorial contents of a paper, while advertisers want to attract readers' attention. Consequently, it is not necessary for non-transaction platforms to bring both groups of users on board, as these platforms would also prevail without one of the two groups. For instance, newspapers could also exist without advertising customers if they charged higher prices from their readers. Creating such non-transaction platforms is therefore a strategic business decision rather than an expression of the market structure.<sup>37</sup>

Therefore, the “chicken and egg problem“ posed by transaction platforms is no or at least no central problem in establishing non-transaction platforms. While a transaction platform needs to bring both sides on board simultaneously in order to work, a non-transaction platform may be launched with one side only, and the second side may be added at a later stage. Thus, a media platform is able to generate wide readership by providing editorial contents, and later offer the platform to advertising companies for their purposes by highlighting its coverage.

## **(2) Matching platforms**

To some extent, literature defines “matching platforms“ (“matchmaking platforms“ such as e.g. dating platforms, job markets) as a special type of platform. The aim of matching platforms is to enable the best possible match between heterogeneous user groups, which does not necessarily imply a subsequent transaction between them. This objective has implications in particular for the pricing strategy pursued by platform operators.<sup>38</sup>

Certain matching platforms are characterised by the presence of unilateral (negative) direct network effects as well as indirect network effects. For instance, a job seeker is less likely to find a job on an online job portal if many people are looking for a job, and only few vacancies are advertised. It is equally difficult for a real estate broker to sell a house if there is fierce competition between sellers.<sup>39</sup>

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<sup>37</sup> Luchetta, “Is the Google platform a two-sided market“, *Journal of Competition Law & Economics* 2014, 10 (1), p. 192.

<sup>38</sup> Cf. Goos/van Cayseele/Willekens, “Platform pricing in matching markets“, *Review of Network Economics* 2013, 12 (4), 437-457.

<sup>39</sup> Cf. Goos/van Cayseele/Willekens, “Platform pricing in matching markets“, *Review of Network Economics* 2013, 12 (4), 437-457.

## b) Conceptual considerations

Despite the wide platform definition preferred above, it is helpful to make a theoretical distinction between the category of “matching platforms” on the one hand and “audience providing platforms” on the other. As will be outlined below, this distinction implies different assessment points under competition law, in particular the question of defining a single market (on that point, cf. below and I.3.) and the question of self-reinforcing positive feedback loops caused by positive bilateral indirect network effects (market tipping, on that point, cf. II.1).

The distinction of transaction platforms and non-transaction platforms defined by *Filistrucchi, Geradin, van Damme and Affeldt*<sup>40</sup> and *Luchetta*<sup>41</sup> is not suitable for all conceivable cases subject to antitrust law assessment. Particularly in those cases where a platform enables a match between two user groups, which is not followed by a direct transaction but a different type of interaction, it is virtually impossible to attribute platforms to either of these two categories. For instance, an online dating platform with women and men as user groups requires both user groups to be on board for the platform to provide an intermediary service. The platform facilitates direct contact between the user groups. These aspects would suggest a transaction platform. However, as there is no transaction in an economic sense following the intermediary service provided to the users, this could be an argument against a transaction platform. This reveals that the aim of a platform is not necessarily to enable transactions but primarily to facilitate the best possible match between user groups. Matching proves to be the essential element of this platform; it generates pronounced indirect network effects, which have to be examined under competition law.

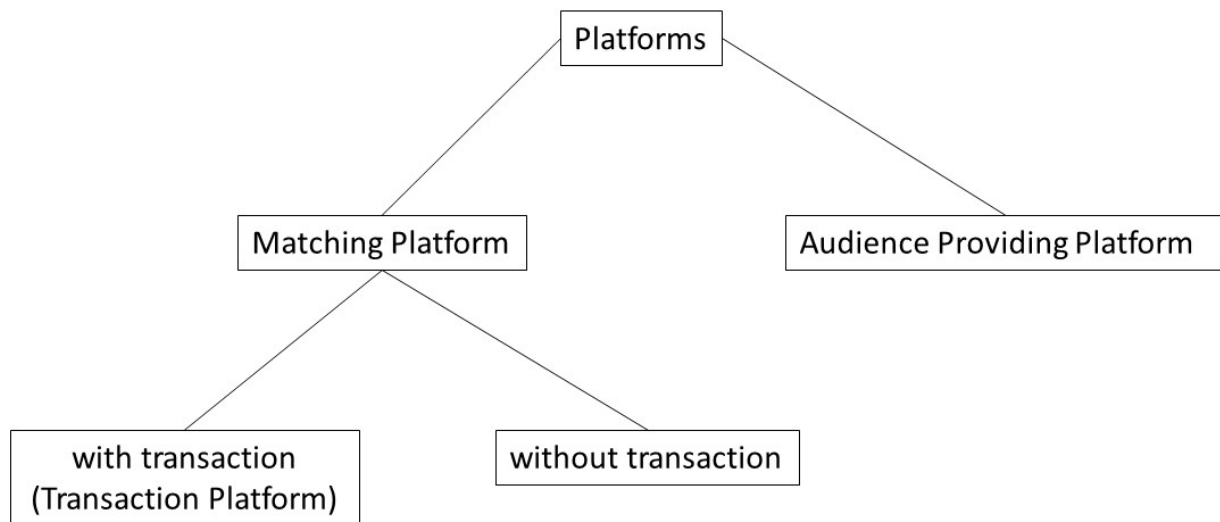
In this respect and from the perspective of competition law, it makes sense to distinguish platforms and put the focus on matching as intermediary service. Consequently, matching platforms (under (1.)) can be distinguished from audience providing platforms (under (2.)). In this context, matching platforms can be further differentiated depending on whether they enable transactions (in which case they are defined as “transaction platforms”) or a different kind of interaction for user groups.

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<sup>40</sup> Filistrucchi/Geradin/van Damme/Affeldt, “Market definition in two-sided markets: Theory and practice”, *Journal of Competition Law and Economics* 2014, 10 (2), 293-339.

<sup>41</sup> Luchetta, “Is the Google platform a two-sided market”, *Journal of Competition Law & Economics* 2014, 10 (1), 185-207.

*Illustration: Schematic presentation of different platform types*



### (1) Matching platforms

A **matching platform** is a platform that enables intermediation between members of two or more user groups tailored to their individual preferences and aspired by all user groups. The liaison facilitated by matching platforms enables direct interaction between the users liaised. There are various options for designing matching platforms. For instance, users may initiate a search and find a match on the platform by actively screening offers made by the respective other user group. Another option is for the platform to offer specific matches to users, for instance, on the basis of individual preferences expressed by them.

Matching platforms can be further differentiated based on the subsequent direct interaction between users liaised by the platform. This may involve a transaction in an economic sense, for instance selling a property via a real estate platform. Hence, the Bundeskartellamt is of the opinion that transaction platforms, within the meaning of their definition in economic literature, represent a sub-group of “matching“ platforms. However, matching platforms also include those platforms that facilitate a match between two user groups with the aim of enabling another kind of interaction. This applies, for instance, to an online dating platform that successfully facilitates a match between users, and these users later get in touch with one another or meet in person.

### (2) Audience providing/advertising platforms

An **audience providing platform** is a platform that enables one user group to attract the attention of another user group. Specifically speaking, an audience providing platform enables advertisers as one user group to attract another user group’s attention, thus generating reach.

Therefore, they can also be described as advertising platforms. The platform facilitates an interaction between users and advertisers in the form of a subsequent contact resulting from users reacting to the advertisement (for instance, by clicking on the ad).

From the Bundeskartellamt's perspective, the term audience providing or advertising platform is a better description of the platform's service than "non-transaction platform", as the subsequent contact may lead to a transaction between advertiser and platform user. Clicking on an ad may lead to the advertiser's online shop and immediately to a shopping basket; the absence of any transaction does not seem to be a decisive element in this case. However, from the Bundeskartellamt's perspective, an aspect cited for "non-transaction platforms", i.e. that the advertising side was added by a strategic financing decision and the product financed this way does not necessarily imply the two user groups' coming together, is relevant under competition law. This aspect is relevant for the product definition, which plays a role in connection with the definition of relevant market. Attention from the user group consuming the platform contents is monetised on the other side and could thus be regarded as quid pro quo for using the platform.

Audience providing platforms may also generate indirect network effects. However, these are usually uni-directional, to be precise, towards advertisers. The number of ad placements increases (up to a possible capacity limit) with a growing number of users, though not vice versa. In contrast to a matching platform, it is not both sides that aspire to attract attention and conduct an interaction in the form of a subsequent contact. Users predominantly wish to consume the website content and rather regard advertising as annoying; at any rate, they do not necessarily find that advertisements add value to the website's content. Hence, a growing number of ads does not offer added value to users of editorial website contents in the same way as the number of users does vice versa for advertisers. Hence, in addition to one side being added by strategic choice, an audience providing platform is also characterised by regular asymmetrical indirect network effects, an aspect relevant for market definition and assessment of market power.

### c) Case practice

Examples for so-called **matching platforms** include first of all Internet platforms like Ebay and Amazon Marketplace where one user group offers commercial products that another user group is looking for. Positive bilateral indirect network effects are generated, as both user groups benefit from growth in the respective other group. The aim of these platforms is to provide intermediation services followed by a direct transaction between the user groups. They are matching platforms resulting in transactions.

A closer look shows that it is possible to distinguish such matching platforms depending on whether the transaction is conducted via the transaction platform ("observable" transaction) or

whether the transaction platform simply establishes direct contact between user groups, and the transaction is then conducted outside the platform's context. However, this distinction is relevant only to a limited extent for a platform definition, as the transaction is conducted directly between user groups even when it is conducted via the platform, and the most important transaction parameters are defined without the platform's involvement despite its processing the transaction. Still, this distinction could be useful when assessing an individual case under competition law since pricing or other terms and conditions of use of a platform could be linked to transaction variables (e.g. a commission system). This requires that transactions can be observed and verified by the platform.

Prominent examples of the first platform type include Amazon Marketplace and booking platforms like HRS and Booking, where the platform processes the entire purchase respectively booking transaction including payment, warranty / claims handling and dispatch of goods. However, the transaction contracts are concluded directly between user groups; similarly, prices are not set by the platform but by the user offering a product or service. This also applies to those cases where so-called "best price" clauses are used, as was quite common for online hotel portals in the past.<sup>42</sup> Even though these clauses intervene in the contracting parties' pricing sovereignty, the portal maintains the character of a platform since a booking contract would still be concluded between hotel owner and end consumer, and such details are introduced into the transaction relation only indirectly by one of the user groups.

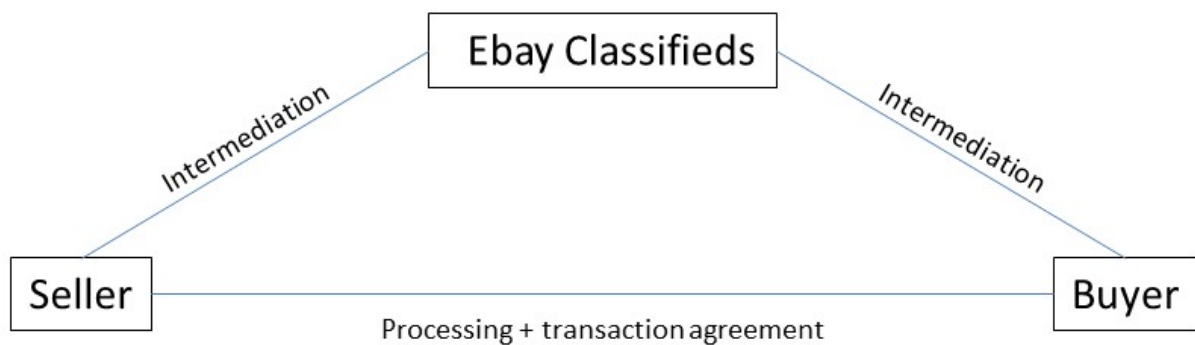
**Example:** Amazon Marketplace as a transaction platform that processes a transaction:



<sup>42</sup> See OLG Düsseldorf (Higher Regional Court), Ruling of 9 January 2015, file reference VI card file 1/14 (V), para. 43 – HRS, available at [http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI\\_Kart\\_1\\_14\\_V\\_Beschluss\\_20150109.html](http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI_Kart_1_14_V_Beschluss_20150109.html) Bundeskartellamt, Decision of 20 December 2013, Ref. B9-66/10 – HRS, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

Examples of the second platform type are Ebay (including Ebay classifieds) and real estate platforms like ImmobilienScout and Immowelt, which facilitate direct contact between the user groups. In these cases, the price listed on the platform can be binding (Ebay) or the price is later negotiated directly (Ebay classifieds, real estate platforms).

**Example:** *Ebay classifieds as a transaction platform that acts as intermediary only*

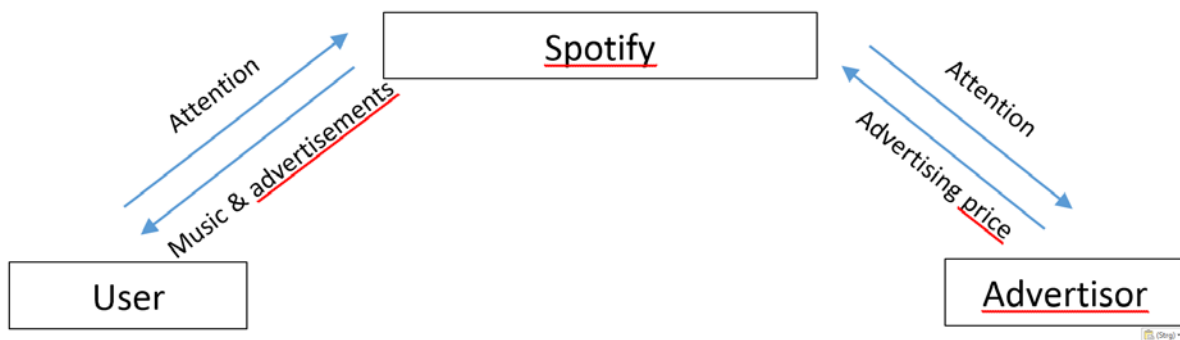


Matching platforms also include online dating platforms where no transaction is conducted following intermediation.<sup>43</sup> In these cases, the interaction facilitated by the platform implies the possibility of a private contact between both user groups.

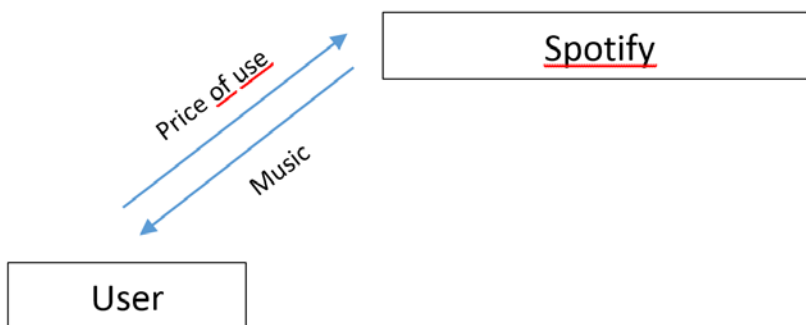
Examples of **audience providing platforms** include classical newspapers with advertisements and websites financed through advertising such as the Google search engine<sup>44</sup>, Yahoo, Spiegel Online, and websites that use commercial inserts, for instance through AdSense. **Audience providing platforms** are the product of a business decision rather than an expression of market circumstances – as is the case with matching platforms; this becomes particularly evident with platforms that offer advertisements as an alternative. For instance, the music streaming service Spotify that offers music titles as streaming services on the basis of licenses offers both free and paid membership. Free access to the service is financed through commercial inserts providing advertisers with the opportunity of generating attention through the Spotify platform. In this case, Spotify – similar to a radio station financed through advertising – works as an audience providing platform:

<sup>43</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>44</sup> Bundeskartellamt, Decision of 8 Sept 2015, Ref. B6-126/14, para. 127 – Google/VG Media, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de)

**Example:** Spotify as audience providing platform

Alternatively, Spotify offers paid membership without advertising to users. In this case, Spotify does not serve as a platform, as it is not necessary for a second user group to be on board. This also applies to the aggregation of music, which the user pays for and consumes by streaming. This transaction is conducted with the platform rather than with the respective copyright owners. Spotify is a merchant or service provider of contents for which it has obtained (streaming) rights from the copyright owners on an upstream level.

**Example:** Spotify without advertising

### 3. Definition of a single versus two markets

A central element in a market definition for platform services is how to account for and treat the different market sides. Since platforms always serve several user groups, their services may represent different products and may belong to different markets for each platform side. On the other hand, the interaction between the two platform sides caused by indirect network effects makes it also conceivable to define a single platform market. This is being discussed in particular for matching platforms. It is doubtful, however, for which platforms this might be

conceivable and whether such a single market approach to both market sides may be compatible with the concept of demand-side substitutability.

### a) Status of discussion

In particular in the case of transaction platforms, *literature* views the two sides of the platform as belonging to one market.

The question of whether two-sided markets should be considered as separate markets or a single market depends, according to *literature*, on how pronounced the two-sided characteristics are in a specific case. For this reason, *Filistrucchi, Geradin, van Damme* and *Affeldt* distinguish between so-called transaction markets and non-transaction markets – as outlined above.<sup>45</sup> They assume that transaction markets are characterised by positive bilateral indirect network effects and a non-neutral price structure, which make it necessary to define transaction platform markets as single markets.

The *Monopolies Commission*<sup>46</sup> and *Dewenter/Rösch/Terschüren* advocate a single market definition – regardless of platform classification – in those cases where strong indirect network effects occur between two user groups. Therefore, each case investigation under competition law should first consider whether and how strong indirect network effects are in individual cases to ascertain on this basis whether a single market definition would be useful.<sup>47</sup>

In particular from the *legal perspective*, reasons are brought forward against a single market definition, stating that this would be incompatible with current concepts of market definition, in particular the concept of a demand-side market. The general assumption seems to be that this concept requires an assessment of substitutability from the perspective of the respective other market side, which in itself implies separate markets.<sup>48</sup>

According to the most *recent (national)* ruling of the Düsseldorf Higher Regional Court (*Oberlandesgericht Düsseldorf*), the intermediary service is the platform's product; in this context, the platform's market sides – including those of a transaction platform - can only qualify as and be part of a market if they are catered to in return for payment. To the extent that a service is supplied to one side in return for payment while it is free for the other side, only the paying side

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<sup>45</sup> Filistrucchi/Geradin/van Damme/Affeldt, "Market definition in two-sided markets: Theory and practice", *Journal of Competition Law and Economics*, 2014, 10 (2), 293-339

<sup>46</sup> Monopolkommission (Monopolies Commission), Sondergutachten 68, "Wettbewerbspolitik: Herausforderungen digitaler Märkte", Subsection 58 and footnote 37. Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen", *NZKart* 2014, 387, 390;

<sup>47</sup> Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen", *NZKart* 2014, 387, 390;

<sup>48</sup> Körber, "Analoges Kartellrecht für digitale Märkte", *WuW* 2015, p. 120 (125), who, however, in view of "viable alternatives", wants to adhere to the concept of a demand-side market for the time being.



is regarded as part of the market. In this context, the Court explicitly indicated that the market definition for the paying side cannot (also) take into account the perspective of consumers who receive a free service. In this context, it regards the market sides as different levels of the market. The Court's decision also indicated that regarding the question of substitutability by competing products, network effects should be considered from the perspective of hotels.<sup>49</sup>

In its decision on the hotel platform HRS, the *Bundeskartellamt* had implicitly assumed a single market for intermediary services by hotel portals (hotel portal market) without expressly considering its two sides separately. For the purpose of the proceedings – the subject was clauses in contracts concluded between hotels and the portal – the *Bundeskartellamt* decided to focus its investigation on the perspective of the hotels. In its decision in the parallel case regarding the Booking.com portal, the *Bundeskartellamt* stated that for the purpose of the antitrust assessment of the concerned best price clauses it could be left open to what extent the free side of a platform constituted a part of the market.<sup>50</sup> The *European Commission* did not explicitly address the subject of a single market definition for platforms in the cases it reviewed.<sup>51</sup> The cases quoted relate to various Internet services that, according to the categories applied here, represent audience providing platforms or networks. The case *Travelport/Worldspan* is an exception; in this case, the Commission intensively addresses the phenomenon of two-sided markets in Global Distribution Services (affecting the travel booking system Galileo) and indirect network effects, and in its final analysis, seems to apply a single market definition to Global Distribution Services, a transaction platform. However, the Commission regards both sides as *upstream* (flight and travel service providers) and *downstream levels* (travel agents) and compares this constellation (which the *Bundeskartellamt* views as a transaction platform) with a vertical trade relation on the relevant travel product market; this market is limited to products that are traded via Global Distribution Services only ("GDS only"). The intermediary service as a product, i.e. the matching by the platform, is not considered in the context of market definition.<sup>52</sup>

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<sup>49</sup> See OLG Düsseldorf, Decision of 9 January 2015, Ref. VI card file 1/14 (V), para. 43 – *HRS*, available at

[http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI\\_Kart\\_1\\_14\\_V\\_Beschluss\\_20150109.html](http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI_Kart_1_14_V_Beschluss_20150109.html)

<sup>50</sup> *Bundeskartellamt*, Decision of 20 December 2013, Ref. B9-66/10 – *HRS* and Decision of 22 December 2015, Ref. B9-121/13 – *Booking*, para. 141, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>51</sup> Cf. *European Commission*, Decision of 11 March 2008, Ref. COMP/M. 4731 – *Google/DoubleClick*; Decision of 18 Feb. 2010, Ref. COMP/M. 5727 – *Microsoft/Yahoo*; Decision of 7 Oct. 2011, Ref. COMP/M. 6281 – *Microsoft/Skype*, confirmed by EGC, ruling of 11 Dec. 2013, Ref. T-79/12; Decision of 13 Feb. 2012, Ref. COMP/M. 6381 – *Google/MMI*; Decision of 3 Oct. 2014, Ref. COMP/M. 7217 – *WhatsApp/Facebook*, all available on the *European Commission's* websites at [www.ec.europa.eu](http://www.ec.europa.eu).

<sup>52</sup> *European Commission*, Decision of 21 Aug. 2007, Ref. COMP/M.4523 – *Travelport/Worldspan*.

## b) Conceptual considerations

It is the Bundeskartellamt's opinion that a single market definition would be suitable for matching platforms if user groups essentially have the same need for liaising with the respective other group, and therefore, the group's views regarding substitutability of function do not differ substantially. The definition of a matching platform developed above can generally be used for market definition purposes in an antitrust assessment. However, this should not lead to a schematic handling of cases even though the single market definition appears to be the obvious choice for these platforms.

The fact that the product of a matching platform is indivisible yet always includes both user groups is initially an argument in favour of a single market definition for these platforms. The intermediary service is the product proper of the platform in the sense that it brings together (matches) supplier and consumer, thus definitely requiring both sides. To limit the activity of a matching platform to one side only or consider the individual sides separately would not adequately reflect economic transactions and the pronounced interdependencies between both sides.

From the perspective of the Bundeskartellamt, the platform-related market definition does not need to be based on the product for which the platform facilitates the contact or transaction between user groups but the **intermediation service** proper. From this perspective, a distinction between upstream and downstream does not seem relevant, as the platform, in terms of its function, basically acts as a service provider to both sides of the market and is not involved in the product transaction. Nor can such a distinction be explained by a comparison with sales or commission agents. On the market, the sales agent (and commission agent) initially also acts as an intermediary service provider to the principal and customers on the other side; therefore, in his typical capacity, he does not act as a retailer of the product procured beforehand. This does not rule out that for the purpose of assessing a platform's contractual relations pursuant to Sect. 101 TFEU and Sect. 1 GWB, a platform would have to be regarded as a merchant (Art. 1 (1) (h) VBER)) if the relevant criteria are met. In those cases where the VBER qualifies the market function of an agent as that of a buyer, this may require a different market definition, i.e. separate markets.

In the Bundeskartellamt's opinion, the concept of demand-side substitutability that focuses on the opposite market side's perspective does not require a separation of both market sides. The opposite market side may in fact consist of two or more user groups, which is the case on many one-sided markets. The Bundeskartellamt, applying the concept of demand-side substitutability, considers it possible to regard a platform as a single market if the platform is understood as a provider of an intermediary service and both user groups are understood as consumers of this service with essentially the same needs. The market definition needs to take

into account that bilateral positive indirect network effects occur between the user groups. For the platform's benefit increases for each user group as the number of users in the respective other group grows, so that indirect network effects become relevant to identify users' needs. The platform service may fulfil different functions for different user groups, but how it meets the needs of one user group, depends on whether it meets the needs of the other group as well. This warrants treating user groups as one opposite market side without losing sight of the market's multi-sided nature. It is still necessary to analyse substitutability of services from the perspective of both user groups.

To the extent that user groups have obvious different possibilities of substitution, market sides have to be considered separately with a view to the function of the market definition, which is to describe existing competition relations. Otherwise essential competitors may possibly be overlooked. In this context, it is particularly relevant to establish whether both sides require the intermediation service as an upstream product of the transaction or whether they can do without it. According to previous experience, matching platforms emerge in particular in markets where heterogeneous user groups need to be brought together or transactions facilitated for differentiated and heterogeneous services. Without a prior matching process, there would usually not be any interaction between the members of the groups. However, it cannot be ruled out that in certain cases different intermediation options may be suitable from the perspectives of the relevant user groups. This applies, for instance, also to geographical substitutability where both user groups may have differing views. In addition, it may be necessary to establish whether different user behaviour on both sides – one side predominantly practises so-called single-homing, the other so-called multi-homing (cf. Chapter II.3 below) – would justify a separation of markets on account of different competition conditions.

Lastly, the service's free nature for one market side of the matching platform by itself does not justify a division of the market on account of the user groups' differing pricing perspective. For platform prices are generally set with regard to all market sides and may lead to discounts for one consumer group or an actual nominal price of zero or even a negative price in order to internalise the network effects created by this group. This notwithstanding, the pricing may be associated with possible different user behaviour on both sides which should be taken into account.

However, it is the Bundeskartellamt's view that a single platform definition would not be suitable for audience providing platforms, in particular Internet services financed by advertising. Here, the platform's product or service is not only produced once the other side is also come on board. Instead, the product available (e.g. content) is monetised by the advertising side or an additional product – a product's advertising space – is actually offered. In addition, such

platforms are generally characterised by asymmetrical indirect network effects as outlined before: strong positive indirect network effects emanate from the (free) user side to the advertising side on a regular basis, as the benefit on the advertisers' side increases with a growing number of users on the other side. Vice versa, an increasing number of advertisements on the platform will not necessarily increase the benefit for the other user group. In this context, it is indeed possible that both user groups have different views of their respective possibilities for substitution, though the advertisers' targeting of the other user group may lead to a similar market definition, as it will orientate itself towards the perceived preferences of the target group.<sup>53</sup>

### c) Case practice

The Bundeskartellamt applied the ideas developed above to the merger cases of "Immonet/Immowelt", "ProSiebenSat1/Verivox" and the merger of two online dating platforms.

In the case of "Immonet/Immowelt"<sup>54</sup>, a merger of two real estate platforms, the Bundeskartellamt ultimately left the specific market definition open. However, it expressed an opinion in favour of categorising online real estate platforms as matching platforms with transactions and defining a single market for real estate platforms, i.e. not considering each market side separately. An online real estate platform's core activity was providing intermediation services to sell properties between real estate providers and potential customers (where both sides may seek representation by a broker). The transaction proper for a specific property would be directly conducted between the real estate provider and the customer following successful intermediation. The online real estate platform's service was to bring both sides together. Hence, online real estate platforms were typical matching platforms with transactions and pronounced positive bilateral indirect network effects between the two user groups. Applying the concept of demand-side substitutability, both market sides essentially had the same needs. In view of individual preferences on one side and the individual character of a property on the other side, the intermediation and matching service provided by the platform was essential for both sides, so that in all scenarios with conceivable intermediation substitutes both user groups would eventually "come across" one another again. A separate consideration of individual user groups would not adequately reflect the economic process and the pronounced interdependencies between both sides.

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<sup>53</sup> Cf. e.g. Bundeskartellamt, Decision of 25 April 2015, Ref. B6-98/13 – Funke/Springer (programme guides) available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>54</sup> Bundeskartellamt, Case summary of 20 April 2015, Ref. B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

The Bundeskartellamt used the same line of arguments when clearing the merger between the **online price comparison platform** Verivox with ProSiebenSat1.<sup>55</sup> In its capacity as leading online comparison portal for intermediation of, among others, electricity and gas contracts, insurances and financial services Verivox had to be regarded as a transaction platform. Again, the Bundeskartellamt could ultimately leave the specific market definition open. However, there were many reasons in favour of assuming single platform markets and not considering each market side (e.g. providers and consumers of electricity supply contracts) separately: the activity provided by the online comparison platforms analysed was to liaise providers and consumers of certain products and/or services. The transaction proper would be directly concluded between provider and consumer afterwards – although some platform providers initiate conclusion of a contract for a specific product directly. The comparison platform's product was indivisible and always required both user groups, as the product was the intermediation service in the sense of matching providers and consumers. According to the Bundeskartellamt this distinguishes transaction platforms from audience providing platforms, which add a second market side on account of a strategic financing decision without this second side representing an essential component of the platform product for the other side.

In its decision clearing the merger between two **online dating platforms**<sup>56</sup>, the Bundeskartellamt for the first time explicitly defined a "single" platform market. A distinction of markets on the basis of the two platform sides – that is, the user group of women on the one hand and the user group of men on the other – should not be made. Online dating platforms were characterised by serving as intermediaries that facilitate direct interaction between two user groups (men/women), and indirect network effects occurred between these user groups. In this context, the interaction facilitated – in contrast to the cases outlined before – was not a transaction between the two groups but an interaction in form of a personal contact with a member of the respective other group. Therefore, online dating platforms had to be regarded as "matching" platforms, which always needed to bring together the two user groups. In this case, the user groups shared the same possibilities of substitution. Again, the platform's service involved matching users with extremely individual and heterogeneous preferences, thus creating a specific need for matching services.

As outlined above, **Amazon's Marketplace** platform would also have to be categorised as a matching platform that enables transactions. However, in this case, it is doubtful that the user groups essentially have identical needs, and their possibilities of substitution are essentially the same. For Amazon Marketplace is integrated in the retailer's own online shop suggesting

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<sup>55</sup> Bundeskartellamt, Case summary of 5 Aug. 2015, B8-67/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>56</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, para. 71 et seq., available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

to consumers that the online retail shop and Amazon Marketplace could substitute one another. From the consumer's perspective, the intermediary service is not necessarily his primary need; he may be able to forego the intermediation service of the Marketplace platform and shop directly in Amazon's online shop or buy from other (brick-and-mortar) retailers. However, this could be different from the perspective of those retailers seeking intermediation by Amazon Marketplace, as they would not have access to these consumers otherwise. In this case, a single market definition would not take adequate account of the pressure competing retailers exert on Amazon on the consumers' side.

#### 4. No cash flow – no market?

In particular in the context of the Internet, platforms often have a market side for which there is no service price, and which therefore does not generate any monetary cash flow. This applies, for instance, to advertising-funded platforms that only charge a price to advertisers. In many cases, market entries by Internet services are even characterised by completely free service provision. In these cases, decisions on financing and prices are usually taken once a sufficient number of users has been reached.

In the context of a market definition, the question thus arises whether economically and legally speaking, a market can be assumed where no monetary payments occur which would mean that such a market would be open to intervention by the antitrust authorities. In this context, the question also arises whether other payments in kind – in particular provision of user data – would suffice to qualify the relationship as a market.

##### a) Status of discussion

How to deal with market sides that use a platform service for free is highly controversial in literature, legislation and competition law practice.

Until now, **national legislation** and **competition law practice** have not treated free relations as market relations within the meaning of the GWB. The Düsseldorf Higher Regional Court has recently reiterated this in its decision on *HRS* and argued that any business transaction, if paid for, had to be associated with a market. To the extent that a service was provided in return for payment by one side, while it was free for the other side, only the paying side would be associated with a market. Nevertheless, the side using the service for free was able to influence the market conditions for equivalent services or products which were not for free.<sup>57</sup> This

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<sup>57</sup> Düsseldorf Higher Regional Court, Decision of 9 Jan. 2015, Ref. VI card file 1/14 (V), para. 43 – *HRS*, available at

analysis also corresponds to the **Bundeskartellamt's** analysis of traditional markets up to now. Thus, the Bundeskartellamt has neither associated free-to-air TV stations funded by advertising with a television consumer market,<sup>58</sup> nor freely distributed advertising papers with a readers' market. In both constellations, it defined relations only with paying advertising customers as a market.

Older practice by the **European Commission** regarding some merger decisions on free-to-air television ultimately assumed a TV advertising market,<sup>59</sup> though to some extent it explicitly left open the question whether a television consumer market existed speaking from a strictly economic point of view.<sup>60</sup> By contrast, in more recent cases, such as the decision on the merger *Facebook/WhatsApp*<sup>61</sup>, the Commission analysed different Internet markets including social networks, although practically all social network operators provide their services without direct monetary return from users.<sup>62</sup> The Commission had already taken a similar approach in the case of *Microsoft/Skype*.<sup>63</sup> In the investigation on abusive behaviour by *Microsoft* regarding the tying of a web browser and/or media player to Windows' operating system, the Commission and the European General Court analysed and confirmed the existence of markets for both components despite the fact that they were at least to some extent offered for free.<sup>64</sup> Regarding the current proceedings on abusive behaviour by *Google Search*<sup>65</sup>, the Commission published a press release on 15 April 2015<sup>66</sup>, expressing its preliminary view that Google abused its

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[http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI\\_Kart\\_1\\_14\\_V\\_Beschluss\\_20150109.html](http://www.justiz.nrw.de/nrwe/olgs/duesseldorf/j2015/VI_Kart_1_14_V_Beschluss_20150109.html)

<sup>58</sup> Bundeskartellamt, Decision of 19 Jan. 2006, Ref. B6-103/05 – Springer/ProSieben, page 23; left open for online dictionaries like Wikipedia provided free of charge in Bundeskartellamt, Decision of 29 April 2009, Ref. B6-9/09 – Bertelsmann/Brockhaus, para. 63 et seq.

<sup>59</sup> Cf. European Commission, Decision of 21 March 2000, Ref. COMP/M.1889 – CLT-UFA/CANAL+/VOX, para. 12; Decision of 3 Aug. 1999, file reference IV/M.1574 – Kirch/Mediaset, para. 11; Decision of 7 Oct. 1996, Ref. IV/M.779 – Bertelsmann/CLT, para. 13; Decision of 17 May 1995, Ref. IV/M.566 – CLT/Disney/Super RTL, para. 14.

<sup>60</sup> European Commission, Decision of 3 Aug. 1999, Ref. IV/M.1574 – Kirch/Mediaset, para. 11; Decision of 7 Oct. 1996, Ref. IV/M.779 – Bertelsmann/CLT, para. 15 both indicating that the number of viewers constituted a decisive factor of success on the advertising market and should therefore be included in the analysis of at least this market; in its Decision of 20 Sept 1995, Ref. IV/M.553 – RTL/Veronica/Endemol, the Commission had explained that as there was no “trade relationship” between broadcasting stations and viewers, a television consumption market in the strict economic sense did not exist. As the question was not material to the decision, it was left open in the end (para. 17), although the decision contains additional observations on a television consumption market.

<sup>61</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217 – Facebook/WhatsApp.

<sup>62</sup> See also para. 31 of the Decision and para. 75 of the Decision of 7 Oct. 2011, Ref. COMP/M.6281 – Microsoft/Skype.

<sup>63</sup> European Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – Microsoft/Skype, para. 10 et seq.

<sup>64</sup> European Commission, Decision of 24 March 2004, Ref. COMP/C-3/37.792 – Microsoft, para. 402 et seq.; European Commission, Decision of 16 Dec. 2009, Ref. COMP/C-3/39.530 – Microsoft, para. 17 et seq.; EGC, Decision of 17 Sept. 2007, Ref. T-201/04 – Microsoft, para. 927 et seq., 1088.

<sup>65</sup> Ref. AT 39.740

<sup>66</sup> Available at [http://europa.eu/rapid/press-release\\_IP-15-4780\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4780_en.htm)

dominant position in markets for horizontal internet search services in Europe, although these services are without exception provided to users free of charge.

Opinions expressed in economic and legal **literature** are controversial. Some authors dispute market quality given that there is no cash flow. They reason, inter alia, that this view was justified, as neither side would have to commit, i.e. none of the players would make a legally binding commitment – although users invested attention and time.<sup>67</sup> Furthermore, the advertising market itself would account for the importance of a certain number of users for the advertising market.<sup>68</sup> Another line of argument emphasises that there is no quid pro quo.<sup>69</sup>

As opposed to that, e.g. *Evans* points out that groups who have access to services without paying for it would nonetheless derive great benefit from this, which should be taken into account in the context of welfare analyses.<sup>70</sup> Instead of paying money, some authors also regard the provision of access to other goods, which epitomised economic values of their own, as a sufficient criterion for assuming a market relation, for instance paying attention or users of Google search functions providing access to data.<sup>71</sup> On the other hand, *Paal et al.* consider a direct interaction between service provider and user a necessary prerequisite for assuming a substitution relation that is sufficiently paid for.<sup>72</sup> This would constitute a relevant difference from cases where users consume TV or print advertisements and, as there is no direct interaction, only their attention could be regarded as payment.<sup>73</sup> *Dewenter/Rösch/Terschüren*, on

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<sup>67</sup> Kersting/Dworschak, "Google als Marktbeherrscher?– zur geringen Aussagekraft hoher Nutzerzahlen im Internet", ifo Schnelldienst 16/2014, page 7; Höppner/Grabenschroer, NZKart 2015, 162, 164, believe that the fact that neither the user nor the platform commit to providing a service was irrelevant for a market's existence; de facto, supply could reach demand without a legal commitment, thus substantiating a market process.

<sup>68</sup> Kersting/Dworschak *ibid*; Schulz/Held/Laudien, "Suchmaschinen als Gatekeeper in der öffentlichen Diskussion" (2005), page 58 et seq. with reference to Google's lack of commitment versus website operators.

<sup>69</sup> Schulz/Held/Laudien, "Suchmaschinen als Gatekeeper in der öffentlichen Diskussion" (2005), page 58 et seq.; Ott, "Ich will hier rein! Suchmaschinen und das Kartellrecht", MMR 2006, 195, 197, argues in the case of Google search with a view to website operators that although an opposite side that did not pay a price was not at risk of being ransacked, this would not be a persuasive argument if one side of a triangle depended on the relationship.

<sup>70</sup> Evans, David S., *The Web Economy, Two-Sided Markets and Competition Policy* (April 4, 2010; available at <http://ssrn.com/abstract=1584363>), page 6.

<sup>71</sup> Paal, "Immaterialgüter, Internetmonopole und Kartellrecht", GRUR 2013, 873, 876; Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen", NZKart 2014, 387, 389; Weber/Volz, "Kartellrechtlicher Handlungsbedarf im Lichte potenzieller Meinungsmacht von Suchmaschinen", WuW 2015, 356, 358; Körber, "Google im Fokus des Kartellrechts", WRP 2012, 761, 764 and "Analoges Kartellrecht für digitale Märkte?", WuW 2015, 120, 125 also points this out; Podszun/Franz, "Was ist ein Markt? – Unentgeltliche Leistungsbeziehungen im Kartellrecht", NZKart 2015, 121 adopt a critical position in this matter.

<sup>72</sup> Paal, *ibid*; similarly Höppner/Grabenschroer, NZKart 2015, 162, 163, 166, who consider individual contact between user and platform to be required; Podszun/Franz, "Was ist ein Markt? Unentgeltliche Leistungsbeziehungen im Kartellrecht", NZKart 2015, 121, fail to see a demonstrably synalagmatic obligation relation in those rationales that are based on payment of attention.

<sup>73</sup> Cf. Paal *ibid*; also Höppner/Grabenschroer, NZKart 2015, 162, 163, 166 due to lack of individual contact.



the other hand, also consider payment of attention to be a “hedonistic“ form of price.<sup>74</sup> *Paal* also considers the connection between inclusion of a website in a search engine’s index and the promotion of business opportunities for the website operator as irrelevant; what was relevant, however, was the copyright relation established through simple consent.<sup>75</sup> Against the background of an open market definition advocated by *Podszun/Franz*, which should not be limited to one indicator of market power and should thus not primarily focus on price effects, the authors are in favour of taking non-monetary relations into account as well.<sup>76</sup> The *Monopolies Commission* also endorses a more thorough investigation of the “free“ market side in antitrust assessments and, in this respect, requests that the Bundeskartellamt clarifies the definition of relevant market in its publications.<sup>77</sup>

Another approach to arguing the case in favour of non-monetary relations qualifying as a market maintains that at least one side of the market had to pay, which enabled financing the two-sided platform; this illustrated that it was always all market sides together that created a relevant market.<sup>78</sup> Accordingly, specific pricing was actually a decision aimed at internalising network effects.<sup>79</sup> If the sides that do not pay a monetary price were not included in the analysis, both the feedback effects and the total effects from both market sides would be ignored, which would generally lead to a misjudgement with regard to the market definition and to competitive behaviour.<sup>80</sup>

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<sup>74</sup> Dewenter/Rösch/Terschüren, “Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen“, NZKart 2014, 387, 389.

<sup>75</sup> Paal, “Immaterialgüter, Internetmonopole und Kartellrecht“, GRUR 2013, 873, 876; rationale similar for an implied consent to reproduction or copying under copyright law (however prior to decision on preview images) Ott, “Ich will hier rein! Suchmaschinen und das Kartellrecht“, MMR 2006, 195, 197.

<sup>76</sup> Podszun/Franz, “Was ist ein Markt? Unentgeltliche Leistungsbeziehungen im Kartellrecht“, NZKart 2015, 121, 126f; the authors see German jurisprudence effectively becoming more open in some court rulings, among others see the decisions of the BGH (German Supreme Court), ruling of 20 Nov. 2003, Ref. I ZR 151/01 – 20 Minuten Köln (however, ruling pursuant to the German Fair Trade Practices Act (UWG)) and BGH, ruling of 16 Jan. 2008, Ref. KVR 26/07 – Kreiskrankenhaus Bad Neustadt.

<sup>77</sup> Monopolkommission, 68. Sondergutachten: “Wettbewerbspolitik: Herausforderung digitale Märkte“, June 2015, para. 471 et seq.

<sup>78</sup> Dewenter/Rösch/Terschüren, “Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen“, NZKart 2014, 387, 389; [different opinion probably Paal, Immaterialgüter, Internetmonopole und Kartellrecht, GRUR 2013, 873, 876, who regards this as “blurring“ the required strict definition of individual relations and would assume market quality only in those cases where the user “provided“ personal data useful for advertising purposes, which epitomise an economic value of their own].

<sup>79</sup> Dewenter/Rösch/Terschüren *ibid.*; similarly, Höppner/Grabenschröer, NZKart 2015, 162, 163.

<sup>80</sup> Dewenter/Rösch/Terschüren *ibid.*; similarly, Höppner/Grabenschröer, NZKart 2015, 162, 163, who demand at least individual contact between user and platform.

## b) Conceptual considerations

### (1) Relations based on free use may also qualify as markets within the meaning of competition law

According to the Bundeskartellamt's conceptual deliberations, it seems to make sense to regard the side of a platform which uses the platform's service for free also as a market within the meaning of the GWB. This applies at least in those cases where the free user side is linked to a user side that pays for the service. This applies regardless of the related question of whether relations towards each side should be defined as separate markets or whether a single platform market can be assumed.

This assessment is based on the deliberation that there is a close connection between the activities on both sides because they are connected by indirect network effects and that these activities pursue a uniform profit-making purpose. This becomes particularly obvious in the case of matching platforms where the liaison between both sides represents a "product" that would not exist without the activity of both sides. The free service provided to one side is part of a platform's differentiated pricing strategy aimed at internalising indirect network effects and leading to a high discount or an actual price of zero for one user group. Strategic pricing is an important platform element, which many authors would, economically speaking, include in the definition of a platform that is based on the concept of non-neutrality of price structure.

Considering the free platform side indirectly in the antitrust assessment of the paying side seems to be essentially a "crutch" that makes investigations under competition law unnecessarily complicated, particularly in the digital economy. The behaviour and reactions of consumers on the free side is taken out of context for the purpose of the analysis, although even without a positive monetary price, an important part of the competition process in terms of quality and innovation takes place on this side. Innovation and quality competition become secondary to price competition. Effectively, the perspective and the protective scope of the GWB are limited to one group of consumers. In the control of abusive behaviour, it is necessary to resort to the concept of third market restrictions, otherwise all actions of the platform need to be assigned to the paying market side which is the only side that can be subjected to market power.<sup>81</sup>

In those cases where the business does not request *either* side to pay during its "start-up" phase, it is sufficient for assuming a market activity of the business that monetisation can reasonably be expected within the forecast period relevant for the specific investigation under

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<sup>81</sup> Bundeskartellamt, Decision of 8 Sept. 2015, file reference B6-126/14, para. 129 et seq. – Google/VG Media, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

competition law. Under these circumstances, there are no doubts about the economic objective of the company's actions. According to this concept, it is not relevant which side has to pay in the end, since all market sides obtained market quality as a result of it.

**(2) Should benefits in kind be regarded as equivalent to services of monetary value?**

From the Bundeskartellamt's point of view, the question of whether benefits in kind could be considered as services that qualify as a market is typically no longer relevant for platform cases, as the platform side that does not pay a monetary price is usually connected to a paying user side and reflects the company's pricing strategy, thus obtaining market quality.

This notwithstanding, it may still be useful to assess on a case-by-case basis whether a free of charge service actually is free. Even if a user does not pay money for using a product, he may nonetheless "pay" for the product – for instance, by disclosing data or paying attention. In this context, personal data obtained by the platform operator – for instance, when visiting a social network – are of special importance. These data can be regarded as a quid pro quo having a monetary value. By evaluating these data, the platform operator is able to categorise users on the basis of their characteristics and interests and offer these data to advertisers for targeted distribution of advertisements to the target group of their choice. To this extent, the data provide a basis for charging a monetary price or at least a higher monetary price to advertising customers, which are able to target their advertising messages to a particular user group.<sup>82</sup>

Ultimately, however, the criterion of a "connection with the paying side" is designed to reflect the monetisation of data or attention in the case of audience providing platforms in addition to the asymmetrical pricing possibilities provided by matching platforms. It is essentially the same approach without analysing the specific payment in kind.

**c) Case practice**

The **(horizontal) Google search** engine is an example of a "free" service, at least at first glance:

Google generates income with its search engine primarily through advertising revenue for search-related advertisements. Search engine users do not pay anything. To the extent that website operators are regarded as a platform side (see 1. above), inclusion in the general (horizontal) list of search results is generally free of charge, while this is to some extent not the

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<sup>82</sup> Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen", NZKart 2014, 387, 389; Körber, "Google im Fokus des Kartellrechts", WRP 2012, 761, 764; Weber/Volz, "Kartellrechtlicher Handlungsbedarf im Lichte potenzieller Meinungsmacht von Suchmaschinen", NZKart 2015, 356, 357.

case for the special (vertical) hits (like Google Shopping). In this case, Google's pricing decision is strategic. As a concept, it would also be conceivable to provide a search function for money or have websites pay for inclusion into the general search engine.

The market for (search-related) online advertising is clearly a market within the meaning of the GWB because of the monetary payment transactions generated. The relation with search engine users who use Google actively would already constitute a market relation because of the connection to payable online advertising regardless of whether user data provided represent an adequate payment in kind or not. The search engine users generate pronounced indirect network effects towards the advertising side. Without qualifying at least the side of search engine users as a market relation it would be difficult to implement abuse control over the general search engine.

The case of **Google/VG Media**<sup>83</sup> raised the conceptual question whether abuse control was possible in view of the curtailed listing in Google's search results of those websites whose operators were publishing houses organised in the collecting society VG Media. From the Bundeskartellamt's point of view, abuse control in this case would only be possible and make sense if the website operators were regarded as one side of the platform or if their relation with Google would qualify as a market relation regardless of this. This required at least a market relation with search engine users. The curtailing of (some) search results directly affects the search function for the user and could therefore be classified as behaviour towards the search engine user, even though Google's curtailing of certain search results was predominantly aimed at website operators.

According to the perspective adopted up to now, curtailing some results in the general search list would represent behaviour on the market for (search-related) online advertising. This view could be justified by the links between website and users and advertisers generated through externalities. On the other hand, the effect of the curtailing of search results on the market for online advertising should be minimal or might actually diminish Google's profit, while it is quite significant for the website operators in question and the search engine users. However, under the previous perspective, these market sides could not be considered as market sides. Economic activity would not be adequately accounted for. Analysing the market for online advertising would, in this case, be a "trick" which would hardly work.

In addition, there is actually an exchange relationship between Google and the website operators in terms of web traffic. Inclusion in the list of search results has an intermediary function, as it attracts Internet visitors to website operators through links. For this benefit, website operators tolerate use of their contents in the format of snippets and do not apply the technical

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<sup>83</sup> Bundeskartellamt, Decision of 8 Sept. 015, B6-126/14, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

quasi standard *Robot Exclusion Protocol* to prevent it. Visitor traffic whose scope depends on the search engine's reach and quality represents a benefit in kind, as the revenues of website operators largely depend on it.

In the case of the **online dating**<sup>84</sup> merger, the Bundeskartellamt explicitly emphasised that an analysis under competition law would also need to take into account advertising financed business models that offered a dating platform's matching service free of charge. Despite being free of charge for the dating user groups, these products were an essential competitive element of the market and a formative feature for the functioning of Internet markets like the online dating market. They represented an independent competition component typical of the Internet, which should be accounted for by including the products in the market and giving them a direct competitive position.

## 5. Application of additional concepts for definition of a relevant market

### a) SSNIP test

The applicability of SSNIP tests to platform markets is another topic of discussion. It shows that implementing the test on platform markets would lead to considerable difficulties. In the case of multi-sided markets, practical application of the SSNIP test is so complex that it may not, or at least not without great problems, be applicable either in its original or in its modified version.

#### (1) Status of discussion

Several authors of economic **literature** adopt a sceptical position when it comes to applicability of the SSNIP test, which was originally developed for one-sided markets, to two-sided markets (cf. *Evans and Noel*<sup>85</sup>, *Evans*<sup>86</sup> and *Hesse*<sup>87</sup>). In this context, it is in particular the close connections between both platform sides of two-sided markets that plays an important role. According to the authors, indirect network effects between the sides of a platform implied that price increases on one platform side lead to changes in volume not only on this side but also on the other side. For instance, if a real estate platform increased prices for real estate providers, this would lead to a reduction in properties offered on the platform. Due to indirect network

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<sup>84</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, para. 137.

<sup>85</sup> Evans/Noel, "Defining antitrust markets when firms operate two-sided platforms", *Columbia Business Law Review* 2005, 667-702.

<sup>86</sup> Evans, "Two-sided market definition, in: *Market definition in Antitrust: Theory and case studies*, ABA Section of Antitrust Law", 2009.

<sup>87</sup> Hesse (2007), *Two-sided platform markets and the application of the traditional antitrust analytical framework*, *Competition Policy International*, 3 (1), 191-195.

effects, a reduction in real estate offers would also affect the side of potential buyers. Hence, a real estate platform with a smaller supply of properties would become less attractive for people looking for properties; consequently, their number would drop. Fewer people looking for properties would in turn make the platform less attractive for real estate providers.

The original SSNIP test would not be able to depict the entire volume-related effects of a price increase on one side, as – since it is applied to only one user group of the platform - it only takes into account the direct correlation between price increase and change in volume on the side analysed. By ignoring volume changes resulting from indirect network effects on both sides, the test would arrive at a biased result. Applying the original SSNIP test to one side only is based on the assumption that behaviour on the other side remains unchanged, which is certainly not the case on two-sided markets. For instance, the application of the SSNIP test to a real estate platform would show that 5 % of providers leave the platform if prices were increased by 10 %. However, if 5 % of people looking for properties also left the platform as a result of the reduction (although the price remains unchanged for them), this may lead to additional providers leaving the platform; thus the overall effect of the price increase may be greater than application of the SSNIP test to one side would suggest. This may distort the result of the SSNIP test, as profitability of the price increase would be overestimated in the case outlined above.

In view of the problems resulting from an unchanged application of the original SSNIP test to two-sided markets outlined above, *Filistrucchi, Geradin, van Damme and Affeldt*<sup>88</sup> propose a modified SSNIP test that takes into account the characteristics of two-sided markets and is designed to illustrate the impacts of indirect network effects. However, in this context, it is necessary to distinguish between transaction and non-transaction markets on account of the different directions of indirect network effects on these platform types. The authors suggest that in the case of non-transaction markets the profitability of a price increase should be assessed for each side individually. In the case of transaction markets, in turn, the profitability of an increase in price level, i.e. the sum of both sides' prices, should be reviewed. Ideally, it should be possible to adjust the platform's price structure in both cases. According to *Filistrucchi, Geradin, van Damme and Affeldt*, this approach takes the two-sided nature into account accurately, so that a SSNIP test modified in this way appears to be applicable from a theoretical point of view.

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<sup>88</sup> Filistrucchi/Geradin/van Damme/Affeldt, "Market definition in two-sided markets: Theory and practice", *Journal of Competition Law and Economics*, 2014, 10 (2), 293-339.

*Dewenter, Rösch and Terschüren*<sup>89</sup> take a much more critical view on the SSNIP test's applicability; their criticism relates to both the original as well as the modified SSNIP test for two-sided markets. Aside from the well-known problems of practical SSNIP test application to one-sided markets, which may increasingly occur also on two-sided markets, there are additional factors on two-sided markets that may lead to situations where the SSNIP test cannot be applied properly. In this context, *Dewenter, Rösch and Terschüren* highlight in particular that one side on a two-sided market often does not pay a monetary price but that the attention, for instance, of that side serves as a benefit in kind. This is typically the case for non-transaction platforms and/or audience providing platforms. In this respect, it is difficult to assess a price increase. Alternatively, instead of analysing the price increase on the non-monetary side, a reduction in quality would be conceivable.

## **(2) Conceptual considerations**

The problems of applicability of the SSNIP test to two-sided markets discussed in literature are manifold and contrast with the practical application in specific case investigations by a competition authority. In the case of multi-sided markets, the test would not, or at least not without considerable problems, be applicable either in its original or its modified version. What would be conceivable are surveys on the switching behaviour of platform users under certain modified overall conditions based on the SSNIP test's fundamental idea.

### **b) Supply-side substitutability**

Lastly, in the context of defining a relevant market, the analysis of the **supply-side substitutability** has become a recognised component. This raises the question to what extent this concept can be applied in the analysis of platform markets. The key question in this context is whether big platforms like Google and YouTube or specialised transaction platforms like ImmoScout are able to easily transfer their offers to neighbouring Internet services.

## **(1) Status of discussion**

Pursuant to the **Federal Supreme Court's** jurisprudence, the definition of a relevant market also needs to take into account products, which, from the demand-side perspective, cannot be substituted by other products offered on the relevant market, but which nonetheless enable their manufacturer to change his portfolio at short notice and offer a directly competing product

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<sup>89</sup> Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen", NZKart 2014.

for which they serve as a basis. Such supply-side substitutability can only be assumed, however, if suppliers of neighbouring products are able and prepared to modify their offers at short notice and reasonable expenditure.<sup>90</sup> Only where these prerequisites are fulfilled can it be assumed that actual competitive pressure is exerted on the behaviour of the market players, so that providers of similar products have to be treated as actual competitors.<sup>91</sup> As opposed to potential competition (cf. II.5. below) where the possibility and probability of a market entry in the medium term is relevant,<sup>92</sup> the short-term nature and the low economic expenditure necessary to switch production are relevant for market definition. Therefore, treating companies operating on neighbouring markets as actual competitors is justified only if substitution can be immediate and without noticeable added costs. They cannot be included in the assessment if switching of production required considerable adjustments in existing intangible and immaterial assets, additional investments, strategic decisions or delays. This is also in line with the **European Commission's** notice on the definition of a relevant market.<sup>93</sup>

The **Bundeskartellamt** has investigated practical cases of merger control in the field of the digital economy in the past and examined to what extent there is a possibility of supply-side substitutability. In the case of a merger between the trading platform Ebay and the motor vehicle platform "mobile.de"<sup>94</sup>, for instance, it examined to what extent a single market for online advertising portals could be defined on account of supply-side substitutability; however, ultimately it did not find sufficient evidence for this.<sup>95</sup>

As far as can be seen, there is no specific **literature** on the subject of supply-side substitutability in the digital economy.

## (2) Conceptual considerations

In principle, the concept of supply-side substitutability can also be applied to Internet platforms. However, short-term switching to another product, albeit a neighbouring product, without appreciable expenditure by platforms would hardly be possible due to the required critical mass

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<sup>90</sup> BGH, Ruling of 16 Jan 2007, Ref. KVR 12/06, BGHZ 170, 299-311 – *National Geographic II*, para. 20 (juris).

<sup>91</sup> Cf. in particular European Commission, Community notice on the definition of relevant market for the purposes of Community competition law, notice of 9 December 1997, C 372/5, para. 20.

<sup>92</sup> BGH, Ruling of 21 Dec. 2004, Ref. KVR 26/03 – *Deutsche Post/Trans-o-flex*, para. 28 (juris).

<sup>93</sup> European Commission, Community notice on the definition of relevant market for the purposes of Community competition law, notice of 9 December 1997, C 372/5, para. 20, 22, 23.

<sup>94</sup> Bundeskartellamt, Ref. B6-19/04 (not published).

<sup>95</sup> Case practice showed that most online-advertisement portals such as Mobile.de do not cover all classical categories of advertisements but specialise on one segment. The reason for their specialisation was obviously a need for greater customer loyalty and customer relations' management resulting from competition on a nationwide level, the price models applied and the technical requirements. Therefore, there is strong evidence to assume separate markets for the different online categories.



and indirect network effects. For instance, we cannot generally assume that large platforms like Google Search or YouTube are able to penetrate neighbouring markets at any time and be just as successful, with the result that they would have to be regarded as actual competitors on all possible Internet markets. Case practice illustrates that the reach achieved by a platform cannot be easily transferred to other services. Although the platform may technically be easily converted to another product, it still needs to start from scratch in order to reach a critical mass. For example, even though Google Search has a huge reach, this obviously did not constitute a decisive advantage for establishing its own social network Google+.

### **(3) Case practice**

Investigation of the case **Immonet/Immowelt**<sup>96</sup> raised the question of supply-side substitutability of other platforms such as e.g. eBay/mobile.de or Google. Ultimately it was irrelevant, as no competition problem could be assumed even applying a narrow definition of a relevant market. On the other hand, it was visible that the relevant platforms, despite having a wide reach, would have to incur considerable expense for the acquisition of real estate providers.

## **II. Market power**

Ascertaining market power is relevant in different contexts for case investigations under competition law. It is particularly relevant in cases of market dominance (Sect. 18 GWB) and in control of abusive conduct (Sect. 19 GWB). In merger control cases Sect. 36 (1) GWB refers to a concentration that would significantly impede effective competition (SIEC), and where the creation and strengthening of a dominant market position would be an example of such an impediment. However, in practice the assessment concept may differ from a market dominance assessment. The SIEC test and the theories of harm possibly resulting from mergers may, in individual cases, also establish an increase in market power (unilateral effect) below market dominance.<sup>97</sup> “Coordinated effects“ of a merger can to some extent differ from the concept of collective market dominance even though the differences in the assessment concept may not be significant. In addition, the GWB considers the terms market dominance respectively market power either from a rather static perspective (abuse in the here and now) or from

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<sup>96</sup> Bundeskartellamt, Case summary of 25 June 2015, B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>97</sup> Gesetzesentwurf der Bundesregierung – Entwurf eines Achten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen (8. GWB-ÄndG), Deutscher Bundestag, 17. Wahlperiode Drucksache 17/9852, 31.05.2012, p. 28.

a more dynamic perspective (projected market power and impact of a merger) depending on whether they are examined in the context of control of abusive behaviour or merger control.

Regarding the question discussed here, i.e. which criteria are conceptually significant for ascertaining market power of platforms, the specific context of proceedings and the relevant theory of harm under competition law will initially not be considered. Therefore, the general term market power shall be used, which, legally speaking, represents a non-technical approach.

In its investigations of market power, however, the Bundeskartellamt uses the criteria listed in Sect. 18 (3) No. 1-8 GWB for the overall appraisal. It raises the question whether these criteria are able to reflect the special characteristics of platforms identified in literature adequately and to what extent economic concepts can be useful to assess platforms in this legal framework.

In this context, the criteria formulated by economists *Evans/Schmalensee* and adapted by many other academics and institutions such as the Monopolies Commission<sup>98</sup> come into question, which may be of special relevance for assessing the market power of a platform with pronounced indirect network effects. According to *Evans/Schmalensee*, indirect network effects (cf. 1. on this point) and economies of scale (under 2.) tend to promote concentration, while users practising multi-homing in connection with platform differentiation (under 3.) and risks of congestion are said to mitigate concentration.<sup>99</sup>

Moreover, the question arises how the special features of the digital economy affect the assessment of “classical” factors of market power. This pertains in particular to the debate about the relevance of market shares in the context of the digital economy (under 4.), the Internet’s innovative potential and conclusions for the definition of potential competition (under 5.) to be drawn from them. Last but not least, there is the question about the importance of access to data (under 6.).

The Bundeskartellamt assumes that all assessment points still need to be reviewed in the overall context of a market power assessment. However, in order to get an understanding of assessment points it is necessary to consider them individually and review them in terms of their conceptual relevance.

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<sup>98</sup> See, for instance, Monopolkommission, 68. Sondergutachten “Wettbewerbspolitik: Herausforderung digitale Märkte“, June 2015, p.39 et seq.

<sup>99</sup> See, for instance, *Evans/Schmalensee*, “The industrial Organization of Markets with Two-sided Platforms“, Competition Policy International, 2007, Vol. 3, p. 164.

## 1. Relevance of indirect network effects in assessing market power

The discussion about platforms is very much focused on analysing and assessing indirect network effects.

### a) Status of discussion

The relevance of indirect network effects is being discussed with a view to different facets of investigations under competition law. Thus, economic **literature** initially reasoned that indirect network effects would be conducive to a platform's size and consequently, the concentration of a market.<sup>100</sup> To some extent, this is seen as comparable to the situation of natural monopolies.<sup>101</sup> In particular *Evans/Schmalensee* describe the so-called **market tipping** which is potentially caused by pronounced indirect bilateral network effects: due to the network effects, the platform's benefit would increase with a growing number of users; consequently, it would attract even more users. This self-reinforcing positive feedback loop might be fostered by economies of scale (on the cost side). Unless there are no other factors counteracting this self-reinforcing loop, the effect may in the worst case even create a monopoly. Counteracting factors referred to include so-called multi-homing and platform differentiation to some extent associated with it as well as platform congestion.<sup>102</sup> **Market tipping** means only one platform side caters to the market and other providers disappear, i.e. the market "tips" towards monopolisation.

Moreover, economic literature emphasises the influence of indirect network effects on the **pricing strategy** of businesses (see also I.2. above). Accordingly, price structure as well as price level may vary considerably depending on the intensity and relation of network effects.<sup>103</sup> Some authors reason that network effects could, in theory, influence pricing in individual cases to such an extent that a stronger internalisation of network effects (as a result of a merger) overcompensates a loss of competitive pressure. For instance, *Chandra/Collard-Wexler*<sup>104</sup> illustrate a duopolistic market model where a merger may create a monopoly which - under certain

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<sup>100</sup> Evans/Schmalensee, "The Industrial Organization of Markets with Two-Sided Platforms", *Competition Policy International* 2007, 3(1), p.164; Peitz, "Marktplätze und indirekte Netzwerkeffekte", *Perspektiven der Wirtschaftspolitik* 2006, 7(3), p. 322

<sup>101</sup> Peitz, "Marktplätze und indirekte Netzwerkeffekte", *Perspektiven der Wirtschaftspolitik* 2006, 7(3), p. 322

<sup>102</sup> See, for instance, Evans/Schmalensee, "The industrial Organization of Markets with Two-sided Platforms", *Competition Policy International*, 2007, Vol. 3, p. 164.

<sup>103</sup> Cf. e.g. Armstrong, "Competition in two-sided markets", *RAND Journal of Economics* 2006, 37(3), 668-691.

<sup>104</sup> Chandra/Collard-Wexler, "Merger in two-sides markets: An Application to the Canadian Newspaper Industry", *Journal of Economics & Management Strategy*, 2009, Vol. 18, issue 4, p. 1045 et seq.

assumptions and for certain model-specific parameters - does not necessarily lead to price increases for one or both groups of consumers.

*Evans/Schmalensee*<sup>105</sup>, too, are of the opinion that strong indirect network effects further restrict any scope for competitive action: one user group's influence on another due to indirect network effects affected the degree at which a price increase on both sides would be profitable for the platform operator on account of price elasticity on the demand side. A price increase on one side would reduce the number of users on that side, thus diminishing the platform's attractiveness for the respective other user group who would also leave the platform.<sup>106</sup> Accordingly, an intensification of indirect network effects could have a dampening effect on prices. Literature to some extent often regards indirect network effects as **barriers to market entry**. New platform operators entering the market would have to persuade both sides simultaneously to join the platform, thus trying to resolve the "chicken and egg" problem.<sup>107</sup> What makes matters worse, the established platform could more than likely provide greater benefit to users due to indirect network effects; therefore, customers would be even less inclined to switch to a new platform.<sup>108</sup>

Specific **investigative approaches** with respect to indirect network effects can hardly be found in economic literature. Authors merely advocate a qualitative analysis to resolve at least the question of presence and direction of indirect network effects. To this end, interviews could be conducted. The presence of indirect network effects could to some extent also be directly deduced from product/customer behaviour. Thus, the fact that many advertising opportunities are calculated by way of contact prices is a clear indication that positive indirect network effects emanate from the readers' / TV viewers' / listeners' side onto advertising customers. It would be even more complicated to conduct quantitative analyses with extensive evaluation of data that either still need to be compiled or are already available (number of users, prices, product characteristics, etc.) in order to assess the intensity of indirect network effects.<sup>109</sup>

**Competition Authorities** have addressed indirect network effects in very few of their decisions on practical cases. Though the **European Commission** has repeatedly addressed net-

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<sup>105</sup> Evans/Schmalensee, "The Industrial Organization of Markets with Two-Sided Platforms" , Competition Policy International 2007, 3(1), p.173.

<sup>106</sup> Evans/Schmalensee, "The Industrial Organization of Markets with Two-Sided Platforms" , Competition Policy International 2007, 3(1), p.173.

<sup>107</sup> Caillaud/Jullien, "Chicken & egg: competition among intermediation service providers" , RAND Journal of Economics, 2003, 34(2), p. 309 et seq.

<sup>108</sup> Cf. Hesse, R. (2007), "Two-Sided Platform Markets and the Application of the Traditional Antitrust Analytical Framework" , Competition Policy International 3(1), p. 193.

<sup>109</sup> Cf. Filistrucchi/Geradin/van Damme "Identifying Two-Sided Marktes" , World Competition: Law and Economics Review 2013, 36 (1), 33-60.

work effects in its decisions, most of these cases pertained to direct network effects. The Commission's decisions regarding *Microsoft/Skype*,<sup>110</sup> *Google/DoubleClick*<sup>111</sup> and *Facebook/Whatsapp*<sup>112</sup> assumed (direct) network effects and examined their impacts in the context of an appraisal of the merger under competition law and a focus on barriers to market entry. In the case of *Google/DoubleClick*, the Commission moreover reviewed a possible foreclosure strategy as a result of the merger on the market for online ad intermediation services; it examined the impacts of indirect network effects between advertisers and website operators particularly with a view to the risk of market tipping and it disputed such effects on account of multi-homing.<sup>113</sup> In the *Travelport/Worldspan*<sup>114</sup> merger case, which pertained to the merger of booking platforms (so-called GDS) that facilitate marketing of travel services, the Commission identified indirect network effects (however, it referred to the general term network effects<sup>115</sup>) between the travel service providers on the one hand and travel agencies on the other. From the Commission's point of view, these constituted asymmetrical (indirect) network effects predominantly created by the "downstream" side of travel agencies. As travel agents tended towards single-homing, every GDS provider had a "certain degree of monopolist domination" with regard to travel service providers, which could result in higher prices for travel service providers.<sup>116</sup> Due to the dynamic nature of the market and the emerging trend towards direct marketing between travel service providers and travel agents, the Commission ultimately cleared the merger. In the case of abusive behaviour against *Microsoft*,<sup>117</sup> the Commission addressed network effects in more detail and found that in particular indirect network effects existed on markets for operating systems, which it considered to be a relevant factor of market power.

In the field of media merger control, the **Bundeskartellamt** had already examined the mutual influence of relevant user groups in the past.<sup>118</sup> In its decision on the *Intermedia/Health&Beauty*

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<sup>110</sup> European Commission, Decision of 7 Oct. 2011, Ref. COMP/M. 6281 – *Microsoft/Skype*, para. 91, 92; confirmed by EGC, Ruling of 11 March 2013, Ref. T-79/12 – *Cisco/Kommission*, para. 79 et seq. In the case of *Microsoft/Skype*, there was no further emphasis on the impacts of indirect network effects, as multi-homing by users could be observed and, according to market investigations, users communicated with a small number of acquaintances (4-6 persons) for the most part and migrating to a different medium would have been straightforward for the entire group.

<sup>111</sup> European Commission, Decision of 11 March 2008, Ref. COMP/M. 4731 – *Google/DoubleClick*, para. 255 f.

<sup>112</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M. 7217, *Facebook/Whatsapp*, para. 127 et seq.

<sup>113</sup> European Commission, Decision of 11 March 2008, Ref. COMP/M. 4731 – *Google/DoubleClick*, para. 304 et seq.

<sup>114</sup> European Commission, Decision of 21 Aug 2007, Ref. COMP/M. 4523 – *Travelport/Worldspan*.

<sup>115</sup> European Commission, Decision of 21 Aug. 2007, Ref. COMP/M. 4523 – *Travelport/Worldspan*, para. 19.

<sup>116</sup> European Commission, Decision of 21 Aug. 2007, Ref. COMP/M. 4523 – *Travelport/Worldspan*, para. 81.

<sup>117</sup> European Commission, Decision of 24 March 2004, Ref. COMP/C-3/37.792 – *Microsoft*.

<sup>118</sup> For the first time explicitly mentioned in *Bundeskartellamt*, Decision of 29 Aug. 2008, Ref. B6-52/08 – *Intermedia/Health & Beauty*, p. 59; subsequently, *Bundeskartellamt*, Decision of 21 April 2009, Ref. B6-150/08 – *NPG/Zeitungsverlag Schwäbisch Hall*, para. 33 (regarding newspapers); also Decision

merger in 2008, the Bundeskartellamt identified these effects as indirect network effects and examined their impacts with a view to potential competition to see whether they would make market entry for new competitors difficult.<sup>119</sup> The Decision Division concurred with this conclusion: the specific characteristics of two-sided markets would have important consequences for assessing possibilities and chances of success for new market entrants. In order to succeed on such markets where network effects were pronounced, it was absolutely necessary to generate a critical mass. In this respect, it was critical particularly during the phase of market entry to succeed on that side of the market from which strong network effects emanated (i.e. the readers' market in the case of newspapers). Companies would make a successful market entry if they managed to provide a "lucrative" platform for advertising claims of advertising customers on the readers' market. In this case, even a superior, newly launched product would hardly be able to compete with established products if it was unable to generate a critical mass on the demand side. This was all the more true of those cases where consumers make parallel use of several media only to a very limited extent.

In addition, the Bundeskartellamt addressed network effects in its merger decision regarding *Thyssengas/trac-x* and pointed out that established platforms showed immanent self-reinforcing tendencies when pronounced network effects prevailed, which represented a barrier to market entry for new market entrants.<sup>120</sup>

## **b) Conceptual considerations**

Indirect network effects represent an important factor to ascertain a platform's market power; they should always be examined in the context of practical antitrust law enforcement. Indirect network effects could strengthen market power. At the same time, they may also boost competition on the market, as they generally benefit all market players and, in combination with other factors, may cause a rapid growth of new market players. The relevant question in this context is whether these effects are pronounced positive bilateral indirect network effects or whether they are asymmetrical indirect network effects. From a competition point of view, the ambivalence of indirect network effects is more obvious for matching platforms than for audience providing platforms. A thorough investigation is necessary in every individual case; it should give special consideration to the criteria formulated by *Evans/Schmalensee*, to which other criteria need to be added for an assessment concept under competition law.

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of 25 April 2014, Ref. B6-98/13 – Funke/Springer Programmzeitschriften, para.; previously, mentioned as a phenomenon in Bundeskartellamt, Ref. B6-55/06 – Amadeus/TravelTainment, p. 20.

<sup>119</sup> Bundeskartellamt, Decision of 29 Aug. 2008, Ref. B6-52/08 – Intermedia/Health & Beauty, p. 59 (available on the Bundeskartellamt's websites).

<sup>120</sup> Bundeskartellamt, Decision of 12 Oct. 2007, Ref. B8-59/07 – Thyssengas/trac-x, p. 13.

## (1) Matching platforms

An important aspect in ascertaining market power is the possible **self-reinforcing positive feedback loop** that becomes relevant when a platform shows pronounced positive **bilateral indirect network effects**, which usually occur in this form only on **matching platforms**. The self-reinforcing effect may cause a concentration trend in the market and foster creation of large platforms. Therefore, pronounced indirect network effects constitute an important aspect in market power assessments. However, they may be of ambivalent relevance in terms of competition.

First of all, one risk to competition is the so-called **market tipping**, which may be caused by the self-reinforcing effect resulting in a monopoly in the worst case. To pose such a risk, other market conditions have to be combined with the pronounced bilateral indirect network effects; they need to be examined in combination with network effects. In this context, the Bundeskartellamt initially regards the criteria developed by *Evans/Schmalensee* as practicable for appraisals under competition law: to this end, it is absolutely necessary to examine potential **economies of scale** (cf. point 2 on the subject), the different **forms of use** and the possibility of a **platform differentiation** (key words single-homing and multi-homing, cf. point 3) to assess network effects from a competition point of view.

Congestion however, which *Evans/Schmalensee* regard as another counteracting element, has only little practical relevance for appraisals under competition law. According to the Bundeskartellamt's understanding, congestion as defined by *Evans/Schmalensee* refers to the technical and physical limitations of a platform, which becomes "congested" at some point and is unable to absorb more users. Although the possibility of this process cannot be completely ruled out, particularly for Internet-based services, it seems a rather unlikely scenario in view of present and prospective network and server capacities. What is conceivable is a "virtual" congestion in the sense that the usefulness of a platform is reduced if user groups become too large. However, experience to date shows that the issue of congestion has no relevance of its own and could in particular be interpreted as a negative direct respectively indirect network effect.

On the other hand, the criteria developed by *Evans/Schmalensee* refer to the analysis of a market process; in this context, it is irrelevant which specific market player would be able to create a monopoly or which ones disappear from the market. However, an investigation in line with competition law requires that the market position of a specific business in relation to its competitors is established and evaluated. The question is whether the company subject to control of abusive conduct or the parties to the merger benefit from the self-reinforcing positive feedback loop of indirect network effects, thus obtaining a secured market position relative to their competitors and causing the market to tip towards a monopoly in the worst case. Any

investigations in line with competition law therefore generally need to consider relations towards competitors.

Therefore, the Bundeskartellamt presently regards pronounced network effects as a first indicator of market power only if the platform subject to antitrust law appraisal already has a considerable lead over other platforms. It is necessary to take into account that competitors also operate platforms with indirect network effects, so that the self-reinforcing positive feedback loop might generally benefit every market player, thus curtailing market power. Consequently, even a market leader's position might be vulnerable to new or current market players if they succeeded in quickly attracting a large number of users, for instance, through innovations.

At present, there are no established methods to measure the impact of network effects on different platforms. However, in order to ascertain the edge of a leading platform, a parameter that is in particular comparable to a percentage in market share might be useful for network effects based on the number of users; the digital economy uses various such parameters particularly for in-house reporting on a company's own services. Judging by previous cases examined by the Bundeskartellamt, the so-called *unique visitor* is a standard parameter often compiled in the market, which is able to express the intensity of a platform's usage. To this extent, a considerable lead in market share is still an important criterion, as it makes it more difficult for competing platforms to catch up (cf. chapter 4 regarding market shares in more detail).

The specific competitive opportunities of current and potential competitors, in combination with indirect network effects, constitute additional important assessment points also in case of a considerable lead. In this context, pronounced indirect network effects may strengthen current **barriers to market entry** on multi-sided markets. Here, different aspects need to be considered: first of all, market access becomes more difficult for a matching platform, as it needs to bring both sides on board simultaneously (chicken-and-egg problem), and to a certain extent at that, in order to offer a marketable product (critical mass). The self-reinforcing positive feedback loop of the incumbent platform may go hand in hand with customers being less prepared to churn, creating a situation that makes market entry even more difficult.

From the Bundeskartellamt's point of view, the specific barriers to market entry and the Internet's innovative potential should always be included in the assessment concept (see chapter 5 for a more detailed discussion). When examining competitive opportunities, it is also necessary to take into account the importance of data for the digital economy (see chapter 6 for a more detailed discussion).



It is doubtful whether the economic models in particular by *Chandra/Collard-Wexler*<sup>121</sup> on price levels can be applied to an antitrust investigation of a monopoly resulting from a merger. First and foremost, this is a conceptual question as to whether a merger resulting in a monopoly should be tolerated if it is possible to verify on a case-by-case basis that the merger would not lead to a price increase for the platform sides.

It also remains to be seen whether we can apply the idea that pronounced indirect network effects could restrict the scope for price increases and thus, the market power of a monopolistic platform operator. This would mean that market power could not be assumed in spite of a monopoly, as there is no uncontrollable scope for price increases. This concept legally contrasts with the legislator's presumption of market dominance in line with Sect. 18 GWB if *competition* can no longer sufficiently control scope for action, therefore, classifying a monopoly as market dominance in line with Sect. 18 (1) No. 1 GWB without additional analysis. For this reason, natural monopolies that represent market equilibrium from an economic perspective are also readily subject to abuse control. In terms of the concept, a platform's actual scope for price increases would have to be assessed in the context of abuse control.

From the Bundeskartellamt's point of view, it is necessary to consider in addition that pricing scope by itself should not be the only relevant factor for ascertaining market power particularly in the context of the Internet. It may also be a matter of restricting innovation competition, which should not be ignored neither in assessing emerging nor existing market power nor in the context of abuse control concepts.

## **(2) Audience providing platforms**

Indirect network effects are also of special importance for audience providing platforms that are created by ad-financing services and contents in the Internet, though they may lead to results other than those of matching platforms. This is primarily due to the fact that positive indirect network effects usually have a pronounced effect in only one direction. Consequently, as outlined before, the assessment concept regards the sides as separate markets; the side that uses the services in the Internet does usually not pay for it.

Regarding evaluation of market power, this means first of all that there will be no self-reinforcing positive feedback loops leading to a tipping process in the case of audience providing platforms, as the service users' side would not directly profit from more advertising on the website, and would grow as a result of that. Nevertheless, audience providing platforms may also experience a strong tendency towards concentration, both on the advertising side as well

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<sup>121</sup> Chandra/Collard-Wexler, "Merger in two-sides markets: An Application to the Canadian Newspaper Industry", *Journal of Economics & Management Strategy*, 2009, Vol. 18, issue 4, p. 1045 et seq.

as the service side. In this context, the assessment concept for matching platforms also proves to be applicable to audience providing platforms.

Positive indirect network effects play a special role in the analysis of market power of the advertising side that profits from a large group of service users on account of its reach. An extremely wide platform reach may actually make it indispensable for the advertising side. In an individual case, this may lead to the advertising market becoming limited to the platform in question. However, potential negative indirect network effects towards service users are also relevant for assessing market power on the advertising side. This effect limits advertising capacities that websites or publications, like newspapers or journals, are able to or want to offer to advertisers. Therefore, negative network effects could turn a shortage of supply in advertising space into a benefit and tend to increase the pricing scope on the side of the advertising market from which these effects emanate. A reduction in advertising does not change the platform's benefit for the other market side, in fact, it may actually increase it, at least to the extent that the platform's financing basis is generally not at risk.

Even if one can generally not expect a self-reinforcing positive feedback loop comparable to that of matching platforms with positive bilateral indirect network effects for audience providing platforms, the same concept may nevertheless be used to examine market power on the advertising side. For multi-homing as a form of use on differentiated platforms may, for instance, reduce barriers to market entry on the relevant advertising market; on the other hand, a leading audience providing platform's economies of scale may increase barriers to market entry in a specific case. Data sources are an extremely important factor in particular and primarily for ad-funded services in order to offer competitive target groups and targeting. The Internet's innovative potential also needs to be considered in the context of barriers to market entry, as innovative services are able to generate considerable numbers of users.

However, to examine market power on the services' side, indirect network effects identified are of rather secondary or indirect relevance. Service users may profit from a service being financed through advertising, as this financing model allows for free use of the service. This would mean that users stay members of a platform the better it is ad-financed and able to offer a service quality comparable to that of paid services. From the Bundeskartellamt's point of view, this does generally not constitute a factor of market power; the more so as not every user prefers a platform that is ad-financed to a paid service. This is also illustrated by the example of the streaming service Spotify outlined above which offers its service either free and ad-financed or as a paid service. Users may also regard the massive data compilation resulting from an ad-financed model as negative.

Regarding the service side, it is also relevant to consider whether users practise multi-homing (on differentiated platforms) and whether market entry of another service could be successful.

Paradoxically, in the case of single-homing, free platform use could pose an obstacle to switching if the service proved to be “good enough“ for the users’ purposes and they decided not even to switch to services of better quality. Therefore, the importance of innovations in the Internet needs to be analysed in detail for the service side as well. After all, access to data sources on the service side may become important, in particular when it leads to continuous improvements in service quality.

### c) Case practice

The Bundeskartellamt analysed the importance of indirect network effects in the merger cases of Immowelt/Immonet, Verivox/ProSiebenSat.1 and Online Dating as well as the Google/VG Media case referred to earlier on the basis of the assessment concept outlined.

In the case of **Immowelt/Immonet**,<sup>122</sup> the Bundeskartellamt found that online real estate platforms are characterised by pronounced indirect network effects: a larger number of real estate providers leads to more consumers joining the platform, which in turn has a positive impact on the group of real estate providers. A risk to competition, specifically a tipping of the market, would not have to be expected in this case. Users of online real estate platforms tended to use multi-homing rather than single-homing on both sides, which curtails the risk of market tipping even before the merger. In fact, there were a number of reasons in favour of the merger actually reducing the tipping risk, as this was a merger of the second and third largest platforms, and the resultant increase in indirect network effects would have a curtailing effect on the market leader’s market power.<sup>123</sup>

In the case of **Verivox/ProSiebenSat.1**, the Bundeskartellamt analysed indirect network effects, though it did not see a risk of tipping, as the parties to the merger did not have a clear competitive edge with regard to market position and competition factors compared with their competitors (especially Check24).<sup>124</sup>

In the case of **Online-Dating**,<sup>125</sup> the Bundeskartellamt assumed positive bilateral indirect network effects, as the benefit generated by a dating platform increased with a growing number of users on both sides, consequently attracting more users, so that the platforms of the parties to the merger would generally profit from self-reinforcing positive feedback loops. However, there was no sufficient lead on the part of the platforms in question. Multi-homing, platform

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<sup>122</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>123</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, p. 3, 4.

<sup>124</sup> Bundeskartellamt, Case summary of 5 Aug. 2015, Ref. B8-67/15, p. 3, 4, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>125</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

differentiation and a pronounced innovation competition based on mobile applications could be identified; ultimately, they led to clearance of the merger.

In the case of **Google/VG Media**,<sup>126</sup> concerning an audience providing platform because of Google's search engine, the Bundeskartellamt found both positive and negative indirect network effects between users of the search engine and advertisers: a growing number of search engine users led to more advertising companies using (search-related) online promotions of the search engine (positive indirect network effects). On the other hand, an increase in advertisements on the search engine could also provide considerable benefit to search engine users. However, too many search-related promotions could at the same time reduce the search engine's value for users. The positive indirect network effect emanating from the number of users had considerable impact on Google's market position in the field of search-related online advertising. Accordingly, this would result in a high market share as measured by revenue for search-related advertising.<sup>127</sup> On the platform side of search services, the user-related market share amounted to 90 % on the basis of a narrow definition of a relevant market for horizontal search engines, although competitors were only "a mouse click away". In this connection, the Decision Division analysed the connection between search engine users and Google and any obstacles to switching despite the free nature of the service.

## **2. Economies of scale (on the cost side)**

### **a) Status of discussion**

Many platforms have cost structures with a comparatively high proportion of fixed overheads and (in many cases rather low) constant variable costs, so that increases in output quantities reduce unit costs, making it possible to realise economies of scale. The fixed costs in software development serve as an example, while the costs for provision of this software for developers and users are fairly low.<sup>128</sup> Other business models for platforms incur high costs for building a database, while additional transactions within this database incur hardly any additional costs.<sup>129</sup> Internet platforms generally profit from economies of scale, as new users on one side incur hardly any additional cost or no cost at all provided these additional users do not induce

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<sup>126</sup> Bundeskartellamt, Decision of 8 Sept. 2015, Ref. B6-126/14, para. 122 et seq., available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>127</sup> Bundeskartellamt, *ibid.*, para. 155.

<sup>128</sup> Evans/Schmalensee, "The industrial Organization of Markets with Two-Sided Platforms", *Competition Policy International*, Vol. 1, No. 1 (2007), p. 165.

<sup>129</sup> Haucap/Heimeshoff, "Google, Facebook, Amazon, ebay: Is the internet driving competition or market monopolization?", DICE discussion paper, 2013, No. 83 (available at <http://hdl.handle.net/10419/68229>).

any bottlenecks in platform capacity.<sup>130</sup> In some cases, economies of scale affect several user sides of a platform, while in other cases they affect predominantly one side.<sup>131</sup>

Realising economies of scale is also seen as a side effect or repercussion of indirect network effects characteristic of platforms from which concentration tendencies can be derived; to this extent, literature does not consistently distinguish economies of scale induced by the cost side from those induced by network effects.<sup>132</sup>

Combined with exclusive deals, economies of scale may impede market entry of other, potentially more efficient providers.<sup>133</sup>

**Antitrust case practice** to some extent analyses economies of scale as an aspect of barriers to market entry. In its decision on the merger *Facebook/WhatsApp*, the **European Commission** found the development of a communication service fairly inexpensive and economies of scale existed only in terms of greater server capacities; thus, there were no notable barriers to market entry.<sup>134</sup> However, in the case of *Microsoft/Yahoo*, the Commission assumed that Google's strong market position was also based on economies of scale effective in the market. The merger gave Microsoft/Yahoo the opportunity to grow and become a competitor with similar economies of scale.<sup>135</sup>

## b) Conceptual considerations

Economies of scale have already been an element of appraisals of market dominance<sup>136</sup> and, therefore, in any case need to be reviewed from the perspective of barriers to market entry in the context of platforms. In terms of the concept, examining economies of scale already has a solid foundation in assessments of cases under competition law.

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<sup>130</sup> Haucap/Kehder, "Suchmaschinen zwischen Wettbewerb und Monopol", DICE discussion paper, 2013, No. 44, p. 13 f.

<sup>131</sup> Evans/Schmalensee, "The industrial Organization of Markets with Two-Sided Platforms", *Competition Policy International*, Vol. 1, No. 1 (2007), p. 165.

<sup>132</sup> Ordober, "Comments on Evans/Schmalensee's The industrial Organization of Markets with Two-Sided Platforms", *Competition Policy International*, 2007, Vol. 3, No. 1; Evans/Schmalensee, "The antitrust analysis of Multi-Sided Platform Businesses", Coase Sander Institute of Law and Economics Working Paper No. 623, 2012.

<sup>133</sup> Cf. e.g. Rasmusen, Ramseyer & Wiley, "Naked Exclusion", *The American Economic Review*, Volume 81, Issue 5, 1991, 1137-1145; ICN Unilateral Conduct Handbook, 2013, Chapter 5: Exclusive Dealing, p. 19f., available at <http://www.internationalcompetitionnetwork.org/uploads/library/doc906.pdf>.

Other authors illustrate that network effects in combination with exclusive deals could have partitioning effects comparable to economies of scale, cf. e.g. Doganoglu & Wright, "Exclusive Dealing with Network Effects", *International Journal of Industrial Organization*, 2010, 28(2), 145-154.

<sup>134</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7117 –Facebook/Whatsapp, para. 119,

<sup>135</sup> European Commission, Decision of 18 Oct. 2010, file reference COMP/M.5727 – Microsoft/Yahoo, para. 148 et seq.

<sup>136</sup> Cf. Bundeskartellamt, Leitfaden zur Marktbeherrschung in der Fusionskontrolle (2012), R. 65.

However, in the context of platforms, economies of scale may have additional importance according to the ideas formulated by *Evans/Schmalensee* outlined before, as they may foster the self-reinforcing positive feedback loop from indirect network effects. The point is first of all whether competitors are able to survive on the market, and whether it is possible to catch up with a leading platform. In this context, economies of scale cannot be considered in isolation but need to be seen in the context of indirect network effects and their impacts.

### **c) Case practice**

In the case of **Immonet/Immowelt**,<sup>137</sup> the Bundeskartellamt ascertained economies of scale particularly on the part of the market leader resulting from higher investment costs and decreasing average costs for the operation of online real estate platforms. Compared with the parties to the merger, this created an asymmetrical cost situation, which the envisaged merger could potentially have mitigated, as the merger would increase “output quantities“ and/or the size of the merged real estate platform would grow, letting parties to the merger profit from economies of scale.

### **3. Forms of use (single-homing/multi-homing) and platform differentiation**

According to literature and case practice, the forms of use that exist on each of the platform sides have considerable relevance for assessing market power of a platform and therefore need to be adequately considered in the assessment concept. This refers to the so-called multi-homing, where users make parallel use of several platforms with comparable offers, and the so-called single-homing, where users only use the specific offer of a single platform. Their classification in the assessment concept for market power, however, raises a number of questions, e.g. on the terms and definitions and the required scope of a form of use, the reasons for the form of use, the relevance of multi-homing for defining market boundaries, the importance of various possible combinations on both platform sides for appraisal and any relation to the degree of platform differentiation on the market. Literature and practice provide opinions on these questions only to some extent.

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<sup>137</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

### a) Status of discussion

Economic literature discusses user behaviour of single-homing respectively multi-homing on platforms with pronounced indirect network effects (matching platform) from different perspectives. On the one hand, authors address the question of self-reinforcing positive feedback loops and the tendency towards tipping, on the other hand, they analyse the intensity of competition on a platform market to be expected from a constellation of single-homing and multi-homing and a certain degree of platform differentiation.

*Evans and Schmalensee*<sup>138</sup> regard multi-homing in combination with platform differentiation in the market as one of the factors that has curbing effects on market concentration. In this context, *Evans and Schmalensee* understand multi-homing as a consequence of horizontal platform differentiation, where competing platforms differ by targeting specific user groups. Thus, horizontal platform differentiation, for instance, may create different specialised platforms that can be distinguished by special features. This may lead to multi-homing on one or both platform sides, for instance, when one user side wants to target different user groups on the other side. Particularly in combination with platform differentiation, multi-homing had a deconcentrating effect.<sup>139</sup> On the basis of their – limited – empirical study, *Evans and Schmalensee* regard multi-homing on at least one side as common and therefore, a horizontal platform differentiation as a standard case.

*Peitz*<sup>140</sup> is also of the opinion that due to indirect network effects, it is often only one platform that is active. However, if there was sufficient differentiation between platforms, more than one platform would survive. In markets where it was not so much the number of user groups but their composition that was relevant, more platforms would be active, as this allowed a segmentation of the market.

*Caillaud and Jullien*<sup>141</sup> arrive at similar conclusions. These authors analyse competition between two matching platforms. In the context of the model reviewed, which assumes that platforms would more than likely not be able to match suitable users from both sides even if these were members of the same platform, given a certain constellation of parameters, this would lead to equilibriums where all users of at least one side practised multi-homing. Due to the platforms' imperfect matching ability, multi-homing could be efficient here: a second platform

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<sup>138</sup> Evans/Schmalensee, "The Industrial Organisation of Markets with Two-Sided Platforms", *Competition Policy International*, 2007, Vol. 3, No. 1, p. 151-179.

<sup>139</sup> Similarly, Katz, "Competition policy in network industries", Keynote Lecture, Annual meeting of the associations for social policy, 2013

<sup>140</sup> Peitz, *Marktplätze und indirekte Netzwerkeffekte*, *Perspektiven der Wirtschaftspolitik* 2006, 7 (3), p. 317 (326).

<sup>141</sup> Caillaud/Jullien, "Chicken and Egg: Competition Among Intermediation Service Providers", *RAND Journal of Economics*, 2003, Vol. 34, No. 2, p. 309-328.

may grant a better matching result if the first platform did not provide one. Given certain circumstances, this may lead to multi-homing on both sides in the model reviewed, where the (*ex ante* identical) platforms differ endogenously on account of their price structure: users join both platforms and first use the (payable) matching service of the less expensive platform. If this does not lead to the match expected by the user, he would use a second platform (at higher intermediation cost).

*Armstrong*<sup>142</sup> analyses the impacts of user behaviour on the intensity of competition and, first of all, distinguishes three constellations of user behaviour – both sides apply single-homing, one side applies single-homing, while the other side applies multi-homing, and both sides practise multi-homing. The last scenario seems less relevant, as one side did not have any incentive for multi-homing if the other one (as was well known) already applied multi-homing. Therefore, Armstrong does not address the scenario of “multi-homing on both sides“ in his model analysis, though he points out that mixed scenarios would be conceivable in practice, where only some members on both sides used multi-homing.

In the context of a rather general duopoly model with bilateral network effects that is, in principle, able to map different types of platforms, Armstrong analyses a constellation which he describes as competitive bottlenecks with “one side applying single-homing, the other one multi-homing“. In this scenario, the platforms were competing for users on the single-homing side. Accordingly, on the multi-homing side, platforms provided monopolistic access to single-homing users who were members of the platform. Regarding the framework of the model reviewed, this led to a monopolistic price on the multi-homing side, while the price on the single-homing side would be fairly low as a result of platforms competing for users on this side. In this respect, this may result in an inefficient price structure despite potentially intensive platform competition (on the single-homing side). In the static model analysed, the intensity of competition (on the single-homing side) has a negative correlation with the degree of product differentiation: the less pronounced the differences between platforms, the closer they are to one another from a competition perspective and the more intensive the (short-term) price competition.

With a view to different constellations where one side is using single-homing while the other one is using multi-homing, *Jullien*<sup>143</sup> also explains that platforms do not compete for the users that practise multi-homing. In fact, competition took place on the other user side if it applied single-homing. For a larger number of users on the single-homing side would give the platform

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<sup>142</sup> Armstrong, “Competition in two-sided markets“, *RAND Journal of Economics*, Vol. 37, No. 3, p. 668-691.

<sup>143</sup> Jullien, “Two-sided Markets and Electronic Intermediaries“, *CESifo Economic Studies* (2005) 51 (2-3): 233-260.



a chance to increase the price on the multi-homing side. Although multi-homing could improve efficiency,<sup>144</sup> it could, on the other hand, also reduce intensity of competition.<sup>145</sup>

In **case practice under competition law**, the Bundeskartellamt analysed single-/multi-homing, for instance in the case of *Intermedia/Health&Beauty*<sup>146</sup> and reasoned, inter alia, that less pronounced multi-homing would impede market entry for competitors of the parties to the merger even more. The subject of multi-homing also plays an important role in defining market boundaries particularly those of advertising markets. In this case, the Bundeskartellamt referred to complementary needs respectively the fact that media with a wide reach were indispensable to explain multi-homing, concluding that these media constituted different markets.<sup>147</sup>

The **European Commission** examined several cases of user behaviour in connection with its merger review of networks and platforms under competition law. In the case of *Facebook/WhatsApp*,<sup>148</sup> it found pronounced multi-homing by users, which emphasised users' willingness to switch to other communication services, thus reducing concentration effects. There was no direct connection with the aspect of platform differentiation. The Commission did mention that platform communication services could be differentiated in many different ways on account of their function.<sup>149</sup> However, ultimately, the Commission neither resolved whether such a differentiation would create separate markets for "communication services" and "social networks" in the context of market definition or whether it constituted a single market, and the possibility of differentiation in the context of multi-homing would represent a factor diminishing concentration.

The Commission had already provided a similar rationale in its decision regarding the case of *Microsoft/Skype*<sup>150</sup> and had been affirmed by the EGC.<sup>151</sup> The latter reasoned that multi-homing was straightforward for the service users so that existing (in this case more than likely direct) network effects would, ultimately, not create barriers to market entry. In its decision on

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<sup>144</sup> Regarding this point, Julien's rationale makes direct reference to the article by Caillaud/Jullien quoted earlier, "Chicken and Egg: Competition Among Intermediation Service Providers", *RAND Journal of Economics*, 2003, Vol. 34, No. 2, p. 309-328. The authors reason that multi-homing can foster efficiency particularly in those cases where the (matching) services offered by a platform work imperfectly and use of a second platform might improve the chance of success.

<sup>145</sup> Similarly, Katz, "Two-Sided Markets: What have we really learned for competition policy?", 6<sup>th</sup> Lear Conference on the economics of competition law, Keynote Speech, 2015

<sup>146</sup> Decision of 29 Aug. 2008, Ref. B6-52/08, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>147</sup> Cf. e.g. Bundeskartellamt, Decision of 11 June 2015, Ref. B6-22/15 – Funke/Springer Media Impact ; Decision of 17 March 2011, Ref. B6-94/10 – RTL/ProSiebenSat. 1 Videoplattform; available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>148</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217 – Facebook/WhatsApp, para. 111.

<sup>149</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217 – Facebook/Whatsapp.

<sup>150</sup> European Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – Microsoft/Skype, para. 92.

<sup>151</sup> EGC, Ruling of 11 Dec. 2013, Ref. T-79/12 – Cisco et al./Commission, in particular para. 79 et seq.

*Google/DoubleClick*, the Commission negated potential market foreclosure effects on intermediary advertising platforms with regard to multi-homing. According to the investigations, more than half of the website operators used at least two advertising networks, which, from the Commission's point of view, ensured that more advertising networks were able to operate on the market and were also able to grow.<sup>152</sup>

In its decision on *Travelport/Worldspan*,<sup>153</sup> the European Commission analysed in detail the constellation of single-homing on one side of the platform and multi-homing on the other with a view to platform differentiation. In this context, the Commission implicitly assumed multi-homing as soon as at least some of the users on one side used more than one platform. The Commission regarded asymmetry of network effects, the degree of platform differentiation, users' preferences and reasons specific to individual cases (e.g. dual-homing as safeguards against technical failure of a platform) as factors, which influence users' choice between single-homing and multi-homing. As part of the appraisal of the platform differentiation aspect, the Commission examines heterogeneity of supply between platforms for users of one side (e.g. providers may apply multi-homing and offer different prices/contents on different platforms), number of users (network size), additional services offered by platforms, and the quality of platform services (e.g. availability of technical support).

According to the Commission's assessment concept, the actual scope of multi-homing needs to be assessed in terms of its effects on competition. Accordingly, extremely pronounced multi-homing on one side of the platform would lead to a reduction of network effects emanating from this side towards the other one. If multi-homing users are accessible on all platforms, the other side does not have any reason respectively does not benefit from multi-homing.

A platform with a strong single-homing side could implement monopoly prices and/or price increases on the multi-homing side. To the extent that this situation was the result of a merger, unilateral effects may have to be considered. According to the Commission's concept, the strong market position is based on a large number of users on the single-homing side, strengthening its negotiating position in relation to the multi-homing side, thus creating scope for price increases (vertical cross-market effects). However, extremely pronounced multi-homing on one side made platforms more homogeneous for the other side and intensified competition for users on this side. In the Commission's final analysis, a large portion of the "monopoly profits" generated on the multi-homing side should be passed on to the single-homing side as an incentive.

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<sup>152</sup> European Commission, Decision of 11 March 2008, Ref. COMP/M. 4731 –Google/DoubleClick, para. 305 et seq.

<sup>153</sup> European Commission, Decision of 21 Aug. 2007, Ref. COMP/M. 4523 – Travelport/Worldspan.

Finally the competition assessment examined the negotiating positions of parties and users involved; to this end, the outside options (margin substitution) and the multi-homing side's possibilities for withholding contents from selected platforms (Para. 96 et seq.) were examined. Due to the dynamic nature of the market and the emerging trend towards direct marketing between travel service providers and travel agents, the Commission ultimately cleared the merger.

## **b) Conceptual considerations**

Assessing different forms of use and including this assessment in a concept for antitrust investigation proves to be particularly difficult. From the Bundeskartellamt's perspective, the following questions need to be systematically resolved by the assessment.

### **aa) Forms of use and definition of a relevant market**

With regard to the definition of a relevant market, it is necessary to distinguish different types of platforms and a combination of different forms of use. The Bundeskartellamt is of the opinion that two sides always need to be distinguished in the case of **audience providing platforms**, so that forms of use may be separately considered for each side with a view to defining a relevant market.

In the case of **matching platforms**, it is necessary to consider that defining a single relevant market may be suitable. As outlined above, it is also possible to assume separate markets in this context if both user sides had different views regarding their possibilities of substitution. Due to the strong interdependencies between both sides, it does make a difference how the forms of use are combined.

If **both sides of users** make parallel use of several platforms, it is necessary to examine how this may affect the definition of the relevant product market. This is particularly true of those cases where a multitude of differentiated platforms exist whose offer differs more or less. According to the concept of demand-side substitutability, the question is whether users can easily substitute platforms in terms of their function. At this stage, it is necessary to ascertain why users apply multi-homing to satisfy their needs. Substitutability is not the case if highly differentiated platforms satisfy different user needs, and therefore only marginal substitution can be assumed. Moreover, substitutability is not the case either when platforms are used complementarily, i.e. one platform is not used without the other one. The scope of different forms of use needs to reflect the predominant view of consumers on substitutability: predominantly complementary multi-homing and predominant negated substitutability of differentiated products lead to separate markets. From the Bundeskartellamt's point of view, the term "multi-

homing” in the sense of *Evans/Schmalensee*’s concept is fulfilled only if **platforms of the same market are used in parallel**.

The **combination of single and multi-homing** is particularly relevant for matching platforms. In this context, the Bundeskartellamt believes that it is necessary to establish first of all whether multi-homing in the strict sense can actually be observed on one side, that is, on the same market, or whether it is actually single-homing, as the platforms used in parallel meet different needs or have a complementary function. In practical cases up to now, it is possible to find situations as described by *Caillaud and Jullien*<sup>154</sup> or by the Commission, such as in the case of *Travelport/Worldspan*, where users make predominant use of one platform, at least to some extent, and only use another platform to be on the safe side or in case their first search was not successful (here: so-called sequential multi-homing). In this context, the question arises whether additional platforms rather satisfy a complementary need in addition to the one satisfied by the prevailing platform or whether they are part of the market.

If we have to assume that users actually apply single-homing on one side and multi-homing on the other, the question arises whether the market sides need to be analysed separately despite their potentially uniform needs and an indivisible intermediation product. This view is supported in particular by different competitive conditions between both sides, which, ultimately, justify that market dominance can be assumed only on the side applying multi-homing, as the platform probably has so many single-homing users that access to this platform becomes indispensable for the other side. Defining market boundaries along the lines of this platform may also apply to the multi-homing side. In this context, it would be necessary for an appraisal under competition law to establish how important it is for the multi-homing side to potentially transfer platform costs to the other side.

#### **bb) Forms of use including platform differentiation and market power**

Once the definition of a relevant market establishes that parallel use of platforms suggests multi-homing on the same market respectively single-homing, the question arises as to the importance of this fact for an assessment of market power. In this context, it is necessary to distinguish matching platforms and audience providing platforms.

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<sup>154</sup> Caillaud/Jullien, “Chicken and Egg: Competition Among Intermediation Service Providers”, *RAND Journal of Economics*, 2003, Vol. 34, No. 2, p. 309-328.

### **(1) Market tipping of matching platforms**

As outlined earlier, market tipping in the case of matching platforms represents a risk to competition that is based on the positive bilateral indirect network effects and may lead to monopolisation in the worst case. This raises the conceptual question of whether an obviously leading platform dominates the market, as it can be assumed under current market conditions that competitive platforms disappear from the market, thus creating a secured market position.

#### *Multi-homing on both sides*

This would not be expected if the matching platform served as an intermediary for heterogeneous individual needs and if there was a differentiated competitive environment that **users on both sides** multi-homed in parallel to the leading platform. In this case, one would not expect competitors to be eliminated. It is also necessary to examine whether the leading platform nevertheless enjoys a secured market position below the level of monopolisation, as competing platforms are probably no longer able to close the gap that the market leader has created. However, such a market structure does not seem to be likely for the market conditions described above.

Hence, the Bundeskartellamt assumes that the concept by *Evans/Schmalensee* on the importance of platform differentiation and multi-homing is applicable to competition law. However, cases examined to date by the Think Tank and the 6th Decision Division do not suggest that matching platforms usually (due to a typically heterogeneous demand) tend to platform differentiation and thus, to multi-homing on both sides. Furthermore, this needs to be examined on a case-by-case basis. Situations with obvious single-homing or multi-homing would hardly be observed in practice. This would hardly be expected in view of a large number of different users with different expectations of the platform's services. Therefore, it will not be possible in many cases to make a clear distinction for the platform sides involved. Therefore, appraisals under competition law need to determine and evaluate the specific degree of multi-homing. However, in case of prevailing multi-homing on both sides along with platform differentiation, market power of a platform is not very likely as this would have to be perceived on the market structure and dynamics.

#### *Single-homing on one side*

It becomes particularly difficult to assess matching platforms when investigations under competition law come to the conclusion that one user side applies predominantly multi-homing, while the other side predominantly practises single-homing.

If both market sides are considered separately, existing market power may be assumed for the multi-homing side. Platforms that serve a fairly large portion of users who predominately use only this platform become virtually indispensable for the other user side; consequently, this

either constitutes a monopoly situation already (ultimately leading to single-homing on both sides) or at least a strong market position which makes multi-homing increasingly superfluous. In practice, this may also account for an asymmetrical pricing strategy, where the multi-homing side pays considerably higher fees or is the only side paying fees at all.

By contrast, intensive competition may actually be established on the single-homing side, as platforms need to poach these single-homing users from each other in order to get them to join their own platform. In this connection, free services or at least more favourable conditions with a tendency towards greater incentives for exclusive deals may often be found. In this context, several platforms may operate on the market and compete intensively for single-homing users, which may assume different dimensions. In this situation, it is difficult to assume current market power on the basis of an isolated analysis of this platform side.

The question to what extent the relevant market situations influence each other on account of the connection between both sides of matching platform remains open. Particularly in the case of transaction platforms, it may be necessary to establish whether the multi-homing side that pays a fairly high price can transfer platform fees to the other side through transaction variables, which in reality results in a neutral price structure (cf. B.I.1.a)(2)). Vice versa, competition on the single-homing side could represent competition for the market, which would certainly result in a monopoly or quasi-monopoly. The latter would be compatible with the tipping risk assumed by *Evans/Schmalensee*, which is fostered by single-homing. For barriers to market entry are generally high for matching platforms with prevailing single-homing on only one side, as they actually need to bring both sides on board at the same time. Market exits would also be possible, as a considerable loss of users on the single-homing side would make the platform proportionately less attractive for the other side. In view of market power on the multi-homing side, which, in principle, tends to predominantly use the leading platform despite competition on the single-homing side, one could assume the platform to have market power in view of an imminent or already beginning tipping process.

## **(2) Barriers to market entry in the context of audience providing platforms**

In the end, forms of use and platform differentiation are of particular relevance for examining market power of audience providing platforms. The form of use becomes particularly relevant when analysing barriers to market entry for platforms. It is necessary to take into account that positive indirect network effects are usually uni-directional.

The form of use on the advertising side is not as relevant to determine market conditions on the side of service users as it is for matching platforms. Funding through advertising is the result of a strategic decision. The service generally has the option of charging a fee. In practice, this question is rather irrelevant, as every service that has a high number of users is attractive

for advertisers. In the context of barriers to market entry, the prevailing form of use by consumers is of particular relevance. Multi-homing by users reduces barriers to market entry on the relevant service market. Market entry is more likely to succeed if the new entrant does not have to encourage users to switch platform but simply has to achieve additional usage.

To establish market conditions on the advertising side, it is particularly relevant to determine, with a view to indirect network effects occurring on this side, whether users apply single-homing or multi-homing. Single-homing by a large number of service users may be an indication of market power on the platform's advertising side, as a wide reach concentrated on one platform might make this platform indispensable for advertisers.

### c) Case practice

The aspect of platform differentiation alongside multi-homing has been examined in detail in the **Online-Dating** merger case and considered as a counteracting factor to market tipping:<sup>155</sup> the market of online dating platforms was characterised by a high degree of platform differentiation to satisfy heterogeneous needs that made concentration on one platform highly unlikely. Users of online dating platforms had heterogeneous preferences when looking for dates and finding potential matches. Platforms could be distinguished on the basis of differentiation characteristics (objectives of intermediation (steady, long-term partnership or flirtatious fling), target group, matching service). Users with distinctive preferences and more specific expectations of their potential partner's features and characteristics would more often use platforms with a specific profile. The user in question would then specifically look for a contact or partner whose features, characteristics and preferences would be matched by the specialised platform used. Consequently, one could find an almost unlimited number of platforms on the market that address any possible preferences of users, thus generating user numbers that are sufficient for a marketable product.

First of all, this situation required an in-depth analysis of the relevant market, as different preferences and matching objectives may constitute reasons in favour of a further subdivision of the market. However, this could ultimately not be assumed for the case in question. Following that, the Bundeskartellamt examined to what extent the platform differentiation determined on the market could affect the platform's self-reinforcing positive feedback loop; in the final analysis, it regarded platform differentiation as an aspect that countered market tipping.

The Bundeskartellamt's investigations found that a large number of users interviewed (more than 70 % of both user groups) applied multi-homing, i.e. used several online dating platforms

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<sup>155</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

simultaneously.<sup>156</sup> The scope of multi-homing could be validated by various different studies conducted regardless of the potential merger. As a result of multi-homing, many users were not only familiar with one dating platform but with several platforms, their function and availability. Therefore, users were able to switch to alternative platforms easily and quickly. This would also apply to cases where platform use had to be discontinued because of a price increase or reduction in service quality. A feasible option would be to switch to a new platform, as this new platform could be used in addition to the previous ones. Therefore, the Bundeskartellamt regarded multi-homing as a factor that countered the risk of market tipping.

In the case of the **Immowelt/Immonet** merger,<sup>157</sup> the Bundeskartellamt's market investigations showed that both user sides of real estate platforms tended to apply multi-homing, and considered this a factor that countered the risk of tipping. In this case, extensive studies on user behaviour were also available. However, service users often applied so-called sequential multi-homing, i.e. they primarily used the platform of the market leader ImmoScout and only secondarily those of the parties to the merger. In the context of real estate providers, the form of use most commonly observed was multi-homing. Therefore, it was the Bundeskartellamt's opinion that the merger would provide an opportunity for a second big platform to promote multi-homing by service users, thus intensifying competition.

#### 4. Relevance of market shares

In connection with the market power of platforms particularly in the Internet, there are discussions time and again about the relevance of market shares and how important they can and should be in examining market power. In this context, market shares only serve as a filter in antitrust investigations of market power also on one-sided markets, as they provide an indication of the market position so far obtained by businesses.<sup>158</sup> However, market shares alone do not provide sufficient explanation for market power, as it is necessary to take into account all factors in an overall assessment. In the context of platform markets, the question is whether market shares still have at least this filtering function and whether presumptions of market dominance in line with Sect. 18 (4) to (6) GWB would still apply. The European General Court's

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<sup>156</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, para. 153, 154.

<sup>157</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

<sup>158</sup> Cf. on this point jurisprudence by the BGH, Ruling of 7 March 1989, Ref. KVR 3/88 – Kampffmeyer-Plange; BGHZ 79, 62, 68 – Klöckner/Becorit; however, the law also points out that a more differentiated analysis is required to establish the significance of such market shares for prospects of future development.



practice of generally assuming market dominance with a market share of over 50 %<sup>159</sup> could also be subject to reassessment in the context of platform markets. Moreover, there is the practical question of how to calculate market shares in the case of Internet-based platforms with free of charge sides.

### a) Status of discussion

According to the status of discussion in economic and legal **literature**, high market shares have no practical relevance for platform markets.<sup>160</sup> In this context, authors predominantly refer to the dynamic significance of indirect network effects, which a priori would not allow for an evaluation of market power on the basis of a business' current market position as expressed by a numerical indicator.

To this extent, the authors first of all referred to platform markets' general proneness towards concentration that had to be attributed to positive bilateral indirect network effects. Internalisation of these effects and a growing dynamic attractiveness of platform offers were conducive to the creation of only a few big platforms that would quickly acquire high market shares, either on their own or together.<sup>161</sup> Consequently, market shares would, on the one hand, be less relevant since a market, which had shrunk to only a few providers, might represent an efficient market structure for platform markets; this did not imply market power. On the other hand, high market shares were at the most of limited relevance for these markets considering that indirect network effects as well as the innovative potential of digital markets brought about rapid market changes.<sup>162</sup>

Case practice and case law have addressed market power on platform markets and the question of market shares only to a very limited extent. The **European Commission** has examined platform markets in detail, particularly in the *Travelport/Worldspan case*, and, in the context of a SIEC test, concluded that a revenue-based market share of more than 40% on a platform side that is defined as a separate market was relatively high.<sup>163</sup> In *Microsoft/Skype*, a network

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<sup>159</sup> "Accordingly, market shares of more than 50% usually represent high market shares", EuCJ, Ruling of 3 July 1991, Ref. C-62/86 – Akzo/Kommission, para. 60; accordingly, a market share of 70 – 80 % on its own already represents clear evidence of a dominant position (EGC, Ruling of 1 July 2001, Ref. T-321/05 – Astra/Kommission, para. 243).

<sup>160</sup> Cf. e.g. Evans/Schmalensee, "The Antitrust Analysis of Multi-Sided Platform Businesses", in: Blair/Sokol, *The Oxford Handbook of International Antitrust Economics*, Vol. 1, p. 422 f.; King, "Two-Sided Markets", *The Australian Economic Review*, 2013, 46(2), p. 247–258.

<sup>161</sup> Peitz, *Marktplätze und indirekte Netzwerkeffekte. Perspektiven der Wirtschaftspolitik*, 7(3), 317–333; Dewenter/Rösch/Terschüren, "Abgrenzung zweiseitiger Märkte am Beispiel von Internetsuchmaschinen". Diskussionspapier 151 (2014), Helmut-Schmidt-Universität, Fächergruppe Volkswirtschaftslehre.

<sup>162</sup> King, "Two-Sided Markets", *ibid.*

<sup>163</sup> European Commission, Decision of 21 Oct. 2007, Ref. COMP/M.4523 – Travelport/Worldspan, para. 74.

case, the Commission reasoned<sup>164</sup> that an emerging user-based market share of approximately 90% in the field of video telephony did not raise any concerns from a competition law perspective since this market was considered to be still vulnerable due to low barriers to market entry and users' changing preferences. What was relevant for competition on contestable digital markets was maintaining their dynamic character.

In *Facebook/Whatsapp*, the European Commission calculated market shares in communication services based on how often users used such a service over a certain period of time. It also addressed other measurement methods, for instance the actual time of use per day, however, ultimately, did not find this parameter to be relevant.<sup>165</sup>

## **b) Conceptual considerations**

In the concept for antitrust investigations, the market share of platforms has an important function as it first of all describes the market structure and the market position of competitors relative to each other, thus constituting a suitable background for any evaluation of market power. In this context, the relative market share, i.e. the gap in market share between the leading company and its competitors has always had greater relevance for evaluating a company's market position than an absolute figure. In addition, antitrust investigations – in particular in merger control – have always considered market-share development as a dynamic element to be of greater relevance for the sustainability of an enterprise's market position.

In particular the relative market share and the market-share development over a certain period of time may be relevant to evaluate market power in connection with platforms. This is particularly true of *user-based* market shares, which could, for instance, be used to approximately assess the degree of indirect network effects alongside self-reinforcing positive feedback loops on a certain platform. High market shares and/or a considerable lead in market shares may be indications of a tipping process respectively indicate a platform's competitive edge that other platforms cannot catch up with. In this context – just like in the context of one-sided traditional markets – it is necessary to examine barriers to market entry and the market's innovative potential, which may put leads in market shares in combination with indirect network effects into perspective.

The Bundeskartellamt has doubts as to what extent an absolute market share of over 40% (presumption of market dominance in line with Sect. 18 (4) GWB)) or a threshold of 50% established by European jurisprudence can be indicators of market power, though it would not

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<sup>164</sup> European Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – Microsoft/Skype.

<sup>165</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217 –Facebook/Whatsapp, para. 97, fn. 45.

dispute them in general with regard to platforms. These assumptions could often be fulfilled – in particular by so-called matching platforms – due to the concentration caused by indirect network effects, though this may not necessarily be an indication of market dominance. In connection with audience providing platforms, a high market share on the user side is more likely to be an indication of a dominant market position on the advertising side on account of unilateral indirect network effects.

Assessing market shares in connection with platforms and other Internet services poses the problem of how to calculate market shares and find suitable indicators. Calculating market shares on the basis of revenue figures, which has been common practice in many cases, reaches its limits when assessing Internet platforms under competition law if only because one or even both platform sides are often free of charge for users, and a purely value-based analysis would ignore competition between free services and ad-funded services. Market shares of free services based on user numbers therefore need to be examined for their sustainability in order to be adequately accounted for under competition law; this requires in particular a secured monetisation of the platform. In this context, revenues per user could be a suitable indicator to assess the share of users using ad-funded services relative to the share of users paying for services.

In the case of matching platforms that facilitate payable transactions, the value-based share of the transaction volume realised by the platform may provide relevant information, similar to a revenue-based share, on the platform's significance and its success in matching services relative to its competitors. However, such an analysis is generally only possible if the transactions and their revenue can be attributed to intermediation by a certain platform. In general, this is the case only for transaction platforms as they also process the transaction.

To the extent that an indicator based on user numbers is required to approximate the impact of indirect network effects and determine the scope of single-homing and multi-homing, the question arises as to what constitutes "use" of a service in an individual case. This indicator may differ from one market to the next. The differentiation to a certain extent made in economic theoretical literature as to whether users already profit from (positive) network effects when users of the other group are members of the platform (membership externalities respectively membership values), or whether the effect only materialises with actual use, e.g. a certain interaction (usage externalities respectively interaction values),<sup>166</sup> is evidence that different indicators may have to be considered depending on the constellation in a specific case.

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<sup>166</sup> Cf. e.g. Weyl, "A Price Theory of Multi-Sided Platforms", *American Economic Review*, 2010, 100(4), p. 1642-1672; Rochet/Tirole, "Two-sided markets: a progress report", *RAND Journal of Economics*, 2006, 37(3), p. 645-667.

In practice, it is necessary to examine on a case-by-case basis which indicator is able to reflect a business' market position in line with market conditions: in the case of services which require registration, it could be useful to measure the number of "registered users". In the event that many users have registered but do not use the service (e.g. because they forgot to unsubscribe a free service), measuring actual website usage would be an option. Different measurement methods are used in practice, ranging from page impressions<sup>167</sup> to so-called visits<sup>168</sup> and unique clients/unique visitors<sup>169</sup> and unique users<sup>170</sup>. Judging by the practical cases examined up to now by the Bundeskartellamt, the so-called *unique visitor* serves as a standard indicator measured in the market; it appears to be most suited to reflect the intensity of a platform's usage.<sup>171</sup> In the end, potential multi-homing must also be considered in such an evaluation, at least when taking market share into account.

### c) Case practice

The practical consequences for potential assessment concepts may be illustrated on the basis of the examples of **Google** and the **Immowelt/Immonet**<sup>172</sup> merger.

In the first case, Google's quantitative market share of more than 90% of queries could be evidence of market power, particularly in the market of search-related online advertising, i.e. the unsubsidised side. Measuring the quantitative market share on the free service side based on queries seems appropriate for usage, and provides the advertising side, which is connected through network effects, with information on the benefit of search-related advertising posted on their service.

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<sup>167</sup> This is generally interpreted as a visit to an individual (sub) page of a web offer; however, this indicator may be fuzzy, as – depending on a website's design – "clicking" on another link may lead to a new page impression or not (for instance, if only small parts of a website displayed are modified). Page impressions do not provide any information on number of persons behind those visits.

<sup>168</sup> A visit is generally defined as a series of (consecutive) interactions between a user and a website. In practice, different timelines are used to define the finishing time of a visit; IVW (the German equivalent to the Audit Bureau of Circulation), for instance, considers a visit to be finished when a user has not generated any page impression for more than 30 minutes.

<sup>169</sup> Number of different devices that have contacted a web offer at least once – typically within a certain timeline. This parameter may be used as an indicator of the scope of a web offer's user community. However, it is necessary to take into account that devices are not the same as users (a user may use different devices, one device may be used by several users).

<sup>170</sup> Businesses may try to determine the actual number of users of a service through different techniques (mandatory registration, tracking techniques, website operators' own logging or using evaluation services like Google Analytics) by trying to establish that a user may regularly use different devices (Desktop PC, tablet, smartphone).

<sup>171</sup> See above B. II.5.b (2) and Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15.

<sup>172</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de)

In the case of **Immowelt/Immonet**, the estimated market share of more than 70% in transactions may be seen as evidence of market power on the part of the market leader ImmoScout.<sup>173</sup> In this case, it was merely possible to estimate the share in transaction volume, as the platforms are unable to observe transactions because they were conducted outside the platforms. Real estate providers were unable to determine afterwards which transaction had been facilitated by which real estate platform. Therefore, the Bundeskartellamt examined value-based market shares calculated on the basis of a platform's revenue generated with real estate providers as well as its share in *unique visitors*.

The case of **online dating** illustrates the complexity of calculating market shares in a specific case. Since various dating portals are free for users because they are financed by online advertising, calculating market shares solely on the basis of revenue would not adequately reflect the relevant companies' market position. Therefore, the Bundeskartellamt determined the number of "registered members" and the number of unique visitors, i.e. the number of (in this case: monthly) individual visitors in addition to revenue actually generated.<sup>174</sup>

## 5. Innovation potential of the Internet and potential competition

In the context of digital markets, reference is generally made to their great innovation potential and dynamic nature. The discussion also includes the question of how sustainable and solid strong market positions of individual businesses can be in view of the Internet's highly dynamic nature and disruptive innovations. In the course of "creative destruction" as defined by Schumpeter, newcomers' innovative business models might replace seemingly solid market positions of incumbents in an instant.

Antitrust practice needs to take adequate account of special innovation potential, if present, in antitrust law enforcement. In this context, the challenge is to ascertain to what extent disruptions that are conceivable in many areas of the Internet but can hardly be predicted – that is, profound transformations caused by technical or commercial innovations – can be adequately considered in assessing market power in terms of scope and time. There is also the question of where the Internet's special innovation potential originates.

### a) Status of discussion

Regarding the question of how to explain the Internet's innovation potential and account for it in antitrust assessments, neither literature nor practice provide a differentiated concept.

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<sup>173</sup> Bundeskartellamt, Case summary of 25 June 2015, Ref. B6-39/15, p. 5.

<sup>174</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15, p. 132 et seq.

Current economic literature on the theory of innovation<sup>175</sup> predominantly refers to traditional one-sided markets. Theoretical literature mainly addresses the question of which incentives businesses have for investing in innovations. In this context, authors distinguish between *process innovations*, that is investments in improving technology applied for producing established goods, and *product innovations*, that is launch of a new product or further development of an established product.<sup>176</sup> Upon dynamic consideration – with reference to Schumpeter’s idea – the prospect of monopoly profits is understood as a potentially significant incentive for innovations, which may lead to a quick substitution of established services or products.<sup>177</sup>

Regarding the Internet’s innovation potential, most authors confine themselves to pointing out that the market position achieved by players was permanently at risk because of the dynamic development and innovative potential characteristic for digital markets.<sup>178</sup> The US economic scientist Clayton M. Christensen uses the same rather general line of argument; it was him who coined the term “disruptive innovations“. According to him, innovations may cause sudden and unexpected changes jeopardising or possibly even completely eliminating current technologies, products or services as well as established market positions of incumbents.<sup>179</sup> However, there is critique of this concept due to the lack of empirical substance both for the elimination effect on established companies and market positions as well as the unpredictable and sudden nature.<sup>180</sup> However, theoretical literature on innovations in one-sided markets referred to earlier addresses a similar phenomenon using the term “drastic innovation“.

In individual cases, it is possible to find approaches to identify and/or characterise the Internet’s special characteristics that might contribute to explaining the Internet’s special innovative

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<sup>175</sup> Cf., for instance Tirole, *The Theory of Industrial Organization*, 1988, chapter 10; Bester, *Theorie der Industrieökonomik*, 6<sup>th</sup> edition 2012, chapter 5; Belleflamme & Peitz, *Industrial Organization: Markets and Strategies*, 2010, chapter 18; Scotchmer, *Innovation and Incentives*, 2004, chapter 10; in addition Reinganum, *The Timing of Innovation: Research, Development, and Diffusion*, 1989; Cohen & Levin, *Empirical Studies of Innovation and Market Structure*, both in: *Handbook of Industrial Organization*, 1989.

<sup>176</sup> Bester, *Theorie der Industrieökonomik*, 6<sup>th</sup> edition 2012, p. 181.

<sup>177</sup> Cf. e.g. Reinganum, “Innovation and Industry Evolution”, *Quarterly Journal of Economics*, 1985, 100(1), p. 81-99.

<sup>178</sup> Cf. King, “Two-Sided Markets”, *ibid.*; Haucap, J., Heimeshoff, U. (2014). Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization? *International Economics and Economic Policy*, 11(1-2), 49-61; Körber, T. (2015). Analoges Kartellrecht für digitale Märkte? *Wirtschaft und Wettbewerb*, 65(2), 120-132.

<sup>179</sup> Bower/Christensen, *Disruptive Technologies. Catching the Wave*. In: *Harvard Business Review*, Vol. 69 (1995), p. 19–45; Christensen, *The Innovator's Dilemma. Warum etablierte Unternehmen den Wettbewerb um bahnbrechende Innovationen verlieren (The innovator's dilemma, 1997)*.

<sup>180</sup> This consistently quotes an article by Jill Lepore: [What the gospel of innovation gets wrong](#). In: [The New Yorker](#), 23 June 2014; at the same time, this concept prompted the US Department of Defense to commission a study to develop a forecasting system for disruptive technologies, cf. *Persistent Forecasting of Disruptive Technologies*. The National Academies Press, Washington, D.C. 2009, <http://www.nap.edu/read/12834/chapter/2>

strength and innovation potential. In this connection, *Levin*<sup>181</sup> lists various Internet-specific particularities: simple scalability of business models contributing to a reduction in barriers to expansion; possibilities of individual customer contact respectively customised adjustments (targeting); possibilities for experimenting with different strategies and/or business models in combination with availability of performance monitors; reduced transaction and distribution costs.

Regarding the connection between innovations and network effects, *Shy*<sup>182</sup> describes a dynamic model that illustrates repeated adaptation of new technologies and/or services. In the context of the model developed by him, *Shy* illustrates that substitution of an established service by a new one becomes more likely the easier it is from a users' perspective to substitute a service's quality with network effects. Vice versa, an established provider is less likely to be substituted the more from the users' perspective a product's quality and existing network effects reinforce each other. If such a complementary relation existed, a newcomer even with a high-quality service would thus be faced with considerable barriers to market entry, as users would only profit from quality once network effects were realised. However, if there were certain substitutability between quality and network effects, a new entrant providing a high-quality service would more easily prevail against an established provider who profits from network effects but offers potentially inferior quality.

In practice, the **European Commission**, in particular, when examining the *Microsoft/Skype* merger, referred to the innovation potential of an evolving potential market for video telephony in its line of argument.<sup>183</sup> In this context, it referred to specific innovations in the field of communication services and identified short innovation cycles.<sup>184</sup> On the basis of these circumstances, the Commission concluded that there was strong innovation pressure in the market, which would curtail the market power of parties to the merger despite a 90% market share and some additional factors. Moreover, the Commission assumed an increasingly growing market with low barriers to market entry due to simple and free download of the required software. Hence, the case pertained to potential competition reducing market power without the Commission explicitly mentioning this concept.

The Commission specifically examined various scenarios in the *Facebook/WhatsApp* case taking into account the Internet's innovation potential, e.g. for the market of communication

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<sup>181</sup> Levin, "The Economics of Internet Markets", 2011, NBER Working Paper No. 16852, available at <http://www.nber.org/papers/w16852>.

<sup>182</sup> Shy, "Technology revolutions in the presence of network externalities", *International Journal of Industrial Organization*, 1996, 14, p. 785-800.

<sup>183</sup> European Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – *Microsoft/Skype*, para. 70-72 and 81 et seq.

<sup>184</sup> PSTN is an acronym for Public Switched Telephone Network.

services that is characterised by disruptive innovations.<sup>185</sup> In this context, the Commission regarded an increasing use of mobile devices as disruptive. In addition, the Commission examined a market for social media and raised the question of whether WhatsApp should be included in a potential market for social networks. The Commission examined WhatsApp's prospective development plans and denied this, pointing out that there would be a multitude of potential competitors even in a market whose boundaries were further defined.<sup>186</sup>

## **b) Conceptual considerations**

From the Bundeskartellamt's point of view, it is necessary to examine in each case whether the Internet's innovation potential combined with the possibility of disruptive changes may attack a company's strong market position. However, market power of businesses cannot be disputed by generally referring to the possibility of disruptive changes.

Therefore, antitrust investigations require detailed indications that such dynamic and disruptive processes will take place within the forecast period relevant for each individual case. Abstract vulnerability expected at some unspecified point in the future will not be sufficient. This also applies to abuse control of dominant positions based on the specific current market situation. In the Internet market positions could be secured at least temporarily by (direct and indirect) network effects. During these periods, abusive conduct is not acceptable because of possible but not foreseeable future changes.

Moreover, the Internet's innovative potential in itself is a process that must be protected as it can be adversely affected by concentration and the scope for action or conduct resulting from this. Innovation competition plays an important role in the context of online markets; in view of the global "everything for free" culture prevailing in the Internet, it is at least equally important as pricing competition. It is therefore necessary to examine in every case whether concentrations or other practices are likely to lead to a restriction of innovation competition.

### **(1) Possible indicators of special innovation potential**

Innovation theory's considerations on traditional markets may, in some points, be applied to digital markets. From the Bundeskartellamt's point of view, there are specific indicators of the Internet's special innovation potential, which may be useful to consider in antitrust investigations:

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<sup>185</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M. 7217 – Facebook/WhatsApp, para. 116.

<sup>186</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M. 7217 – Facebook/WhatsApp, para. 145, 148, 149.



In the past, there have been revolutionary innovations in Internet markets, often based – at least as one of several necessary prerequisites – on revolutionary developments in the field of information technology: the developments in computer and telecommunications technology in recent years have made it possible to process increasing volumes of data increasingly faster. Some particularly sophisticated IT processes have only become possible after technical developments had reached certain stages.

One of the main reasons for this is the ever-increasing **computing power** of machines. According to a formula known as Moore's Law<sup>187</sup> that describes the development observed, the number of transistors in integrated electronic circuits has doubled approximately every two years.<sup>188</sup> It is now technically and economically possible to integrate more than five billion transistors on a chip.<sup>189</sup> However, there are discussions at present about a slowdown of this development because the chip industry is increasingly reaching its physical limits.<sup>190</sup> On the other hand, research is already working on new technologies that could substitute current technologies in future.<sup>191</sup>

More transistors combined with **progress in manufacturing technology** (downsizing of structures and faster cycle times) made faster arithmetic logical units and larger memories at decreasing costs per transistor possible. Similar developments affected the area of permanent memory (hard drives, SSDs).

Lastly, the **transmission capacity** of telecommunication connections has considerably increased in recent decades. While connections with a speed of several thousand bits per second were the measure of all things for only few pioneers among private users in the 80s and early 90s,<sup>192</sup> today's users in Germany, at least those in many densely populated areas have Internet access with data rates of 100 million bits per second or more. Offers for corporate businesses have changed accordingly.

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<sup>187</sup> Named after the co-founder of Intel Gordon E. Moore, cf. on this point "Endspiel für das Mooresche Gesetz", F.A.S. of 13 March 2016, p. 72.

<sup>188</sup> [https://en.wikipedia.org/wiki/Moore%27s\\_law](https://en.wikipedia.org/wiki/Moore%27s_law); on the question of how long this development will continue, see also <http://arstechnica.com/information-technology/2015/04/as-moores-law-turns-50-what-does-the-future-hold-for-the-transistor/>

<sup>189</sup> See e.g. <http://www.heise.de/newsticker/meldung/Nvidia-High-End-Grafikkarte-GeForce-GTX-Titan-X-fuer-1000-Dollar-2577791.html>; <http://www.heise.de/newsticker/meldung/AMDs-Kampfwerg-Radeon-R9-Nano-Brachiale-4K-Leistung-im-Mini-Format-2791694.html>; on the development over years, see also [https://en.wikipedia.org/wiki/Transistor\\_count](https://en.wikipedia.org/wiki/Transistor_count) .

<sup>190</sup> It mentions in particular the limits of quantum mechanics and heat generation caused by a mass implementation of minute transistors on a small surface ("Endspiel für das Mooresche Gesetz", F.A.S. of 13 March 2016, p. 72).

<sup>191</sup> "Kursneuronen und Spinwellensurfer- wenn Transistoren nicht mehr kleiner werden können, bedarf es neuer Ideen, damit es mit Moores Gesetz weitergehen kann", F.A.S. of 13 March 2016, p. 73.

<sup>192</sup> See Techradar: Getting connected: a history of modems, <http://www.techradar.com/news/internet/getting-connected-a-history-of-modems-657479/1>; PCWorld: 60 Years of Hooking Up, [http://www.pcworld.com/article/218274/modems\\_through\\_the\\_years.html#slide1](http://www.pcworld.com/article/218274/modems_through_the_years.html#slide1) .

These IT developments made it possible to continuously develop new products and services causing seemingly superior products to lose in importance and changing user habits. For instance, some of the services that are now used on mobile phones were inconceivable a few years ago simply because of the display technology installed on devices. A few years ago, video streaming, at least high-resolution streaming, was only possible by falling back on terrestrial network infrastructures (and even then not for very long) due to the transmission capacities and/or speeds available, while it can now be used easily in many wireless mobile networks. The possibilities for computation-intensive and data-intensive applications have also made permanent progress on the part of mobile devices as well as on the part of servers.

These innovations on upstream market levels affect the downstream market level of Internet platforms, which are the focus of this paper. Costs for production of goods or services are continuously and obviously declining for consumers; possibilities for product design are growing. There are innovations in every market; however, the speed of innovations under current continuously and rapidly improving production conditions is much faster and may partially serve as an explanation for these developments subsumed under the catch phrase “innovation potential of the Internet“.

## (2) Conceptual relevance

The investigation concept to determine market power may theoretically distinguish between current innovation competition and potential competition by innovative businesses:

- The current innovation competition relates to innovation-driven competitive pressure between players currently active in a specific market. Judging by practical cases examined by the Bundeskartellamt, this may vary in intensity and needs to be evaluated in detail in terms of its relevance for the market. In this context, significant dynamic effects from other markets that impact the relevant market must also be considered.
- In addition, it is necessary to examine in detail the prerequisites of potential competition to the extent it constitutes an important factor for reducing market power.

From the Bundeskartellamt’s point of view, the previous **concept used for potential competition reducing market power** is an assessment concept that is generally suitable also for the digital economy.

When examining the **probability of market entry**, special attention should be given to the *specific* barriers to market entry on the market in question. One should not generally assume low barriers to market entry in the Internet. This applies in particular to those Internet platforms where two groups of users need to be brought on board. The requirement of generating a critical mass of users on both sides may impede market entry to two-sided markets.

On the other hand, in many cases only limited initial investments are required to set up such a service, which businesses accept without refinancing, in certain cases also over longer periods of time, due to prospects of very high profits in the Internet. Therefore, market entries with completely free services are quite common in order to achieve the required critical mass of users, who enable monetisation at a later stage. Many business models in the Internet are software-based; consequently, in particular development services for new programmes are required for new products while server capacity and network connectivity are commodities that can be bought later if and as required. This way, market entry is initially possible on a small scope. The supply's infrastructure will then grow along with a growing number of users. The Internet in its current structure also makes it possible to upload offers to only one site in the Internet, yet go viral all over the world immediately.<sup>193</sup> Hence, a marketing infrastructure is available on an *ad hoc* basis. In the same way, it is possible to make any improved version of an offer available on a global scale enabling incremental strategies of improved offers. The group of potential competitors cannot typically be limited to companies – as is often the case on traditional markets – that are already operating on affiliated markets, although this may be possible in individual cases.

On the other hand, there may be factors that act as barriers to market entry particularly in Internet markets, thus reducing the likelihood of new businesses entering the market. Since a product's success depends on network effects that could act as a structural barrier to market entry for many Internet services, it may be necessary in specific markets to make enormous marketing investments to promote a product during the phase of market entry by advertising campaigns aiming to improve customer awareness and build brand recognition. To what extent viral marketing through social networks made possible by the Internet may be suitable for a specific market, needs to be examined on a case-by-case basis.

In addition, considerable investments may be necessary in the case of technically more sophisticated products, e.g. in order to develop a database or a complex algorithm. If the supply consists entirely or in parts of apps or contents for mobile platforms, the business needs to cooperate with operators of the most important platform providers and, at least *de facto*, use their marketplaces. This may accrue commissions of typically approximately 30% of revenue.

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<sup>193</sup> In practice, this may also create the need for providers to invest even more in raising their profile. This applies in particular to offers that, due to the number of users and/or the type of offer, require transport of huge data volumes via the network in a short enough time. In these cases, providers often fall back on the services provided by a distributed infrastructure with a majority of delivery points in different regions – e.g. a so-called content delivery network – in order to realise adequate response times for their users. In future, there could also be restrictions to direct global visibility should constraints to so-called network neutrality by certain network operators become commercially more successful.

When examining the **period of time** for a potential market entry, it is necessary to cover aspects such as the dynamics of rapidly changing Internet markets (see above). Depending on the dynamic forces in the market identified in a specific case, market entries at relatively short notice may be assumed with low barriers to market entry.

The assessment of the extent and **effectiveness** of market entry raises the question of whether and to what extent market entries by free online services that are not (yet) monetised in any way should be considered as sufficient. In addition, one can frequently observe new Internet entrants offering free online services with the aim of being taken over by incumbents and not envisaging any market activity of their own from the start. However, in the view of the Bundeskartellamt, free business models should generally be taken into account in the overall assessment for they are a characteristic feature of the digital economy and thus a competitive element in the market. (Potentially) Free products are of paramount importance for operation of many Internet markets. They represent a separate competition element that is typical of the Internet and should be accounted for by directly assigning an actual or potential market position to it. When examining the effectiveness of possible market entries in the Internet, it is not necessary to project to what extent they offer monetisable services and whether the final objective is a takeover.

The examination of neighbouring platforms as possible potential competitors requires the specific analysis of whether the company is able to actually carry over its reach from the established Internet service. The criterion of reach on its own does not allow concluding that potential competition curtails market power.

The **concept of loss of potential competition (caused by the merger)** is difficult to assess for the digital economy, the more so as national law has hardly specified it for traditional markets. However, to protect innovation competition and the Internet's dynamic processes, instruments of competition law for preservation of potential competition are in principle required. Since many Internet markets are characterised by network effects prone to concentration, merger control proceedings in particular need to establish whether this results in a "buy out" of important potential competitors.

On the other hand, loss of potential competition on Internet markets as a result of a takeover of a certain company, in principle, represents a theory of harm only in case of high concentration. From the Bundeskartellamt's point of view, a competitive harm resulting from losing a potential competitor should not be disputed only for the reason that a number of potential competitors would prevail. In this respect, one should adhere to the principle that at high concentration, only a slight impediment to potential competition could be sufficient to strengthen market dominance respectively to pose a significant impediment to effective competition. Here, the

specific innovative potential of the company taken over needs to be considered, i.e. it is necessary to examine to what extent the business taken over would be able, on the basis of e.g. number of users generated and/or network effects in its business operation to date, to attack the dominant player. In this context, it is also necessary to establish to what extent it is possible to carry over the reach of the present service to the new market operation. Here, competitive closeness of the company's operation may serve as an indicator. For in the digital economy, services and products are continuously changing, tending to overlap considerably in terms of individual functions, and often markets grow together. Taking over such a significant "sub set" may considerably reduce this momentum. In these cases, it would be adequate to examine possible impediment under the concept of incomplete competition.

In so far as the market activity of the target company especially aims at a takeover by a competitor, it could be questionable whether it is actually a potential competitor. Merger control proceedings need to examine the possibility of acquisition by a third party who intends to continue selling the product on the market after acquisition. Pursuant to the previous concept, it would be necessary to establish whether, in general, companies operating on the relevant markets would qualify as third party buyers on the basis of their business models and their financial and material assets within the relevant forecast period.

### c) Case practice

In the case of **online dating platforms** mentioned before, the Bundeskartellamt had to ascertain whether the merger of two big platforms would pose a significant impediment to competition within the meaning of Sect. 36 GWB. It was an essential aspect in this context that actual innovative pressure could affect the foundations of online dating platforms and that this competitive aspect was not affected by the merger. The innovative pressure needs to be investigated and specified by actual developments.<sup>194</sup>

Similar to the case of *Facebook/WhatsApp* reviewed by the Commission, the change in user behaviour resulting in particular from mobile Internet use played an important part in the competitive assessment of dating platforms. The increasing importance of mobile services is relevant for online dating platforms as mobile applications are also used to facilitate contacts. Mobile applications make it possible for users to look for contacts nearby on the basis of search criteria like gender, distance and age group. In case of mutual appeal, personal contact between users ("match") may be arranged immediately. The apps have been especially optimised to suit typical forms of mobile device use i.e. swipe movements for declining or accepting

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<sup>194</sup> Bundeskartellamt, Decision of 22 Oct. 2015, Ref. B6-57/15 – Online-Dating-Plattformen, para. 174 et seq.

proposed contacts. The apps became extremely successful in a very short time. Market players to some extent regard this development as potentially disruptive as it could generally attack the web-based business model that is largely based on longer computer sessions.

The Bundeskartellamt has also investigated barriers to market entry in more detail. In connection with online dating platforms, it had to examine in particular to what extent necessary marketing expenses obstruct market access. Investigations showed that big platforms in particular invested in their brands by engaging in extensive marketing efforts. In this specific case, the Bundeskartellamt had to take into account that dating platforms are characterised by a continuous new customer business because users join platforms only for a limited time, making it possible for any new entrant to reach similar user numbers as established companies by investing in advertising. Moreover, viral marketing was a promising option in the digital business used by market players upon market entry.

## **6. User data in market power appraisals**

Finally, it is necessary to examine to what extent control over user data may contribute to a company's dominant market position.

Customer and user data as well as third party data have always been a valuable source of information for businesses. Therefore, use of personal data for commercial purposes is not a new phenomenon of the digital age; it had already been a major economic factor in the "analogue" world. Market research, i.e. systematic collection, processing and analysis of data has always been the basis of business marketing activities. In doing so, businesses aim at gaining as much information as possible about their (potential) customers in order to be able to improve their products, offer personalised services or improve their targeted advertising.

Digitalisation and, above all, the Internet have created a new dimension of data collection and use. Digitalized communication networks, for instance, enable telecommunication providers to collect data on a nationwide level to find out when and how long consumers communicate with each other – and track where they are. The fact that the search for information as well as the trade in goods and services now takes place online has enabled businesses to build profiles of (potential) buyers and their interest with so-called tracking methods – even across many websites and mobile apps. Digitalisation has made it possible to analyse extremely large

amounts of data (*volume*) from different sources and formats (*variety*) at maximum possible *velocity*.<sup>195</sup> Public debate tends to describe data as the new “currency” or the Internet’s “oil”<sup>196</sup>.

The use of data in the Internet is subject to conflicting interests of persons whose data are collected and who want to protect their privacy and prevent predictability on the one hand and of the businesses using the data for profit maximisation on the other hand. Public interests also play a role in this connection. Data compilation and use may affect data protection, consumer protection and competition laws. From an antitrust perspective, the question is to what extent control over data may lead or contribute to market dominance of the relevant business.

## b) Status of discussion

The debate on whether user data could be a factor of a company’s market dominance has only just begun.<sup>197</sup> A joint paper by the Autorité de la concurrence and the Bundeskartellamt on data and their implications for competition law, May 2016,<sup>198</sup> provides a comprehensive overview of the status of discussion. Many publications address the importance of data for Internet services,<sup>199</sup> how market power can be measured in frequently free yet data-driven markets,<sup>200</sup> whether data could represent an essential facility and to what extent aspects of data protection need to be considered in antitrust investigations.<sup>201</sup>

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<sup>195</sup> These three terms are mentioned as characteristic for the term “big data” and go back to a research report by the analyst Doug Laney from Gartner Consulting; see also Monopolies Commission (Monopolkommission), Special Report on “Competition Policy: The challenge of digital markets”, 2015, p. 44 with other references.

<sup>196</sup> European Data Protection Commissioner Hustinx, “Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy,” March 2014, p. 8, [https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2014/14-03-26\\_competition\\_law\\_big\\_data\\_EN.pdf](https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2014/14-03-26_competition_law_big_data_EN.pdf).

<sup>197</sup> Darren S. Tucker & Hill B. Welford, *Big Mistakes Regarding Big Data*, ANTITRUST SOURCE (December 2014); Geradin/Kuschewsky, “Competition Law and Personal Data: Preliminary Thoughts on a Complex Issue”, <http://ssrn.com/abstract=2216088>; Nathan Newman, *The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google*, 40 WM. MITCHELL L. REV. 850, 865-73, available at <http://open.wmitchell.edu/cgi/viewcontent.cgi?article=1568&context=wmlr>; Spindler, “Datenschutz- und Persönlichkeitsrechte im Internet – der Rahmen für Forschungsaufgaben und Reformbedarf”, GRUR 2013, p. 996-1004; Helbing, “Big Data und der datenschutzrechtliche Grundsatz der Zweckbindung” K&R 2015, p. 145-150.

<sup>198</sup> Publication is forthcoming.

<sup>199</sup> Andres V. Lerner, “The role of “big Data” in Online Platform Competition, August 2014; Lionel Artige, “Will Big Data deliver its promised productivity growth?”, September 2015.

<sup>200</sup> Hoofnagle/Whittington, “Free: Accounting for the Costs of the Internet’s Most Popular Price”, UCLA Law Review, Vol. 61, No. 3, February 2014.

<sup>201</sup> See Geradin, “Big data and competition law”, LEAR Conference Rome, June 2015, <http://www.lear-conference2015.com/wp-content/uploads/2014/11/Geradin-slides.pdf>; Whittington/ Hoofnagle, “Unpacking Privacy’s Price”, North Carolina Law Review, Vol. 90, No. 5, June 2012; Darren S. Tucker & Hill B. Welford, *Big Mistakes Regarding Big Data*, ANTITRUST SOURCE (December 2014)

In June 2015, the UK Competition Authority **CMA** published a report on “*The commercial use of consumer data*” that also addresses aspects of competition law in the context of data use. In its report, the CMA first of all outlined the particularities of “data markets”: these were characterised by their fast pace. In most cases, they were two-sided markets probably leading to only few prevailing companies and creating barriers to market entry for new competitors. The cost structure for compilation, storage and processing of data would generate enormous volumes and economies of scale, which in turn would lead to only few competitors prevailing. Though it was generally possible to duplicate data businesses were able to prevent use of data by third parties through licenses and other means of control.<sup>202</sup> It is the CMA’s understanding that data may in particular serve as an indicator of a firm’s market dominance if data are an essential input for the products on the relevant markets and no or only few substitutes for the data are available.<sup>203</sup>

An **OECD** report published in 2015<sup>204</sup> also discussed the importance of data and the aspects of data-driven services that foster welfare particularly in the field of health care and administration.

The **Monopolies Commission** dedicated a separate chapter of its special report to the subject of data and competition law.<sup>205</sup> One of its requests is a more in-depth analysis of the role of data in antitrust proceedings. This applied even more to merger control since Internet start-ups with little revenue yet valuable data sets might be bought over by established businesses as illustrated by the case of Facebook/Whatsapp<sup>206</sup> reviewed by the European Commission. Competition authorities should keep an eye on the importance of data for product development, new and upgrades, as well as possible data protection aspects.

European **antitrust practice** has evaluated the importance of data under competition law particularly in the context of merger control proceedings. When examining the merger *Google/DoubleClick*<sup>207</sup> in 2008, the Commission assessed the role of data with regard to

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<sup>202</sup> Report of the UK’s CMA, “The Commercial Use of Consumer Data”, June 2015, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/398283/Consumer\\_Data\\_-\\_CFI.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/398283/Consumer_Data_-_CFI.pdf); p. 94.

<sup>203</sup> Report of the UK’s CMA, “The Commercial Use of Consumer Data”, June 2015, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/398283/Consumer\\_Data\\_-\\_CFI.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/398283/Consumer_Data_-_CFI.pdf); p. 95.

<sup>204</sup> OECD (2015), *Data-Driven Innovation: Big Data for Growth and Well-Being*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264229358-en>.

<sup>205</sup> Monopolies Commission (Monopolkommission), Special Report “Competition Policy: The challenge of digital markets”, 2015, p. 44 with other references <http://www.monopolkommission.de/index.php/en/reports/special-reports/284-special-report-68>

<sup>206</sup> Monopolies Commission, Special Report “The challenge of digital markets”, 2015, see <http://www.monopolkommission.de/index.php/en/reports/special-reports/284-special-report-68>

<sup>207</sup> European Commission, “Google/DoubleClick”, COMP/M. 4731, Decision of 11 March 2008, [www.ec.europa.eu/competition/mergers/cases/decisions/m4731\\_20080311\\_20682\\_de.pdf](http://www.ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_de.pdf), para. 359 et seq.



whether DoubleClick's position in the "ad serving" market would profit from network effects, as it has been able to collect huge data volumes in providing services to publishers and advertisers (and larger amounts than its competitors). Ultimately, the Commission negated this on account of circumstances specific to the case; in addition, it concluded that this situation was not going to change,<sup>208</sup> which, on the other hand, was one of the relevant questions for determining whether the newly created "ad exchange" by DoubleClick could turn into an important competitor for Google (AdSense) that could disappear as a result of the merger. On the other hand, the Commission examined which consequences a combination of data collected by Google's search engine with those collected by DoubleClick's ad serving business could have. Ultimately, the Commission did not have any concerns about the merger and did not see a competitive edge in pooling the data bases of both parties to the merger, which could not be duplicated by competitors: Google's competitors like Microsoft and Yahoo were able to buy third party data e.g. from comScore for the purpose of targeting specific user groups, thus building their own data bases with multiple options for their use.<sup>209</sup>

In the context of the merger proceeding *Facebook/Whatsapp*, the Commission examined to what extent a possible pooling of user data from Facebook and Whatsapp could affect competition. It examined whether using the data sets from Whatsapp for improved targeted advertising could strengthen Facebook's position in the online advertising market.<sup>210</sup>

### **c) Conceptual considerations**

It is also the Bundeskartellamt's understanding that control over data represents an important aspect in assessing market power if the service offered is a data-based product. Many Internet products are essentially based on data. If such data are a part or input of an Internet offer, exclusive control over specific data may constitute a barrier to market entry of competitors.<sup>211</sup> This is particularly true when bilateral indirect network effects occur on the market in question.

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<sup>208</sup> In this context, the Commission emphasised in addition that DoubleClick would not have any benefit over its competition even if there were no circumstances specific to the case and it was able to collect and use data regardless, as competitors were equally able to do so (Para. 268 of the Decision). The data that DoubleClick could collect were not exactly unique or non-reproducible (Para. 269).

<sup>209</sup> European Commission, Decision of 11 March 2008, Ref. COMP/M.4731 – Google/DoubleClick, [www.ec.europa.eu/competition/mergers/cases/decisions/m4731\\_20080311\\_20682\\_de.pdf](http://www.ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_de.pdf), para. 364, 365.

<sup>210</sup> European Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217 – Facebook/Whatsapp, [www.ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://www.ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf), para. 184 et seq.

<sup>211</sup> Cf. on this point joint paper by the Autorité de la concurrence and the Bundeskartellamt on data and their implications for competition law, May 2016.

Control over data *per se* is no indication of market power, though it may play an important role in an overall assessment of all circumstances. First of all, it is necessary to analyse in detail which purpose data compilation and use serves for the respective company.

Data can, for instance, be used for the purpose of improving **one's own product or service**. This can be achieved by learning effects that are likely to occur in the case of search engines, for instance. The more queries a search engine receives from users, the better it is able to fine-tune its algorithm, which in turn affects the quality of search hits.

In addition, more data may lead to an improved product or service if the product itself is a supply of data. This can be illustrated on the basis of online dating platforms as an example: the more users post their personal data on the platform, the more users will visit the page to find their "optimum" partner on this platform. This in turn makes the platform attractive for new users and thus data providers. Data may then be used to improve the **targeting of the users**. Possible options include, for instance, personalised contents/offers, customised advertising or personalised prices. This may also enhance customer loyalty or fully exploit the customer's willingness to pay for the service.

Lastly, data make it possible for companies to **explore new fields of business**. This is possible in particular by evaluating data obtained in other contexts. For instance, data on movements of mobile phone users may be used to offer relevant traffic news for navigation services.

The next step is to examine whether competitors would also be able to obtain such useful data collected by the potentially dominant company and used for a specific purpose. Control of data may represent a barrier to market entry if the data cannot be duplicated by competitors or if a company with a dominant market position has the opportunity to pool data from different data sources. It is also necessary to examine the interaction between data collection and direct and/or indirect network effects on a case-by-case basis. Network effects may create a situation where the established company reaches a "data lead" versus its competitors who are unable to catch up with the leader.

#### **d) Case practice**

The Bundeskartellamt's decision pursuant to Sect. 32c regarding **Google**<sup>212</sup> raised the question to what extent Google's market position was influenced by the fact that the Google group

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<sup>212</sup> Bundeskartellamt, Decision of 8 Sept. 2015, Ref. B6-126/14, para. 160 et seq. (available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de)).

had extensive access to user data through the different affiliated companies and manifold service offers. Google had a variety of data sources available and could potentially use them for the purpose of continuously improving its search algorithm.

Aside from its search engine, Google operated various other services that provided data on users and their behaviour to Google. This would not only apply to websites of the Google group but also to user behaviour on third party websites. Google's data sources included in particular offers by AdSense and DoubleClick through which website operators were able to insert advertising facilitated by Google on their websites and thus generate income. A large number of website operators used these services, making it possible for Google to recognise a user through several websites. Google Analytics service was another data source; it enabled website operators to analyse visitor traffic on their site and, at the same time, informed Google about visits. If a programmer and website operator used these services, Google would be able to use visits to hosted data and services in a way that is similar to its advertising network in order to track users' web movements.

### **C. Networks: Concept for assessing market power**

Aside from pure platform business models, one can also find services and products in the Internet that create user networks. At the same time, these services and products may also have platform elements. Economists refer to e.g. computer operating systems in this context; they generate direct and indirect network effects. Other examples of networks include telecommunication services or Internet-specific services such as social networks. Hence, the subject is not confined to the digital economy in the same way as it is for pure platforms.

A separate discussion of network-specific considerations and the formulation of a network definition applicable to antitrust investigations on the one hand make sense in order to be able to identify pure network constellations to which the assessment concept to be developed can be applied. On the other hand, they may contribute to identifying potential network elements of platforms and, based on that, take into account and evaluate their additional effects.

Antitrust case practice applies fairly solid criteria that follow up from general criteria of market dominance when examining market power of traditional networks that do not have any platform elements. As such a network is essentially a one-sided market, there are no fundamental conceptual questions at first glance regarding phenomena and market conditions that need to be considered especially. However, it is necessary to reassess whether case practice under competition law has put sufficient emphasis on examining direct network effects and the aspects associated with them. In addition, Internet-specific social media have rarely been the focus of attention. As the economic discussion on the impacts of indirect network effects is incidentally closely connected to the discussion on the impacts of direct network effects or has even emanated from it, it seems an obvious conclusion to apply the antitrust assessment concept for platforms to networks as well.

According to conceptual deliberations on networks, the checklist for assessing market power discussed above,

- relevance of network effects,
- economies of scale,
- the prevailing forms of use chosen by users and the degree of differentiation in the market,
- access to data and
- the innovation potential in digital markets,

is just as relevant for assessing market power of networks including Internet-based services. There may be differences in detail as to the relevance and validation of individual points for

ascertaining market power, at least to the extent that a specific case does not primarily concern a platform which shows only negligible additional network elements.

It is necessary to assess in particular direct network effects arising in a network that may create self-reinforcing positive feedback loops once a certain installed base has been generated, and even cause tipping. In this context, it is necessary to examine reinforcing and counteracting factors that may considerably lessen or even eliminate network effects. Network-specific points to be examined could be compatibility and connectivity with other networks. Forms of use that may be found such as e.g. potential multi-homing and a potentially differentiated competitive environment also need to be taken into account. Lastly, the question arises whether and/or which definition of market shares could be useful. Data as a factor of market power and the Internet's innovation potential are relevant in the same way as they are for platforms.

The Bundeskartellamt is examining these criteria in detail in a currently ongoing proceeding against Facebook for an alleged abuse of dominance.<sup>213</sup> There are no final deliberations in particular on the underlying constellation of the case. Therefore, the report cannot refer to case practice or, in view of the imminent decision, provide any detailed or concluding conceptual considerations. Against this backdrop and with a view to the history of literature on two-sided markets as well as the “combined” business models that can frequently be found in practice and may have both platform and network elements, the Bundeskartellamt essentially finds it useful to follow up on the assessment concept formulated for platforms. The following part will therefore provide some additional preliminary deliberations that are specific to networks.

## **I. Markets affected: Definition and characteristic properties of networks**

Antitrust investigations need to ascertain which markets are affected in cases of (Internet) “networks”. This leads to the question of when (in which cases) competition law refers to “networks” and what their special features are.

A more in-depth discussion will explore the characteristic features of a network and the associated products and/or services before proposing a definition of networks applicable to competition law that may also serve to distinguish pure platforms and platforms with pronounced network elements.

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<sup>213</sup> Cf. Press release “Bundeskartellamt initiates proceeding against Facebook on suspicion of having abused its market power by infringing data protection rules” of 2 March 2016, available at [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

## 1. Status of discussion

Regarding the connection between an analysis of networks on the one hand and platforms on the other hand, some authors point out that economic literature on platforms is to a certain extent based on older literature on network effects. *Rochet/Tirole*, for instance, are of the opinion that the theory on two-sided markets, in terms of its concept, was related to literature on network externalities (referred to hereinafter) on the one hand and literature on pricing by multi-product companies on the other. The main common feature with literature on network externalities was the concept of non-internalised externalities that existed between users.<sup>214</sup> *Evans/Schmalensee* point out that some authors were of the opinion that literature on platforms was simply a slight elaboration of earlier literature on networks and/or network effects.<sup>215</sup> *Rysman* explains that platforms and networks were similar in so far as both generated network effects and literature on two-sided markets could therefore be seen as a sub-set of literature on network effects. One reason against this interpretation was, however, that literature on two-sided markets, unlike literature on networks and/or network effects, focused on decisions by an intermediary, thus addressing other industries and/or business models.<sup>216</sup>

To the extent evident, economic literature largely and consistently defines the term network on the basis of direct network effects being present. A network may be understood as a group of users who use the same (respectively technologically compatible) product(s) or the same (compatible) service(s) and, by doing so, generate (direct) network effects between each other. In this respect, literature's definition of a network only takes into account a possible compatibility and/or connectivity through which cross-product externalities may be generated.<sup>217</sup> Consequently, a network may be defined on the basis of a single product or single service, or in case of compatible offers also on the basis of several products or services; according to this definition, members of this network include those users between whom network effects occur.

Direct network effects that serve as a basis for definition of a network are present if the benefit of a product (or a service) is not only derived from the product's actual properties but also from the number of the product's users (cf. also B.I.1.a)(1)). Conversely, this means that a user's decision in favour of a product does not only affect his own benefit but also the benefit of other

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<sup>214</sup> Rochet/Tirole, "Two-sided markets: a progress report", *RAND Journal of Economics*, 2006, 37(3), p. 646.

<sup>215</sup> Cf. Evans/Schmalensee, "The Antitrust Analysis of Multi-Sided Platform Businesses", in: Blair/Sokol, *The Oxford Handbook of International Antitrust Economics*, 2015, Vol. 1, p. 406.

<sup>216</sup> Rysman, "The Economics of Two-Sided Markets", *Journal of Economic Perspectives*, 2009, 23(3), p. 125-143.

<sup>217</sup> Cf. e.g. Katz/Shapiro, "Network Externalities, Competition, and Compatibility", *The American Economic Review*, 1985, 75(3), p. 424-440; Farrell/Saloner, "Standardization, Compatibility, and Innovation", *The RAND Journal of Economics*, 1985, 16(1), p. 70-83; Shy, "A Short Survey of Network Economics", *Review of Industrial Organization*, 2011, 38, p. 119-149.

users of this product.<sup>218</sup> To this extent, direct network effects (just like indirect network effects) are a special type of externalities that affect other users of the same product.<sup>219</sup>

Direct network effects may be positive or negative. Positive network effects are generated in a telephone network, for instance. The more users are connected to a telephone network, the more useful the network becomes for its users, as they are able to reach a larger number of users via the network. Negative network effects may be generated in situations of congestion, where a network's use is diminished by a growing number of users. This may happen when too many subscribers use a mobile telephone network (to be precise: are logged into a specific mobile cell) and the mobile network can no longer be used to its usual capacity.

To the extent evident, network literature addresses the question to what extent network effects may also depend on users' identity only marginally. The aspect of a so-called identity-based externality is discussed, for instance, in auction models<sup>220</sup> and licensing models.<sup>221</sup> This aspect may be relevant in networks when the benefit of a user is not so much dependent on the number of other users but their identity. For instance, the benefit of a telephone network may primarily depend on other users whom one actually wants to phone being connected to the same telephone network.

Aside from publications on network respectively industrial economics, there is a line of literature with a more interdisciplinary approach that examines in particular structures and properties of networks from a mathematical-statistical perspective attempting to calculate the network effect. This line of literature often describes networks as so-called graphs that consist of a number of nodes and connections, where the nodes represent individual persons between whom certain potentially varying relations exist.<sup>222</sup>

In antitrust practice, the European Commission has addressed direct network effects in some of its decisions. Thus, the Commission reviewed the merger *Google/DoubleClick*<sup>223</sup> and found, among other things,<sup>224</sup> that there were direct network effects on the part of DoubleClick in the sense of more advertising customers using DoubleClick's services, thus improving the quality of these services for advertising customers (through better targeting, as more data were avail-

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<sup>218</sup> Cf. e.g. Katz/Shapiro, *ibid.*

<sup>219</sup> Cf. e.g. Shy, "The Economics of Network Industries", 2001, p. 3; Liebowitz/Margolis, "Are network effects a new source of market failure?", *Research in Law and Economics*, 1995, Vol. 17, p. 1-22.

<sup>220</sup> Cf. e.g. Jehiel/Moldovanu/Stacchetti, "How (not) to sell nuclear weapons", *American Economic Review*, 1996, Vol. 86, No. 4, p. 814-829.

<sup>221</sup> Cf. Wang/Yang, "On Technology Transfer to an Asymmetric Cournot Duopoly", *Economics Bulletin*, 2004, 4 (14), p. 1-6; Gleave/Feess, "Fixed fee licensing for cost-reducing technologies: should innovators reveal their private information?", *Review of Managerial Science*, forthcoming.

<sup>222</sup> Cf. e.g. Jackson, "Social and Economic Networks", 2010, Princeton University Press.

<sup>223</sup> Commission, Decision of 11 March 2008, Ref. COMP/M.4731 – *Google/DoubleClick*.

<sup>224</sup> Para. 197 et seq., 255 et seq., 302 et seq. of the decision.

able). It examined the same aspect for website operators who offer advertising space. It concluded that this was not the case due to circumstances specific to the particular case. In *Microsoft/Skype*<sup>225</sup>, the Commission examined accounts by third party market players that network effects could act as a barrier to expansion in markets for consumer communications.<sup>226</sup>

The Commission also assumed direct network effects in consumer communication applications in *Facebook/WhatsApp*.<sup>227</sup>

In the abuse investigation proceedings against *Microsoft*,<sup>228</sup> the Commission has analysed network effects in detail and found that simultaneous direct and indirect network effects existed on markets for operating systems.<sup>229</sup>

## 2. Conceptual considerations

From the Bundeskartellamt's perspective, a definition of networks that focuses on direct network effects being present is generally applicable to antitrust law as it includes direct network effects as the key phenomenon, which has to be taken into account especially in cases under competition law.

In order to give the assessment concept a structure, a comparison with platforms and/or distinction of pure platforms on the one hand and networks and platforms with network elements on the other hand makes sense. Both, platforms and businesses that from the Bundeskartellamt's perspective should be regarded as networks, enable connections between users. However, pure platforms and networks differ in particular with a view to their structure and between which users they establish connections and/or facilitate interaction. While pure platforms enable interactions between users from one or more different groups of users, networks establish connections between users of the same group. Hence, they constitute one-sided markets, at least in the case of pure networks without platform elements.

Providers of operating systems are a classical example of businesses whose product supply features platform and network elements at the same time. If an analysis of the conditions in a market for operating systems focused on the platform elements only (based on indirect network effects between program providers and users of operating systems), this could lead to central effects being neglected, for instance, those resulting from potential incompatibility of competing operating systems that prevent users from exchanging data or communicating with each other.

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<sup>225</sup> Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – *Microsoft/Skype*.

<sup>226</sup> Para. 91 f of the decision.

<sup>227</sup> Commission, Decision of 3 Oct 2014, Ref. COMP/M.7217, para. 127 et seq. – *Facebook/WhatsApp*.

<sup>228</sup> Commission, Decision of 24 March 2004, Ref. COMP/C-3/37.792 – *Microsoft*.

<sup>229</sup> Cf. in particular para. 533 and para. 1062 of the decision.



Examining whether interactions are facilitated within one user group and generate direct network effects in addition to platform elements already identified is designed to prevent this and contribute to a systematic capture of competition.

Conversely, a conceptual distinction of the terms network and platform may be useful to identify different business models, for instance, in the field of social media, and systematically categorise them. Particularly in this respect it would be conceivable for providers to make available pure (communication) networks without any significant platform elements. At the same time, there are also integrated services from networks and platforms respectively networks with added (audience providing) platforms.

Just like for platforms, service providers in networks also have an intermediary function in the broadest sense, as they facilitate interaction between users. These interactions may be direct between two users as well as indirect in the case of users who are connected with each other through third parties. From the Bundeskartellamt's point of view, consideration of the term interaction should focus on (direct) network effects induced by the demand side; consequently, the definition of networks will not only be characterised by direct network effects being present and not associated with phenomena unique to the supply side, e.g. learning effects on the part of a provider.

From the Bundeskartellamt's point of view, the following definition seems to be suitable in particular to distinguish networks from pure platforms:

*Businesses may be defined as networks if they provide intermediation services, which allow for interaction between users of the same group, resulting in direct network effects between users.*

For the purpose of competition law, the definition of networks should be specified by product respectively service, in particular in market definition. Existence and manifestation of overlapping network effects that are potentially present and may in individual cases occur between users of (compatible and/or interconnected) services from different providers need to be considered in the context of evaluating market power under competition law.

## **II. Market power**

The question arises as to how an evaluation of a product or service's network elements under competition law can be integrated into an appraisal concept for market power or market dominance. In this context, examining the relevance of direct network effects plays a major role. In line with concepts and principles of case practice under competition law, the special features of direct network effects are examined with a view to barriers to market entry and switching

costs. The question is whether this examination ensures that all aspects of direct network effects are sufficiently addressed. This could be doubtful, for this process addresses the risk of tipping being inherent also in direct network effects only to a limited extent. The connection between the conceptual discussion of direct and indirect network effects and networks' characteristics specific to the Internet might suggest using the checklist for platforms to assess market power of networks as well.

## 1. Relevance of direct network effects

### a) Status of discussion

Economic literature on direct network effects evolved from questions of **standardisation and compatibility** of technologies and the associated risk of monopolisation and/or tipping. In this context, the relevance of direct network effects for decisions by the demand side on the one hand and the supply side on the other are in theory analysed separately.

*Farrell/Saloner* examine the relevance of direct network effects on the **demand side** in connection with technology decisions.<sup>230</sup> If consumers opt for a technology, they will be connected to the network linked to this specific technology and the users of this network. Consumers therefore need to anticipate which technology other consumers opt for, as the latter's choice affects the benefit from the relevant technology on account of direct network effects. In case consumers take simultaneous decisions, this might cause a coordination problem leading to extreme inertia or extreme momentum. Extreme inertia is caused when consumers are afraid of choosing the wrong technology, i.e. the technology that only a minority chooses and where direct network effects are consequently not pronounced. As a result, consumers postpone their decision and none of the technologies will essentially generate network effects.<sup>231</sup> Extreme momentum may be caused when too many consumers opt for one technology too fast because they are afraid of being "left behind" technologically. However, this effect may also create a situation where the majority of consumers opt for an inferior technology, which will prevail because of the large number of users. To overcome this coordination problem, economic literature explores standardisation of technology. When a technological standard is agreed, consumers will use it as guidance and choose this standard.

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<sup>230</sup> Farrell/Saloner, "Standardization, Compatibility, and Innovation", *The RAND Journal of Economics*, 1985, 16(1), p. 70-83.

<sup>231</sup> Goldenberg/Libai/Muller, "The chilling effect of network externalities", *International Journal of Research in Marketing*, 2010, 27, p. 4-15.

*Katz & Shapiro* examined the business decision in favour of a technology from the **supply perspective**.<sup>232</sup> Competing businesses opt for a technology on the basis of products offered, which leads to users becoming interconnected. In doing so, suppliers are aware of the coordination problem on the demand side. As long as no technology becomes a market standard, companies need to resolve whether the technology they employ should be compatible or incompatible with other technologies. Particularly larger and stronger companies may feel rather encouraged to opt for an incompatible design and build an installed base only for their own technology.

In particular dynamic models that examine market entry of a technology attach special importance to the term “**installed base**”, as the impacts of network effects and/or the value of the network may depend on it. Literature does not provide a uniform definition of installed base, only against the backdrop of relevant models. *Farrell/Saloner* explore a dynamic model where a new technology enters the market at a later stage. They define the number of users of the old technology as installed base.<sup>233</sup> This model envisages the possibility of users migrating from the old technology to a new one, that is, the installed base may decline as a result of the new technology’s market entry. By contrast, *Malueg & Schwartz’s* model defines the installed base as those users of the old technology who are unable to switch to the new technology because of contractual commitments, i.e. the new technology will essentially compete for new customers only.

Literature provides a model-theory discussion of the question of **compatibility**, which is the particular focus of analysis from a supply side perspective. In this context, compatibility is defined as two systems – typically hardware-based – that work and/or interact with each other. This may be achieved by joint interfaces. Consequently, compatibility may lead to users changing from one network to the next, and paying no or only little switching costs. Establishing network connectivity pursues a further goal. Connectivity refers to the interconnection of networks where users of one network may also use another network. This is the case for telecommunication networks on the basis of the European regulatory framework, which classifies interconnection of networks and creating end-to-end connections as a fundamental prerequisite of competition.<sup>234</sup> Interconnected telecommunication networks make it possible for users of one network to not only communicate with other users of the same network but also with users

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<sup>232</sup> Katz/Shapiro, “Network Externalities, Competition, and Compatibility“, *The American Economic Review*, 1985, 75(3), p. 424-440.

<sup>233</sup> Farrell/Saloner, “Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation“, *The American Economic Review*, 1986, Vol. 76(5), p. 940-955.

<sup>234</sup> Directive 2002/19/EC of the European Parliament and the Council of 7 March 2002 on access to and interconnection of electronic communications networks and associated facilities (Access Directive), OJ L 108 of 24 April 2002, in the version amended by Directive 2009/140/EC of the European Parliament and the Council of 25 November 2009, OJ L 337 of 18 December 2009.

of other networks. Thus, connectivity preserves direct network effects but they impact all interconnected networks. Consequently, network effects have the same impact on all interconnected networks and are of secondary importance for assessing market power of interconnected networks respectively they are relevant only with respect to third parties.

Literature has extensively analysed the effects of compatibility on the **tipping tendency**. Thus, *Arthur* examined competition between two incompatible products, where positive direct (though not cross-product) network effects occur within the user group of the respective product.<sup>235</sup> In the context of a fairly general model, *Arthur* illustrates that presence of strong network effects might lead to a situation where small random developments can cause a tipping process. On the basis of two products that are equivalent from the average user's perspective, one may assume that only one of the products is likely to prevail in the long run. At an early stage when both products are perceived as equivalent, the model is unable to predict which of the two alternatives consumers are going to favour.

*Besen/Farrell* are also of the opinion that network markets where incompatible products are offered would typically be sensitive to tipping.<sup>236</sup> Though certain other markets could generally also be sensitive to this risk (for instance, in case of scale economies on the supply and/or cost side), it is users' *expectations* of the network's future size that are of special relevance for the tipping tendency of network markets in contrast to other markets. *Besen/Farrell* also explain that businesses profiting from network effects may pursue a strategy of compatibility to profit from cross-product network effects or deliberately chose to offer incompatible products.

*Katz/Shapiro* also explain that network effects in combination with incompatibility, by nature, would tend towards application of a uniform standard and consequently towards tipping.<sup>237</sup>

*Malueg/Schwartz* examine a model where companies attend to customers who have committed themselves and agreed to fixed contractual terms (installed base) on the one hand, and would compete for heterogeneous new customers on the other hand.<sup>238</sup> In the framework of the model examined, the market may tip towards the company with the biggest installed base or, depending on the constellation of parameters, away from this company and towards the network of other (smaller) providers whose products can be assumed to be compatible with each other but incompatible with those of the company with the biggest installed base. Conse-

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<sup>235</sup> Arthur, "Competing Technologies, Increasing Returns, and Lock-In by Historical Events", *The Economic Journal*, 1989, 99, p. 116-131.

<sup>236</sup> Besen/Farrell, "Choosing How to Compete: Strategies and Tactics in Standardization", *Journal of Economic Perspectives*, 1994, 8(2), p. 117-131.

<sup>237</sup> Katz/Shapiro, "Systems Competition and Network Effects", *Journal of Economic Perspectives*, 1994, 8(2), p. 93-115.

<sup>238</sup> Malueg/Schwartz, "Compatibility Incentives of a Large Network Facing Multiple Rivals", *Journal of Industrial Economics*, 2006, 54(4), p. 527-567.

quently, the company with the biggest installed base may decide in favour or against compatibility of its products with those of its rivals – depending on how pronounced network effects are and on the relative size of the installed base.

Aside from the degree of standardisation and compatibility, literature also establishes a connection between **user behaviour and differentiation of networks** and the risk of monopolisation for networks.

*Katz/Shapiro* are of the opinion that heterogeneity of users and product differentiation reduce the tipping tendency and consequently facilitate coexistence of several (incompatible) differentiated networks.<sup>239</sup>

*Doganoglu/Wright* analyse the connection between the possibility of multi-homing and compatibility decisions in the framework of a static model of a differentiated duopoly.<sup>240</sup> Consumers may differ regarding their preferences for either of the two products (horizontal differentiation) and regarding their appreciation of network effects. In case the products offered are compatible with each other, cross-product network effects would be generated. In this case, the model reviewed does not provide any incentive for multi-homing; in addition, network effects are irrelevant for consumers' choice as they would always be the same regardless of the product selected. However, incompatible products may generate equilibriums where some consumers (with high appreciation for network effects) practise multi-homing. In the light of a comparative situation where consumers are unable to multi-home, this would result in a higher price level. This can be attributed to continued competition for consumers who apply single-homing, while competitive pressure is much lower on the whole than in a comparable situation, as multi-homing consumers are not (or rather less) sensitive to price. If consumers are able to practise multi-homing, compatibility becomes less attractive for both providers in the model reviewed.

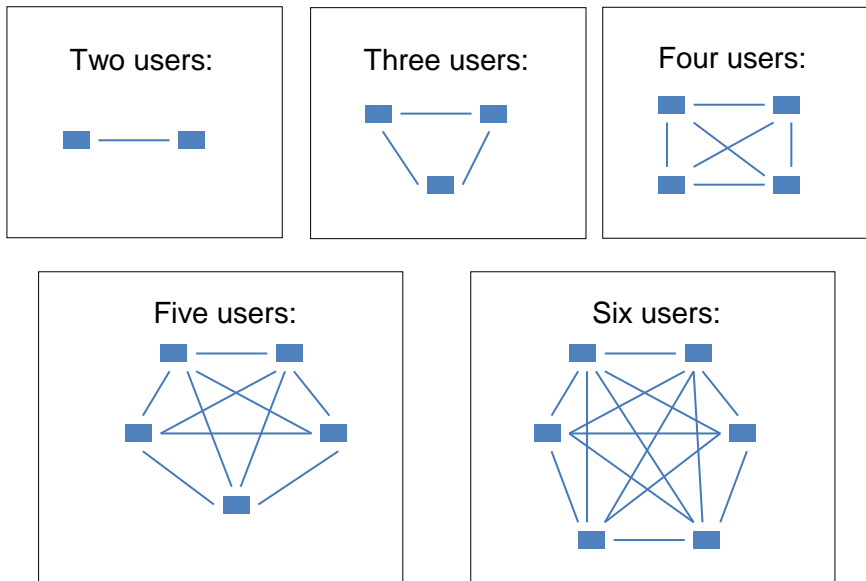
Lastly, literature provides a discussion on how to measure direct network effects. However, the question as to what extent it is possible **to quantify a direct network effect** is quite controversial. To this end, it would be necessary to measure the benefit derived from using a network. The so-called Metcalfe's Law<sup>241</sup> that examines connections in a network represents a proposed arithmetic approximation: the bigger a network, the more connections exist between users. The number of connections between two to six users serves as an example to illustrate this law:

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<sup>239</sup> Katz/Shapiro, "Systems Competition and Network Effects", *Journal of Economic Perspectives*, 1994, 8(2), p. 93-115.

<sup>240</sup> Doganoglu/Wright, "Multihoming and compatibility", *International Journal of Industrial Organization*, 2006, 24, p. 45-67.

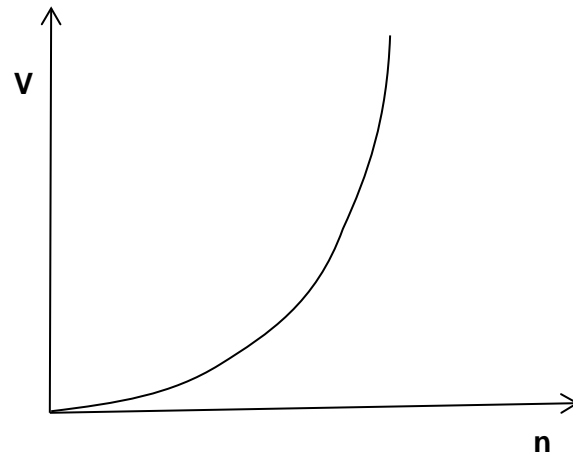
<sup>241</sup> Gilder, "Metcalfe's law and legacy", *Forbes ASAP*, 13 September 1993.



The following table illustrates that the number of connections increases disproportionately with a growing number of users:

Number of users n	Number of connections V
2	1
3	3
4	6
5	10
6	15

In general, the correlation between the number of users  $n$  and the number of connections  $V$  is expressed by the following equation:  $V = \frac{1}{2} n (n-1) = \frac{1}{2} n^2 - \frac{1}{2} n$ . The number of connections increases by a square relative to the number of users, that is, it increases disproportionately as illustrated by the following graph:



However, it is debatable whether the extent of direct network effects respectively the value of a network can be directly derived from the number of connections.<sup>242</sup>

*Case practice and case law under competition law* address direct network effects in the context of investigations on market power primarily as barriers to market entry and as the problem of switching costs. The *European Commission* in particular has addressed direct network effects in several of its decisions.

In the context of *Microsoft/Skype*,<sup>243</sup> the Commission examined accounts by third party market players that network effects acted as barriers to expansion in consumer communications markets.<sup>244</sup> However, it assumed that such network effects would be limited by users of consumer communications services primarily making voice and video calls to a small group of family and friends, their so-called inner circle. Switching to different services was not difficult for these groups. The EGC also adopted this position in its ruling following Cisco's appeal against the Commission's clearance of the merger.<sup>245</sup> The plaintiff Cisco had expressed objections, reasoning that it was too complicated for consumers to switch to alternative offers as they belonged to several small groups that were connected with each other. The EGC reasoned that this did not mean that all groups would have to churn in a single step.

The Commission also assumed direct network effects in consumer communications applications in *Facebook/WhatsApp*.<sup>246</sup> The presence of such effects *a priori* did not constitute a problem to competition on the relevant market.<sup>247</sup> However, this would be notably different if these effects enabled the parties to the merger to isolate their competitors and made it more difficult for the latter to grow their customer base. However, this needed to be examined on a case-by-

<sup>242</sup> Cf. e.g. Briscoe/Odlyzko/Tilly, "Metcalfe's law is wrong", IEEE Spectrum, July 2006, p. 34-39.

<sup>243</sup> Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – *Microsoft/Skype*.

<sup>244</sup> Para. 91 f of the decision.

<sup>245</sup> EGC, Ruling of 11 Dec. 2013, Ref. T-79/12, para. 80 – *Cisco/Kommission*.

<sup>246</sup> Commission, Decision of 3 Oct. 2014, Ref. COMP/M.7217, para. 127 et seq. – *Facebook/WhatsApp*.

<sup>247</sup> Para. 130 et seq. of the decision.

case basis. The Commission was of the opinion that in *Facebook/WhatsApp* there were three reasons against such a scenario: firstly, consumer communications applications were a sector that was subject to rapid development. Switching costs and barriers to market entry were low. In such a market, it was highly unlikely for a dominant market position to be untouchable even if it relied on network effects. This was validated by developments that could be observed in the past. There was no lock-in either, such as a certain physical network or a certain hardware solution that had to be substituted to be able to use a rival consumer communications application. In addition, multi-homing was possible and was actually practised. Parallel use of several applications like these was straightforward, as users did not have to log-in every time they changed from one application to another and messages were automatically forwarded to their terminal device (push process).

The merger would not substantially reinforce network effects either. In particular, user groups of Facebook and WhatsApp already overlapped to a large extent.

Lastly, the Commission referred to network effects in *Microsoft/Nokia*<sup>248</sup> as an argument against the assumption that Microsoft would deny competitors in the sector of mobile devices access to Skype in future. The success of Skype was based on a wide user base; thus, there was no incentive for Microsoft to restrict this in future.

In *Microsoft/Skype*,<sup>249</sup> the Commission reasoned against existing network effects, stating, inter alia, that consumers to some extent practised multi-homing between different providers of consumer communications services. The EGC's ruling on Cisco's appeal against the Commission's decision addressed this issue and reasoned<sup>250</sup> that there were no technical or economic restrictions in this case that prevented users from downloading several communication applications onto their IT platforms. This applied all the more, as the software was free, easy to download and only needed little memory on the hard drive.

The Commission issued an interoperability decision in the case against *Microsoft*<sup>251</sup> relating to the denial of access to interface information of Microsoft's operating system. The Commission reasoned that Microsoft's denying access to information jeopardised competition on the market for operating systems for working groups, as the information was crucial to competitors' activity in this market. Customer-related evidence had verified the causal connection between privileged interoperability of Microsoft's operating systems for working group servers with Microsoft's dominant operating system for PCs on the one hand and its rapid rise becoming the dominant product on the market on the other (as well as the growing success of the features

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<sup>248</sup> Commission, Decision of 4 Dec. 2013, Ref. COMP/M.7047, para. 113 f, 119 et seq. – *Microsoft/Nokia*.

<sup>249</sup> Commission, Decision of 7 Oct. 2011, Ref. COMP/M.6281 – *Microsoft/Skype*.

<sup>250</sup> EGC, Ruling of 11 Dec. 2013, Ref. T-79/12, para. 79 et seq. – *Cisco/Kommission*.

<sup>251</sup> Commission, Decision of 24 March 2004, Ref. COMP/C-3/37.792, para. 428 et seq. – *Microsoft*.



of Microsoft's Active Directory Domain Architecture, which are incompatible with rival products). It is the Commission's opinion that Microsoft's licensing denial was part of a strategy to eliminate competitors from markets for server programmes. This strategy was also made evident by the fact that Microsoft had been willing to provide relevant information to competitors in the past. However, this "supply of information" stopped once Microsoft had reached a dominant position on the market for operating systems for working group servers.

The EGC confirmed the Commission's decision and granted additional scope for evaluating the degree of interoperability. When evaluating the degree of interoperability of software products, the Commission could emphasize what it considered to be the prerequisites pursuant to Article 82 EC (now Article 102 TFEU) for developers of operating systems for working group servers competing with the system of the dominant developer to survive on the market. If it became evident that the current degree of interoperability did not allow developers to survive on the market, one could conclude that preserving effective competition on this market was impaired.<sup>252</sup>

*Legal literature* contains some extremely critical comments about the Commission's interoperability decision and the EGC's decision. In this respect, the central question is whether the essential facility's abuse may comprise access to potential IP information respectively information that would be classified as trade secret.<sup>253</sup> Microsoft's dominant position on the market for operating systems is not questioned. With this in mind, factors to be mentioned are: the market for operating systems tends towards standardisation resulting in a competition for the market, a cost structure characterised by high development costs and low duplication costs as well as direct and indirect network effects.<sup>254</sup>

## **b) Conceptual considerations**

From the Bundeskartellamt's perspective, the discussion on direct network effects outlined earlier first of all shows that assessments of (positive) direct network effects under competition law primarily relate to the questions of barriers to market entry and switching costs. One potential danger to competition is the possibility of market tipping that needs to be accounted for in the same way as for platforms, where barriers to market entry and switching costs nevertheless represent important assessment criteria. In this respect, the assessment concept gen-

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<sup>252</sup> EGC, Ruling of 17 Sept. 2007, T-201/04, para. 2929 et seq. *Microsoft/Kommission*.

<sup>253</sup> Cf. e.g. Körber, WuW 2007, 1209-1218.; same, RIW 2004, 881, 883.

<sup>254</sup> E.g. Körber, RIW 2004, 881, 883, Körber, RIW 2004, 568, 572 et seq.; Zimmerlich, WRP 2004, 1260 et seq.; Dietrich, Wettbewerb in Gegenwart von Netzwerkeffekten, 2007, p. 80 et seq.; cf. also Körber, NZKart 2014, 378-386 on mobile operating systems.

erally corresponds to the concept for indirect network effects. As one can often find combinations of platforms and networks in practice, the items of the checklist can be integrated fairly easily. However, there may be differences in details regarding the appraisal of indirect network effects.

The potential self-reinforcing positive feedback loops that may lead to a concentration tendency in the market and the generation of big networks constitutes an important aspect of assessing market power also for networks.

The competition risk of **market tipping** is based on the self-reinforcing process through direct network effects, which may create a monopoly in the most extreme case, as users tend to prefer large networks because of the benefit of network effects and could merge into a large network in the long run. In the end, this process would eliminate present competitors, as their shrinking networks would become unattractive. Direct network effects constitute a significant barrier to market entry, as any new market entrant would hardly be able to poach users from a large network with a wide user base.

In the case of networks, switching costs for users may be high, thus reducing their incentive to change to another provider. Switching costs do not only include costs of connection to another network but in particular opportunity costs that can result from the loss of network effects when customers switch to another provider.

Switching from one network to another incompatible network does not only require users to set up the new service and – for instance, in the case of social networks – to create their profiles anew and post other information on the new network. Switching networks would in particular result in the user losing his previous connections from the original network and any network effects generated by them. Thus, the user would have to encourage other users of his original network to switch as well (and in analogy these users their connections) or the user has to do without the connections established in his original network. Both would incur switching costs for the user that represent at least opportunity costs. High switching costs may lead to inertia and less preparedness to churn, the more so the bigger the installed base of the original network is. Switching to another network would only be attractive for users if the benefit created by the new network clearly outweighs switching costs. This means that the new network's benefit has to outweigh the wide installed base of the original network.

In this context, it may be relevant whether the network in question is a communication or a social network. Communication networks enable direct communication between two users who are interconnected through the network. This is the case, for instance, with a classical telephone network or a communication programme like WhatsApp. In general, they facilitate point-to-point communication through a switchboard in the network. In the case of communication networks, it can generally be assumed that users who communicate with one another already

know each other. Social networks, on the other hand, do not only enable communication between two users but also indirect interaction, making it possible for a user to participate in and benefit from communication between other users. Sharing or posting information in social networks enables gradual indirect interaction in these networks, which is often intended. Social networks may facilitate indirect communication or interaction between users who did not know each other beforehand. The scope of direct network effects may therefore be different in these two categories.<sup>255</sup> This is supported by the above consideration of Metcalfe's Law.

Just like for platforms, it is necessary to examine the impact of (positive) direct network effects. In this respect, another special aspect of networks is first of all important, that is, to what extent there is **compatibility** with other rival networks, which would facilitate users switching providers. Depending on its scope, compatibility may therefore counteract market tipping and lower barriers to market entry created by direct network effects. In addition, the prevailing user behaviour in differentiated networks is important in the context of evaluating direct network effects. Differentiated networks may encourage **multi-homing**, which in turn counteracts market tipping. However, in the context of direct network effects, it is necessary in particular to examine beforehand whether additional networks used are, in fact, competitors, and are therefore considered to be networks belonging to the same market. This seems rather unlikely in the case of complementary use of networks but also in the case of a different circle to which the user connects in another network. In this respect, the user's identity might be of relevance.

The economic considerations on the risk of tipping in the case of networks examine only one effect and/or overall tendency in the market; however, they do not examine which company eventually benefits from it. Therefore, when assessing networks, the relationship with competitors needs to be examined in addition to the criteria outlined earlier.

Therefore, the Bundeskartellamt regards pronounced network effects as an indication of market power if the network or network element of a product under review has a considerable lead over other networks. In this context, the term installed base of a network may be useful for evaluating the lead because the impacts of network effects respectively the value of a network often only become evident with a sufficiently wide installed base, as the impacts of network effects may be minor for a small number of users, but increase disproportionately with growing numbers of users.

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<sup>255</sup> In its decision of 3 Oct. 2014, Ref. COMP/M.7217, para. 53 et seq. – *Facebook/WhatsApp*, the Commission considered assigning these two types of networks to different markets.

## 2. Additional assessment criteria

Regarding additional assessment criteria that are part of the checklist developed, there are no particularities for networks compared with platforms.

In the context of direct network effects, **market shares are relevant** in the same way as they are for platforms, particularly in terms of the gap in market shares and market share developments in the past; however, in terms of their absolute number, they are of limited relevance for (Internet) networks. With a view to the significance of the installed base for self-reinforcing positive feedback loops, the user-based share is more relevant for networks than the revenue-based share. Reference is made to the discussions in chapter B.II.4.

The **innovation potential of digital markets** is relevant for networks in the same way as it is for platforms. Therefore, only specific indications of significant or even disruptive innovation competition in an overall assessment of (Internet) networks would be able to counteract market power. (See chapter B.II.5.)

Lastly, examining **access to data** is as relevant for networks as it is for platforms. (See chapter B.II.6.)



## Case Summary

25 June 2015

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### Clearance of Merger of Online Real Estate Platforms

Sector: Online Real Estate Platforms

Ref: B6 - 39/15

Date of Decision: 20 April 2015

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In the first phase of merger control the Bundeskartellamt has cleared plans by Axel Springer SE, Berlin to acquire the sole control of Immowelt AG, Nuremberg and approved the launch of a joint venture between Immowelt AG and Immonet GmbH, Hamburg, which belongs to Axel Springer SE. The businesses concerned are the online real estate platforms [www.immowelt.de](http://www.immowelt.de) and [www.immonet.de](http://www.immonet.de), whose activities are to be combined in the new joint venture.

Even based on a narrow market definition, the project was not expected to significantly impede effective competition. On the contrary, the merger on a narrow market for online real estate platforms will prevent so-called market tipping.

The merger project mainly affects the online real estate platform sector. The Bundeskartellamt left the exact market definition open and did not pursue the question whether, in addition to the online platforms, classified advertisements in newspaper dailies, for example, should be included in the present case. It has been the current practice of the Decision Division and the case law of the Düsseldorf Higher Regional Court to assume separate markets and to define the competitive relationship between online classified advertising platforms and print classified advertising as competition from substitutes.

In limiting its assessment of competition in the sector to online real estate platforms, the Bundeskartellamt assumes a two-sided market in the form of so-called transaction platforms. In the present case there are many reasons to assume a single market for real estate platforms without considering each market side separately.

The key activity of an online real estate platform is to act as an intermediary between providers of real estate (private or commercial providers, often represented by commercial estate agents)

and property seekers (private or commercial clients, also represented to some extent by commercial estate agents). A successful intermediation between a property provider and a property seeker is followed up with a direct transaction on a specific property. The objective of online real estate platforms is to bring two sides (property providers and property seekers) together. The currently active online real estate platforms do not charge users on the property seeking side any fees. The platforms' turnover is therefore achieved exclusively with fees payable by providers of property. There are various revenue models used by the real estate platforms but none of them are transaction-based. Whilst the largest online real estate platform of Immobilien Scout GmbH, "ImmoScout", has adopted a membership model, the parties to the merger charge fees for advertising space.

In this constellation of a so-called transaction platform there is a typical two-sided market with pronounced bilateral positive indirect network effects between the two user groups. In the case of transaction platforms - in contrast to advertising-based two-sided markets - the Bundeskartellamt considers it possible for definition purposes not to separate the different market sides. Firstly, one argument in favour of this is that the product of an online real estate platform is indivisible and always has to include both user groups. The product is the platform's intermediary service in bringing together (matching) property providers and seekers and therefore by its very nature requires both market sides. This differentiates the transaction platform from advertising platforms, which have added the second market side due to a strategic financing decision. However, this side is not a necessary component of the product offer for the other user group. Limiting the activity of a transaction platform to only one side or considering the individual sides separately would give an incomplete picture of the economic activity involved and the strong interdependencies between the two sides.

Also from the perspective of the opposite market side which is decisive under the demand-side substitutability concept, a separate assessment of the two market sides is not required. The opposite market side can consist of two or more user groups, which is the case on many one-sided markets. In applying the demand-side substitutability concept the Bundeskartellamt considers it possible to define a single market if demand on the part of both user groups is largely uniform and the possibilities of the user groups to switch provider do not essentially differ. Here the opposite market side consists of property providers and property seekers which both use a property intermediation service. With all the feasible possibilities to switch to an alternative intermediary, both user groups would inevitably be brought together again. The close interdependency between the groups due to bilateral positive indirect network effects does not justify separating the market sides but instead leads to a largely uniform demand.

The fact that the intermediary service is free of charge for some of the platform users does not necessarily undermine this perspective. In the Bundeskartellamt's view this factor is neither a reason to separate the markets nor does it mean that the intermediary service does not meet the criteria of a market. Rather, this is a price differentiation strategy of the platforms, which serves to internalise the indirect network effects and may lead to a zero price for one of the user groups.

Three major providers (Immobilien Scout GmbH, Berlin, with the real estate platform [www.immobilienscout24.de](http://www.immobilienscout24.de) as well as Immowelt AG and Immonet GmbH) are active on the market for online real estate platforms in Germany as well as a number of small, in some cases specialised providers. In addition, so-called meta search machines, which aggregate the property advertisements of the original online real estate platforms and present them as a whole, also offer their services in this market. In some cases this is done via cooperations between original online real estate platforms and meta search engines. Some meta search engines also use crawlers to detect advertisements on online real estate platforms. The question as to the extent to which such services should be included in the market can also remain open.

Even based on this narrow market definition, the project is not expected to significantly impede effective competition because of either non-coordinated or coordinated effects. The merger of the two real estate platforms brings together the second and third largest real estate platforms in Germany, significantly narrowing the market structure from three to two competitors. In terms of turnover, these three platforms account for more than three-quarters of the market volume. However, even post merger Immobilien Scout GmbH will remain the clear market leader. There are also various indications which show that the merger project is likely to reduce the so-called tipping probability and could even have a positive effect on competition.

Platform markets with pronounced bilateral indirect network effects often display a relatively strong tendency towards concentration. A larger number of property providers using an online real estate platform will mean that more property seekers will use the same platform, which in turn will have a positive effect for property providers. Fees are usually set in such a way that both sides are served and brought on board while the network effects are accordingly internalised. This can mean that a reduction in the number of platforms does not lead to a lower intensity of competition (as is usually the case in one-sided markets) but perhaps to even a greater intensity of competition because the existence of fewer platforms makes it easier to internalise network effects, which in turn improves the platforms' possibilities to compete.

So-called market tipping, in particular, can pose a risk to competition. The term "tipping" is used to describe a situation in which a two-sided market is served by one platform only and the other

platforms exit the market. The likelihood of tipping depends on the way the platforms are used by the user groups and on the symmetry of the platforms.

The likelihood is greater in the case of so-called single-homing than in so-called multi-homing. Single-homing users use only one platform. There can be several platforms on one market but each user chooses one platform only. Multi-homing users, on the other hand, use several platforms. Single-homing can be expected to create exclusive offers, which can create a positive feedback loop effect for a platform. It is therefore plausible that a platform with greater reach will attract more exclusive offers in single homing which in turn will have a feedback effect on the other side of the platform.

The users of online real estate platforms tend to multi-home rather than single-home on both sides, which limits the risk of tipping on the market. Nonetheless ImmoScout's significance or standing both for property providers as well as property seekers is greater than that of Immowelt and Immonet. As a result of the merger the increase in importance of the merged platforms of Immowelt/Immonet can be expected to strengthen multi-homing or increase Immowelt/Immonet's share in the single-homing user market. This effect would further prevent the likelihood of tipping.

The merger also increases the symmetry of the platforms. The more asymmetrical the platforms are, the greater the likelihood of tipping. Symmetry can relate to the cost situation, size or reach of the platforms as well as the strategic orientation of the platforms. Consequently, the platform with the better cost structure, wider reach or better satisfaction of user expectations would squeeze the other platforms out of the market. The situation before the merger seemed asymmetrical (especially in terms of user base and reach) with ImmoScout as market leader having a large lead over Immowelt and Immonet. The merger is expected to reduce these asymmetries as Immowelt and Immonet will be able to achieve joint cost advantages and expand their reach.

On the other hand, symmetry assimilation is not expected to create any coordinated effects. In the case of transaction platforms with significant indirect network effects, the likelihood of collusion tends to be low because of the numerous competition parameters. In addition, the clear structural differences which still exist between ImmoScout and Immowelt/Immonet are factors which preclude the likelihood of joint market domination. These differences include as mentioned above asymmetries between ImmoScout and Immowelt/Immonet resulting from economies of scale, which could be reduced by the merger but which cannot be completely removed, at least not in the short or medium term. Another difference lies in the way in which users perceive the platforms, which is expressed in the different periods of time which they spend on the platforms and in the different degrees of likelihood of intermediation.



**Case summary**

5 August 2015

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**Acquisition of the online comparison platform Verivox by ProSiebenSat.1 approved**

Sector: Online comparison platforms

Ref.: B8-76/15

Date of decision: 24 July 2015

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The Bundeskartellamt has approved the acquisition of sole control over the online comparison platform Verivox by ProSiebenSat.1 Media AG (P7S1) in the first phase of merger control. There are no appreciable horizontal overlaps between the business activities of the parties to the merger. What was uncertain, however, was whether the merger would result in P7S1 being able and having the incentive to give Verivox better advertising slots at better conditions than those of its competitors in the future and whether that would significantly impede effective competition. Ultimately, the Bundeskartellamt came to the conclusion that even if the markets were to be defined narrowly, the planned merger appeared unlikely to result in a significant impediment, and particularly not in so-called market tipping.

The proposed concentration concerns the online comparison platform sector. Verivox is the leading online comparison portal for the brokerage of electricity and gas contracts for final consumers in Germany, but also acts as an intermediary for contracts in the insurance, DSL, mobile phones & tariffs and accounts & loans sectors. Verivox's core activity is to bring together suppliers and users of products from these sectors. Verivox also enables a comparison to be made of the products offered. If a customer wishes to sign a contract for a specific product, this may be initiated via Verivox. However, the actual conclusion of the contract takes place directly between the supplier and the customer.

*Market definition*

The precise market definition was left open in this case. In particular, the questions of whether alternative sales channels are to be included (e.g. offline sales or sales via the supplier's own website) and whether, if the market is limited to online platforms, an overall market for the operation of online platforms for consumer contracts is to be assumed or whether the definition is to be based on the respective individual sectors, did not ultimately affect the decision.

The Bundeskartellamt takes the approach that the online comparison platforms assessed represent one or more bilateral markets that take the form of so-called transaction platforms.

Irrespective of the question of segmentation according to individual sectors, there are many arguments in the present case for assuming the existence of one or more uniform platform markets in any case, and for not assessing each side of the market (e.g. suppliers of electricity supply contracts and their customers) separately.

The activity of the assessed online comparison platforms consists of brokering certain products and/or services between suppliers and consumers. Following successful brokerage, the specific transaction is carried out directly between the supplier and the demander. None of the assessed online comparison platforms charges a fee from the user side seeking information. The platforms' turnover derives exclusively from the transaction-based commission to be paid by suppliers.

This constellation, a so-called transaction platform, constitutes a typical bilateral market with reciprocal positive indirect network effects on the two user groups. In defining the transaction platform market, the Bundeskartellamt considers it possible not to distinguish between the two different sides of the market, unlike in the case of bilateral markets financed by advertising (see also case summary B6-39/15 of 25 June 2015<sup>1</sup>). This view is supported by the argument that the product of a transaction platform is not divisible, but always involves both user groups. The brokering activity is what constitutes the product, i.e. bringing together (suitable) suppliers and customers, and it therefore requires two sides. This distinguishes transaction platforms from advertising platforms, which add the second side of the market on the basis of a strategic financing decision without that second side necessarily being a constituent part of the product offered to the user side. In many cases, limiting the activities of a transaction platform to one side or assessing the sides separately would fail to fully represent the economic activity and the pronounced interdependences of the sides.

Also, the demand-side oriented market concept, based on the view of the relevant opposite side of a market, does not require the two sides of the market concerned to be assessed separately. Rather, the opposite side of a market may also consist of two or more user groups, as is the case in many unilateral markets. Specifically in the application of the demand-side oriented market concept, the Bundeskartellamt considers it possible to see the platform as a single market if both user groups have largely uniform requirements and their possibilities for exchanging information do not differ significantly from one another. In the present case, the opposite sides of the market consist of suppliers and customers, each of whom requires the brokerage of certain products. Considering the conceivable alternatives to brokerage, the two user groups would have to meet

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<sup>1</sup> [http://www.bundeskartellamt.de/SharedDocs/Entscheidung/DE/Fallberichte/Fusionskontrolle/2015/B6-39-15.pdf?\\_\\_blob=publicationFile&v=2](http://www.bundeskartellamt.de/SharedDocs/Entscheidung/DE/Fallberichte/Fusionskontrolle/2015/B6-39-15.pdf?__blob=publicationFile&v=2)

again. The connections between the groups resulting from reciprocal positive indirect network effects do not justify separating the two sides of the market; on the contrary, they lead to largely uniform requirements.

In the view of the Bundeskartellamt, the fact that no charge is made for the brokerage service to some of the users on the demand side does not mean that the markets should be seen as separate or that the brokerage service does not qualify as a market. Rather, this constitutes a differentiating pricing strategy on the part of the platforms which serves to internalise the indirect network effects, leading to a large price reduction to a price as low as zero for one of the user groups.

#### *Competitive assessment*

Two large suppliers (Verivox and Check24), as well as a number of small suppliers, some of them specialised, operate in the German market for online comparison platforms covering the electricity, gas, insurance, DSL, mobiles & tariffs and accounts & loans sectors. Verivox's business activities focus on the energy sector. Verivox is the market leader in brokering electricity and gas contracts. Check24 has also built up a strong market position in these sectors in recent years. Together, they account for a market share of more than 95% in this sector. To date, Verivox has had only a subordinate role in the other sectors, where Check24's market position is considerably stronger.

Even if the merger were to be assessed on the basis of a narrow market definition, the concentration would be unlikely to lead to a significant impediment to effective competition through unilateral or coordinated effects.

#### *Unilateral effects*

Platform markets often display a relatively strong tendency towards concentration, with pronounced reciprocal indirect network effects. However, unlike the usual situation with unilateral markets, this may even lead to more intense competition since a smaller number of platforms simplifies the internalisation of network effects, thereby improving the platforms' competitive possibilities (see also case summary B6-39/15 of 25 June 2015). The danger to competition in platform markets may be seen primarily in what is called a "tipping" of the market. Tipping means that a two-sided market is served by only one platform and the other suppliers leave the market. Conceptually, this is a situation of single-firm dominance.

There are no significant horizontal overlaps between the business activities of the parties to the merger. In the press statement on the present merger, however, P7S1 states that it wanted to further expand Verivox's market position by means of television advertising. For online comparison portals, television advertising and Google rankings are the two channels that play a

major role in customer acquisition, together accounting for the overwhelming majority of website visits. In the market as a whole, television advertising in particular is seen as a (quick) means to build up wide coverage, whereby the market participants tend to rely on the medium as a whole rather than on individual stations.

In this context, the question arises as to whether, as a result of the merger, P7S1 would have the ability and the incentive to give Verivox better advertising slots at more favourable conditions than Verivox' competitors in the future and whether this situation was sufficiently likely to lead to market tipping, i.e. to Verivox's competitors leaving one of the relevant markets. Considering all the relevant factors, this is unlikely, however.

Together with the RTL Group, P7S1 is one of the two major suppliers of television advertising in Germany. The commercials' effectiveness also depends to a major extent on their placement, on which P7S1 has at least a certain influence. However, even assuming that P7S1 has considerable free advertising capacities, its ability and incentive to give preferential treatment are limited to the extent that any increase in Verivox's commission turnover has to be in an economical ratio to any possible loss of advertising revenue by P7S1.

In order for tipping to be possible, the relevant platform would have to have a significant competitive edge with regard to its market position and competitive factors. If the merger is assessed on the basis of separate markets according to the relevant sectors, market tipping in favour of Verivox will be unlikely as Check24 has a significantly stronger market position than Verivox in most sectors and also in a hypothetical overall market. In the energy sector, however, Verivox continues to be the market leader. Nevertheless, the result of the market assessment shows that Check24 has been able to gain market shares from Verivox in recent years, has come close to Verivox's market position and enjoys a comparably high level of brand awareness.

Another factor that tends to suggest that tipping is unlikely is that energy sector suppliers tend to use multi-homing rather than single-homing, i.e. they advertise their services on a number of online comparison platforms. Exclusive offers play only a subordinate role. In addition, the services offered by Verivox and Check24 are relatively symmetrical and therefore comparably attractive for consumers.

Also, in view of the fact that P7S1 television advertising is an important but not exclusive advertising channel, and the merger would not affect the advertising possibilities of the other broadcasting groups, tipping in favour of Verivox is not sufficiently probable.

#### *Coordinated effects*

In the case of transaction platforms with pronounced indirect network effects, collusion tends to be rather improbable on account of the many competition parameters, since any implicit

coordination and monitoring with regard to a possible deviation would have to take place not only on one side, but on several sides. In addition, the indirect network effects occurring in two-sided markets give rise not only to the possibility of higher profits from collusion, but also of greater gain from deviation (see case summary B6-39/15 of 25 June 2015).

Asymmetries in the focal areas of activity and market positions of Verivox and Check24 suggest that there is no collusion outside the energy sector. However, according to calculations based on hypothetical individual markets for electricity and gas, Verivox and Check24 have fulfilled in mathematical terms the conditions for presuming dominance contained in Section 18 (6) of the ARC since 2012 at least, with a large combined market share of more than 95%. The barriers to market entry are also high, since successful market entries in the markets of relevance here require a critical mass to be reached within a short time, not just on one but on two user sides (supplier and demander) simultaneously, and require trust and advisory expertise to be established.

Also, the fact that Verivox has lost market shares to Check24 in the electricity and the gas sectors in recent years suggests that there is no lack of competition. Verivox and Check24 have different focal areas of activity and strengths, and the platforms' product range is diverse and not completely identical, which additionally impedes collusion. The concentration leads to further asymmetries between Verivox and Check24, as Verivox will have more favourable access to the important competitive factor of P7S1 television advertising in the future. In this context, the concentration will decrease rather than increase any (possible) risk of collusion.



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**Decision according to Section 32c German Competition Act (Gesetz gegen Wettbewerbsbeschränkungen, GWB) in the dispute Google versus various press publishers and VG Media about the use of the ancillary copyright of press publishers**

Sector: Search engines, media

Ref: B6-126/14

Date of Decision: 08 September 2015

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In the dispute between the copyright collecting society *Verwertungsgesellschaft Media* (VG Media) and various press publishers versus Google the Bundeskartellamt has made a formal decision under Section 32c GWB. This concluded that the authority will not initiate proceedings against Google regarding its previous conduct in the presentation of results in its search engine in connection with the introduction of the ancillary copyright for publishers.

For years there have been disputes between search engine providers, in particular Google, and press publishers about the display of excerpts from online press content in search result lists and about the remuneration for such content which is deemed necessary by the publishers. In 2013, after lengthy discussions and in reaction to the disputes and political demands made by the publishers, the legislator introduced an ancillary copyright over news content for publishers. The ancillary copyright is a property right which is not intended to protect a personal intellectual creation but an investment, in this case made by the publisher. As usual, also in this case it has the character of a pure right of prohibition. Accordingly, a publisher has the exclusive right to make its press product or parts thereof available to the public for commercial purposes (Section 87 f (1) German Copyright Act). This means that a publisher can prohibit the use of such products where such use would violate the publisher's ancillary copyright. However, "individual words or the smallest of text excerpts" are excluded from protection under the right.

After the introduction of the ancillary copyright, VG Media undertook to exercise this right on behalf of various publishers and in the summer of 2014 initiated arbitration proceedings against Google before the arbitration board in accordance with the German Copyright Administration Act. VG Media wanted confirmation that its "press publisher's fee" ("*Tarif Presseverleger*") was applicable to Google's search engine and was adequate in its design and amount. In this

connection the exact scope of the criteria for exemption from protection under the ancillary copyright, i.e. "individual words or the smallest of text excerpts" is a matter of dispute.

Subsequently, Google asked the publishers represented by VG Media - but not other publishers - to confirm that they agreed to have short text excerpts (so-called snippets) displayed in Google services at no publishing fee and that they were authorised to declare such agreement effective (hereafter: opt-in declaration). Furthermore, if the publishers did not opt in, Google stated that it would curtail the display of hits on their websites in its results lists in such a way that only the linked headline but no small snippets and preview images would appear. This would imply that there would be no entry in Google's image search. Subsequently most of the publishers instructed VG Media to opt in on their behalf.

In view of the immense public interest, also in the dispute at competition law level, the Bundeskartellamt thought it expedient in exercising its discretionary powers to decide the matter under Section 32 c GWB. In its decision it concludes that Google's conduct most probably does not violate the prohibition of abusive practices under competition law but does not make any conclusive findings. The aim of the decision is to generally assess the implications of a search engine under competition law and to develop a concept for establishing abusive practices in the presentation of results lists.

## **1. Multi-sided markets (platforms)**

The main objective in this respect is to establish a concept for assessing multi-sided markets (platforms) in terms of market dominance and abusive practices. With its search engine Google is active on more than one side of the platform. It provides its users with a search service and offers advertising customers advertising space. On a de facto level, a relationship also exists with website operators; this relationship requires further classification. Google's search engine therefore has the characteristics of a platform on which the three above groups could be active. The key characteristic of a platform within the meaning of competition law is in particular its function as an intermediary which enables direct interaction between two or more user groups between which there are indirect network effects.

Google's search engine displays such features, in particular with regard to its users and advertisers, between which there are positive and negative indirect network effects. The search engine enables advertising-induced contacts between the two groups. A growth in the number of search engine users means that more advertisers make use of the (search-related) online advertising offers of the search engine (positive indirect network effect). Vice-versa more advertisements on the search engine may also have a significant positive benefit for the search

engine users. However, too many advertisements will limit the benefit of the engine for its users (negative indirect network effect). The search engine can possibly also be regarded as an intermediary between its users and websites by enabling a direct interaction between them by means of its search results list and links to the websites. However, it could be doubtful whether there are actually indirect network effects between users and websites. As an alternative to classifying the websites as one side of the platform, another possible view is that Google uses the content of the websites, which up to now has been free of charge, as input for its own offer of search services to its users.

## **2. Market definition**

As the user groups are connected through indirect network effects, platforms raise the basic question for market definition purposes of whether the different user groups are to be treated as a uniform opposite market side on a *single platform market* or whether each platform side is to be treated separately, as has been the practice of the competition authorities and Düsseldorf Higher Regional Court.

In its recent practice, the Bundeskartellamt suggests defining the market as a single platform market only in the case of so-called matching and transaction platforms (see in particular case summary of 25.6.2015, B6-39/15 - *Immowelt/Immonet*). Such platforms enable the direct interaction between two or more user sides, between which there are indirect network effects. From the perspective of all user groups, the specific intermediation service they provide in bringing together (matching) the supply and demand sides, constitutes the very product of the platform. This product therefore needs both sides and is indivisible. This differentiates matching and transaction platforms from advertising and audience-providing platforms, where the second market side has only been added by means of a strategic financing decision. From the perspective of the other user group(s) this (second) market side is not an essential component of the product offered.

If one considers the advertising customers on the one side of the platform and search engine users and website operators on the other, Google is principally an audience-providing platform. At least its activity vis-a-vis advertising customers is therefore to be considered separately. Whether the intermediation of a contact between a search engine user and the linked websites (in the assumption that there are indirect network effects) can also be regarded as a matching or transaction platform, with advertising financing as an additional platform on top is doubtful. The assumption of a procurement relationship, in which the snippets and preview images of the websites represent an input product for the search engine, is also feasible.



Another relevant question for market definition is whether the relationship between Google and its users fails to meet the criteria of a market due to the *absence of a monetary market price*. In previous German practice monetary payment was considered as a requirement for assuming a market relationship. In the present case this would mean that only online advertising would be regarded as a market activity of Google. On the other hand, the assumption of a market relationship without monetary payment has not been unknown in more recent European practice. There is much in favour of classifying Google's activity towards search engine users as belonging to a search market in spite of the absence of monetary payment.

In the Bundeskartellamt's view it should be noted first of all that the operation of the search engine is financed by advertising customers and that the search engine is linked to online advertising via indirect network effects. As already explained, there is a close connection between Google's activities on all sides of the search engine in that they pursue a uniform profit-making purpose. Consequently, it could be argued that all these relationships could be classified as market relations where a positive price is set on one side only in order to internalise the indirect network effects which the search engine users side, in particular, has on online-advertising. However, a price of zero also represents a market price. In addition, if only the online advertising side qualified as a market, it would only be possible to a limited degree to subject Google's conduct towards its users and also websites to abuse control. The display of the snippets and previews images relates to the search function and not to paid advertising space offered by the search engine. An important factor would be whether and to what extent curtailing snippets constituted a behavioural parameter on an online advertising market, in particular on a market for search-related online advertising.

### **3. Dominant position**

As in the case of the exact market definition, the question whether Google actually has a dominant position on one or several markets can remain open. In the necessary overall assessment of all the circumstances, however, some aspects would suggest that Google has at least a strong market position on the possible search engine markets as well as on a search-related online advertising market. Apart from Google's share of usage volume, the degree of user affiliation towards and achieved by Google, e.g. due to a possible quality advantage, is also a factor which needs to be taken into consideration. Such a quality advantage could also be influenced by the fact that Google generally has extensive access to user data. The degree of affiliation could also be strengthened by users getting accustomed to Google but also by technical measures by which Google directs users to its services.

#### **4. Discrimination and unfair hindrance**

It is highly probable that neither the opt-in declaration required by Google nor the alternative curtailed presentation of search results by omitting snippets and preview images fulfils the requirements of discrimination and unfair hindrance, even if it is assumed that Google has a dominant position.

In the Bundeskartellamt's view, Google's activity as a search engine, in particular with regard to the selection, ranking and presentation of the search results, can be dealt with under the prohibition of abusive practices at least under the general clause Section 19 (1) GWB and Art. 102 TFEU. The initial hurdle that needs to be overcome for assessing Google's relationship with the website operators e.g. under the prohibition on discrimination, is the usual interpretation in German practice of what constitutes an abusive practice, which requires an economic relationship that involves a performance against payment. This in turn would depend on whether the relationship between Google and website operators can be regarded as a market relationship. If this were not the case, the next obvious approach would be to resort to Google's position on an online advertising market, on which there is undoubtedly a market relationship based on payment. Google can most probably only be considered as having a dominant position if a narrower market for search-related online advertising is defined. At the same time Google's behaviour does not primarily affect this market but the market opportunities of providers on other markets (non-search-related online advertising and markets for the sale of media content). Although this could in principle be covered under the case law on third market discrimination, at least under Section 19 GWB, it is very doubtful whether these constructions would really do justice to the interests at stake and the Internet economy.

Ultimately this question can also be left open. The concept of abuse primarily requires an extensive balancing of interests under consideration of the purpose of the GWB, which is to protect the freedom of competition. This raises the general question about what obligations the prohibition of abuse imposes on a dominant search engine as regards hindrance or discrimination in the compilation, ranking and presentation of the search results list. A general obligation on the search engine to compile, rank and present search results in a non-discriminatory way can hardly be assumed in this context. On the contrary, the search engine must be allowed considerable scope of action. This argument is supported by the many criteria or combinations of criteria and their weighting, which can legitimately be applied to justify the attempt by the search engine to satisfy a user's need per search function and to supply as many useful, matching or relevant results as possible. Furthermore, the compilation, ranking and presentation of the search results constitutes per se the product and core of the business

performance of a search engine. A broader stipulation of the criteria to be applied to the search engine under abuse control provisions would ultimately affect its product design and prevent any further developments by the search engine. Such an extensive examination concept would no longer be compatible with the principles of competition law.

However, this does not mean that an anticompetitive intervention by a search engine in its results list is inconceivable. It should be noted that this statement in the case in question only refers to the search results often described as "organic", i.e. those which ideally directly result from the fact that the search engine covers a very large number of websites, keeps the results in a searchable database and searches them based on user queries. On the other hand, the extent to which a search engine operator like Google can place or emphasize other services of its own, alongside or in another connection with the "organic" search results, is not the object of examination in the present case but in the proceeding conducted by the European Commission.

However, interventions in the compilation, ranking and presentation of purely "organic" search results can pose a problem under competition law if they no longer fall into a category such as "relevance" or the like but have other motives. Such interventions have to be generally examined for their objective justification. The latter also applies to the endeavours of a search engine to respect the law and not to commit any offence when compiling, ranking and presenting the search results. This is basically a legitimate interest but it does not affect the relevance of the results for the user's query. In the view of the decision division it is feasible to limit the scope of action of the search engine in achieving this aim if firstly the specific measure is not suitable or necessary and secondly if it has a significant negative impact on third parties. The principle of proportionality also applies under the prohibition of abuse. Apart from that, only those practices come into question which, even when considering all the complications of examining any possible motive from the outside, cannot at all be interpreted as an attempt by the search engine to improve or make its products cheaper or to act in a legitimate way.

On this basis the balancing of interests in consideration of the purpose of the law to protect the freedom of competition shows in this case that from a competitive perspective Google's reasonable interests most probably outweigh those of the publishers. There is no indication of an unjustified intervention by Google in its search results list. Google's current practice does not relate to the above-mentioned "relevance of search results". However, in view of Google's aim to avoid damages actions and to maintain its generally legitimate business model, this intervention is most probably objectively justified.



## Case summary

31 March 2016

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### Clearance of merger between online dating platforms

Sector: Online dating platforms

Ref: B6-57/15

Date of Decision: 22 October 2015

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The Bundeskartellamt has cleared in second phase proceedings the planned acquisition of EliteMedianet GmbH, Hamburg ("EliteMedianet") by the investment house Oakley Capital with its investment fund OCPE II Master LP, London. In Germany, EliteMedianet operates the online dating platforms *ElitePartner.de* and *AcademicPartner.de*. Oakley Capital is also active in this business sector with its *Parship.de* platform acquired in March 2015. Following an in-depth examination the acquisition is not expected to significantly impede effective competition.

The proposed merger affects the national market for online dating platforms which, according to the authority's investigations, includes so-called matchmaking services as well as so-called dating services and is characterised by strong product differentiation and a large number of market participants. The Bundeskartellamt did not include social media such as e.g. Facebook in the market. The question of whether so-called casual/adult dating platforms and traditional matchmaking agencies are to be included in the market can be left open.

The essential task of online dating platforms is to facilitate personal and private contacts between their users, mainly between women and men. The objective of the platforms is thus to bring together two sides with well-defined user groups. The online dating platforms participating in the merger and several other market participants charge fees payable by both user groups which can vary significantly from one user group to the other, and also from one platform to the other. Furthermore, the market for online dating platforms includes a variety of business models e.g. models where only one user group pays or those where fees are only charged for specific functionalities and where additional revenue is generated from advertising.

In the case of the so-called matching platforms constellation that is applicable to online dating platforms, it is possible in the Bundeskartellamt's view to define the market without differentiating

between the different market sides, if the perspective of both user groups with regard to functional substitutability is essentially identical (cf. case summary of 25 June 2015 – B6-39/15 – *Immonet/Immowelt* and case summary of 5 August 2015 – B8-67/15 – *P7S1/Verivox* for matching platforms that take the form of transaction platforms). The fact that the product consists of the intermediary activity of matching women and men, and therefore necessarily requires the participation of both sides, suggests that the market can be considered to be a single product market. Also from the perspective of the opposite market side, which is decisive under the demand-side substitutability concept, it appears to be unnecessary for the case in question to differentiate between the two market sides. The opposite side of the market in this case is represented by women and men who are looking for a partner and who are currently customers for this intermediation service. If they switched to any of the possible alternative suppliers, both user groups would inevitably meet again.

Furthermore, in its market definition the Bundeskartellamt did not differentiate between the different business and payment models as, according to the authority's investigations, customers considered these to be interchangeable. The same applies in particular to the platforms that are solely financed by advertising and offer intermediation services to both user groups free of charge, as well as to business models where only one side does not have to pay fees. Despite the fact that their users do not have to pay for such products they are an essential part of the market and play a crucial role, in particular in the functioning of online markets such as the online dating market. From the Bundeskartellamt's point of view it cannot be denied that the free online services which are financed by advertising or premium functions also qualify as a market.<sup>1</sup> In dealing with Internet platforms it would in any case be reasonable to consider that the relationship between a platform and a user group that does not have to pay a monetary fee qualifies as a market activity within the meaning of the German competition act (GWB), if the platform connects the user group with another user group that is liable to make a payment.

However, advertising as an (additional) source of financing creates a further platform placed on top of the dating platform. This platform provides advertisers with an opportunity to capture the attention of the dating user groups. It can therefore be referred to as an "audience providing platform" or "advertising platform". Audience providing platforms added an additional market side by making a strategic financing decision. From the perspective of the other user group(s), however,

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<sup>1</sup> Different opinion on hotel platforms held by Düsseldorf Higher Regional Court, decision of 9 January 2015, VI Kart 1/14, marginal note 43 – *HRS*.

this is not an essential component of the product offered. This side of the market, considered by the authority as part of the online advertising markets, should therefore be assessed separately.

The definition of the product market for online dating platforms should be limited to dating and matchmaking services and should not be divided further according to the type and differentiation of the services offered. In particular, no differentiation can be made between dating and matchmaking services. According to the authority's investigations the additional product properties of a matchmaking service, i.e. personality tests, the suggestion of partners on the basis of special algorithms, the objective to establish a long-term relationship often pursued by matchmaking services and the differences in pricing, do not cater to any more special demand than the one addressed by dating services with a simpler structure. This also applies to platforms that are tailored to specific target groups. Furthermore, the purpose of the widely used concept of multi-homing, where several platforms are used alongside each other, is not to cover any complementary requirements (on different markets), but to increase the probability of finding a match. As their purpose of use is clearly different, social networks should not be included in this market.

Based on these findings the merger is not expected to significantly impede competition. The market for online dating platforms is not threatened by market 'tipping' which involves the creation of a dominant position. Post-merger, the parties will not have a market position which, in view of the indirect network effects in place, can be expected to lead to an increasing concentration or monopolisation trend involving the market exit of competitors to the benefit of the parties. Neither can unilateral or coordinated effects be expected to occur which would significantly impede competition.

It is difficult to keep track of the large number of businesses that are active in the German market for online dating platforms. On the basis of their turnovers it is clear that the matchmaking services of the parties, *Parship.de* and *ElitePartner.de* as well as *AcademicPartner.de*, are the leading (paid access) platforms. Another high-turnover platform is *FriendScout24* which belongs to the US group IAC InterActiveCorp. Further platforms operated by this group in Germany are *Neu.de*, *Partner.de* and the mobile platform *tinder.com*, a new entrant. Some other platforms operating in Germany belong to Affinitas GmbH, i.e. *eDarling.de* and *PrestigeSingles.de*. A large number of special platforms must also be taken into account, e.g. *christ-sucht-christ.de* (Christian dating) or *50plus.de*.

A consideration of turnover only would neglect the competitive potential of the advertising-financed platforms and the new entrants that (still) provide services free of charge. From the per-

spective of a user-based analysis, market leadership is seen differently than suggested by a consideration of turnover-based market shares. Moreover, fast growing mobile applications that are optimised for smartphones, such as e.g. *lovoo.de* and *tinder.com*, have increasingly gained importance. In addition, differences in user-based market shares result from different key figures considered for Internet-based services. Possible key figures are the number of registered members, the "unique (monthly) visitors", or a figure determined individually. If, however, only the user-based market shares are considered, it must be noted that a sustainable monetarisation of the services may not yet be in place, which could weaken the competitive potential. In the view of the Bundeskartellamt, the market share *per se* ultimately only provides limited indications for the competitive assessment of an existing market position or a market position that will result from a merger.

A more important indicator of the trend towards concentration in the market seems to be the issue of whether there are indirect network effects that can cause a positive feedback loop to the benefit of a specific business and trigger the so-called market tipping. Platform markets with pronounced two-sided indirect network effects are often characterised by a relatively strong trend towards concentration as the members of one user group immediately benefit from an increase in membership of the other group. The value of the platform thus increases with an increasing number of users on both sides, which in turn attracts more users. The value of competing platforms can thus decrease and, in the extreme case, their exit from the market can result in a monopoly (market tipping). With regard to the assessment of the market power of a specific business, this self-reinforcing feedback loop is, however, ambivalent as it must be taken into account that through the feedback loop the indirect network effects can result in very rapid changes in the market, in particular due to the highly innovative Internet dynamics. This is why even smaller competitors can grow their businesses relatively fast and expand their market shares significantly due to the improved possibility to internalise the network effects and the increasing dynamic attraction of a platform service. All platforms in the market can thus generally benefit from the feedback loop effect.

However, if a platform is able to stand out against other competing platforms due to the positive feedback loop effects, market tipping and the creation of a dominant position will become more likely. At this point the (user-based) market share lead is relevant. However, an overall assessment must take account of potential counteracting factors which can slow down the feedback loop effect, as well as Internet-specific barriers to market entry and the dynamics of the Internet. In the case of the online dating platforms, all of these factors indicated that it was unlikely that the parties had a dominant position in the market and that market tipping was imminent.

In the present case no sufficient lead of the parties' platforms could be established based on their user numbers. On the contrary, there are other platforms with a large number of users and sufficient monetisation which can also benefit from indirect network effects. The ambivalent effect of the indirect network effects can be clearly demonstrated in the market, e.g. in the case of the market entry of the mobile platform *tinder.com* which very quickly reached millions of users.

Other essential market conditions also indicate that there is no strong feedback loop effect. Factors that counteract the self-reinforcing feedback loop process of a single platform and make market tipping appear unlikely are first of all the high degree of platform differentiation in the market for online dating platforms and the users' multi-homing practice this involves. The degree of platform differentiation refers mainly to the strategic positioning or market positioning of the platforms, above all on the basis of heterogeneous customer preferences that can be observed in online dating platforms. Differentiated platforms each address specific user groups and aim at accommodating their heterogeneous preferences. This counteracts the tipping effect as the heterogeneous user preferences make it appear unlikely that all or at least almost all users will use only one platform.

According to the authority's investigations the market for online dating platforms is thus also characterised by clearly predominant multi-homing behaviour of both user groups. It is therefore unlikely that the competitive platforms that are currently active in the market will leave the market resulting in a concentration to the benefit of the parties. Moreover, multi-homing by both user groups has lowered the barriers to market entry so that platforms newly entering the market are not forced to poach users from other platforms. According to the authority's findings this effect is significantly reinforced by the prevailing new customer business in the online dating platform sector as the permanent renewal of the platforms' user base prevents a customer lock-in effect. A new platform will therefore not pursue the primary objective of competing for existing customers, which is why it will not be necessary to poach users from other platforms.

Neither can it be expected that competition will be significantly impeded by non-coordinated effects, irrespective of the risk of tipping. The merger will not result in more room for price increases, although the parties' dating platforms are relatively close competitors in terms of their objectives, target groups, service and pricing and achieve high turnover shares in the matchmaking segment. The investigations have shown that the customers are price sensitive. Also, the Bundeskartellamt has found that the barriers to market entry are low in the sector of online dating platforms (an Internet-specific phenomenon), although considerable marketing activities are essential for a successful platform. Apart from traditional marketing activities such as print media and TV advertis-



ing, so-called word-of-mouth marketing and viral marketing can be used for Internet-based services where it can generate a high level of customer awareness with (very) limited marketing budgets.

Finally, the current changes in the use of online dating platforms based on the Internet's innovative power indicate that there is no uncontrolled scope of action in this sector. However, in the Bundeskartellamt's view only specific, identifiable innovative dynamics can actually control the scope of action of a leading platform. A mere general assumption that Internet dynamics exist cannot be used as an argument against market dominance.

In the present case, however, the investigations have specifically indicated the existence of substantial competition in innovation which can have an effect on the basic structures of the online dating platforms and which will not be affected by the merger. These dynamics are mainly reflected by the development of mobile applications within the context of the general move towards mobile applications, as illustrated by the highly successful dating platform *Tinder.com* which is exclusively available and optimised for mobile devices. *Tinder* enables its users to search for people looking for a date within a specific radius of their current location. This also affects the incumbent online dating platforms as the success of such dating apps could fundamentally challenge the web-based business model that is largely based on longer computer sessions.

Subject/Case	Immonet/Immowelt; P7S1/Verivox	Online Dating	Google/VG Media
Platform definition for the purposes of competition law	Transaction platforms	Matching platforms; audience providing platforms	Audience providing platform; search engine as transaction platform?
Single market	(+), if similar view on substitutability; application of concept of demand-side substitutability; obvious choice in case of matching and transaction platforms	(+) for dating service as matching platform (-) for audience providing platform	(-) online advertising separate from search engine; possibly integrated examination of search users and listed websites as two sides of a transaction platform
Market concept in case of free-of-charge platform sides	free of charge service on one side does not exclude single market definition	free of charge business models can be included in a market: particularity of Internet market entry	(+) for free of charge search user side; single integrated commercial purpose and possibly data provided as benefit in kind; in tendency (+) for relationship between search engine and websites due to Internet conventions and the provision of traffic to websites as benefit in kind
Significance of market shares	relatively high market shares of ImmoScout; market dominance of ImmoScout was not subject of the investigation, but the question of whether market was likely to tip to monopoly without merger	calculating problems with market shares in case of unpaid services; relevant indices; no significance in case of pronounced network effects	very high market share suggests market power; in the case of audience providing platforms market dominance on the opposite (advertisement) side is indicated by high user shares for service or content side
Significance and concept of indirect network effects	positive bilateral indirect network effects with self-reinforcing feedback loop; ambivalent effect	positive bilateral indirect network effects; strong ambivalence as competitors benefit as well; no lock-in effect because of new customer business	unilateral asymmetric indirect network effects for advertising side; strengthening effect on market power and incentive for price increase on advertising side; question of whether bilateral positive network effects exist between users and websites left open

Subject/Case	Immonet/Immowelt; P7S1/Verivox	Online Dating	Google/VG Media
Multi-homing and platform differentiation	adverse effect of sequential multi-homing and no platform differentiation	multi-homing and market definition; platform differentiation and market definition – significance for market power and indirect network effects	market definition and platform differentiation: vertical search engines possibly constitute a separate market
Significance and handling of Internet dynamics	not relevant	specific dynamics required in forecast period; no general “Internet defence”; disruptive development due to mobile applications; market entry barriers in the Internet	“Competitor is only one click away”: insufficient argument
Access to data	not relevant	not relevant	data sources could be a factor in the assessment of market power; “data power” not to be equated with market power; investigation of specific data value necessary
Tipping as theory of harm/ merger to catch up with market leader	merger can counteract tipping to monopoly – more effective multi-homing	theories of harm in terms of SIEC besides tipping left open (not relevant to the issue); high user share lead (unique visitor) over closest competitor required for tipping tendency	not relevant to the issue
Collective dominance	no implicit collusion due to asymmetry; Verivox: left open	probability of collusion between matching platforms left open; no implicit collusion due to asymmetry	not relevant to the issue
Discrimination by delisting	not relevant to the issue	not relevant to the issue	delisting or curtailed listing in search engine can be abusive discrimination; at least general clause prohibiting abuse of a dominant position is applicable; search engine has ample discretion on

Subject/Case	Immonet/Immowelt; P7S1/Verivox	Online Dating	Google/VG Media
			search criteria in terms of relevance; apart from relevance objective justification needed and present in this case; possible self-preferential behaviour left open