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# Sharing is caring – An Examination of the Essential Facilities Doctrine and its Applicability to Big Data

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# Abstract

Since the internet revolution, and with the ever-growing presence of the internet in our everyday lives, being able to control as much data as possible has become an indispensable part of any business looking to succeed on digital markets. This is where Big Data has become crucial. Being able to gather, but more importantly process and understand data, has allowed companies to tailor their services according to the unspoken wants of the consumer as well as optimize ad sales according to consumers' online patterns. Considering the significant power over digital markets possessed by certain companies, it becomes critical to examine such companies from a competition law perspective.

Refusal to supply, which is an abuse of a dominant position according to Article 102 TFEU, can be used to compel abusive undertakings to share a product or service, which they alone possess, and which is indispensable input in another product, with competitors. This is otherwise known as the Essential Facilities Doctrine. If the Big Data used by attention platforms such as Facebook or Google were to be considered such an indispensable product, these undertakings would be required to share Big Data with competitors.

While Big Data enables the dominant positions held by powerful attention platforms today, there are certain aspects of it and its particular uses by such platforms that do not allow for the application of the Essential Facilities Doctrine.

Considering the significance of Big Data for these undertakings, however, there may be need for a reform of the Essential Facilities Doctrine. From a purely competition standpoint, allowing the application of the Essential Facilities Doctrine to Big Data would be beneficial, particularly considering the doctrine's effect on innovation. However, enforcing an obligation to share Big Data with competitors would be in breach of privacy policies within the EU. While competition decisions made by the Commission do not directly concern rules set forth in such policies, the Commission is still obligated to respect the right to privacy set forth in the EU Charter of Fundamental Rights. Thus, while the significance of Big Data demands a change in how it is approached by competition law, the Essential Facilities Doctrine is not the appropriate remedy.

# List of abbreviations

| | |
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| AG | Advocate General |
| CFR | EU Charter of Fundamental Rights |
| ECHR | European Convention on Human Rights |
| ECJ | European Court of Justice |
| EFD | Essential Facilities Doctrine |
| EU | European Union |
| FAAMA | Facebook, Amazon, Apple, Microsoft, Alphabet (Google) |
| GC | General Court (formerly the Court of First Instance) |
| GDPR | General Data Protection Regulation |
| IPR | Intellectual Property Rights |
| NCA | National Competition Authority |
| OECD | Organisation of Economic Co-operation and Development |
| SSNDQ | Small but Significant Non transitory Decrease in Quality |
| SSNIP | Small but Significant Non transitory Increase in Price |
| TFEU | Treaty on the Functioning of the European Union |
| US | United States of America |

# Table of Contents

# 1 Introduction

## 1.1 Background

Data is the new oil. This sentiment was first expressed in 2017 and has since become something of a slogan for Big Data. Since the internet revolution, and with the ever-growing presence of the internet in our everyday lives, being able to have and control as much data as possible seems to have become an indispensable part of any business that wants to succeed on digital markets. This is where Big Data has entered the scene. Being able to gather, but more importantly, process and understand data, has allowed companies to tailor their services according to the unspoken wants of the consumer, as well as optimize advertisement sales according to consumers' online patterns. In short, Big Data allows companies to maximize their profit. This in turn has enabled the powerful establishment of tech giants such as the FAAMA[1] and has positioned them in a near unattainable position on digital markets.

Today, EU case law does not yet fully acknowledge Big Data as a relevant competition parameter. Significant mergers such as those between Facebook and Whatsapp and Google and Doubleclick have been deemed acceptable from a competition perspective, as data was not considered by the European Commission (Commission) to have definitively negative effects on competition within the relevant markets. Looking only at the past year, however, it is hard to deny the competitive significance of Big Data. Early November 2019, Google announced they were to acquire Fitbit, a wearables brand that collects through their products user data such as eating habits, period cycles and geolocation data.[2] Google themselves have stated that the main purpose of the transaction is to gain and continue developing the data collected by Fitbit. Later that same month, documents were published that suggested Facebook has been blocking rivals from

[1] Short for Facebook, Amazon, Apple, Microsoft and, Alphabet (Google) – the five companies Goldman Sachs has identified as the largest drivers of the stock market. All five are data driven tech companies.

[2] Osterloh, Google Company Announcement 1/11 2019 https://blog.google/products/hardware/agreement-with-fitbit?_ga=2.109995341.918473813.1572613323-1996097189.1566566630, accessed 5/2 2020.

accessing Facebook's user data.[3] While such actions are not necessarily unlawful, the documents paint a clear picture of Facebook attempting to enhance their own dominant position through their control over user data. In both instances, data has been the basis of competitive actions taken by companies in what could be considered dominant positions. Thus, data is at least clearly a relevant factor for competition today, regardless of whether it is used for abusive purposes in any given situation.

If one were to consider Big Data as a relevant competition parameter (a question that will be properly addressed below), the dominant position of companies such as Facebook and Google may trigger certain competition rules against abusive behaviour. One such rule is the Essential Facilities Doctrine (EFD), which through Article 102 Treaty on the Functioning of the European Union (TFEU) may be an appropriate tool to secure effective competition. Through the doctrine, dominant undertakings would, simply put, be required to share their Big Data with competitors, in order to avoid a monopolization of the relevant market.

Whether the EFD is applicable to Big Data markets is not a given however, especially since it is a matter of debate whether Big Data impacts competition. But with modern business models' growing dependency on user data, this is not a question that can be left unanswered. It is crucial to understand the conflict between Big Data and competition, and whether this conflict could (and should) be mitigated by the EFD in order to protect Big Data markets from abuse.

## 1.2 Purpose and research questions

The purpose of this paper is to determine whether Big Data could be considered essential according to the EFD, and what implications the answer might have for the current legal climate. In order to address these issues properly, the paper seeks to investigate the following questions.

- What is Big Data and what is its connection to competition law?

[3] Scott, "Documents: Zuckerberg allegedly blocked rivals from accessing Facebook data" 19/4 2019 https://www.politico.eu/article/mark-zuckerberg-six4three-facebook-data-damian-collins-internal-documents/, accessed 3/2 2020.

- What does the EFD entail, and could it be applied to attention platforms relying on Big Data?
- Would it be desirable for the EFD to be applicable to such attention platforms, based on potential market effects and the aims of the EU in general and competition law in particular?

## 1.3 Delimitations

When discussing the EFD, the focus of this paper will be on EU competition law. National law of Member States as well as the legislation regarding the doctrine within American competition law will therefore not be considered. Some American sources will be used when discussing the concept of Big Data and its relation to business, but not in relation to competition.

Even when looking at EU competition law and Big Data, the question of data is, however, often affected by issues of cross-border jurisdiction. Many powerful corporations that rely on data in their businesses are established in the US while still operating within the EU, which complicates the application of EU law to such corporations. Due to the theoretical application of the EFD in this paper, the question of jurisdiction and what potential issues it might bring for a practical application of the doctrine will not be addressed.

Since the question of jurisdiction will not be tackled, nor will this paper offer a discussion on the competition law criterion *effect on trade*. When applying Article 102 TFEU, effect on trade is used to decide whether a specific abuse falls within the purview of EU competition law or should in fact be handled by national courts. Since this paper will only discuss the EFD in the abstract rather than attempt to apply it to a specific abuse, it will be assumed that the EU would be the appropriate forum.

The specific focus on the EFD means there are certain aspects of EU competition law that will not be considered in depth. The first of these is the provisions set forth in Article 101 TFEU. These provisions prohibit abusive agreements or cartels, and thus do not have any relevance when discussing the EFD. The single exception to this is a mention of one case from the European Court of Justice (ECJ) - *Asnef-Equifax v AUSB*. The focus of this case is Article 101 TFEU, and for the purpose of this paper it is used only to highlight a

short statement regarding competition law and privacy, and the specific outcomes regarding Article 101 TFEU are irrelevant here.

The second aspect is merger decisions from the Commission. A selection of such decisions will be used, but only when analysing the significance of Big Data for competition law. These decisions are valuable when attempting to determine how the Commission views Big Data generally, but since the EFD concerns a different side of Article 102 TFEU, the decisions will hold no further significance for the paper.

There are also certain concepts within competition law that are tangential to the EFD that will not be addressed in this paper. First, the paper will not discuss data that falls within the protection of intellectual property rights (IPR) or trade secrets. Discussions will be held under the assumption that data is unprotected. This most keenly affects the application of the conditions of the EFD. When the potential abuse pertains to a facility protected by an IPR, the EFD requires that a refusal to supply prevents the appearance of a new product on the market. This condition will not be analysed in the paper.

Second, the paper will only deal with "pure" essential facilities. Graef has suggested that the Commission in fact applied "essential facilities-like remedies" in *Google Search (Shopping)*[4] and *Google Android*[5], where they assessed tying discrimination. [6] This paper will not address such remedies.

As a final delimitation, the paper will focus on a specific group of market actors, which the Organisation of Economic Co-operation and Development (OECD) has named "attention platforms".[7] This group consists primarily of social networking platforms and search engines, which are prone to offer "free" services, where the service is not directly offered in exchange for monetary returns but for other returns such as data collection. This idea of "free" markets will properly inform the discussion regarding Big Data and competition, as data as a market factor becomes significant for competition considerations. With this in mind, the focus of the paper will be on these platforms when

[4] *Google Search (Shopping)* (Case AT.39740) [2017] OJ C/9/08.
[5] *Google Android* (Case AT.40099) [2018] OJ C/402/08.
[6] Graef, "Rethinking the Essential Facilities Doctrine for the EU Digital Economy", *Revue Juridique Themis*, vol 53, no 1, 2019, p 56.
[7] OECD, "Big Data: Bringing Competition Policy to the Digital Era" DAF/COMP(2016)/14, p 12.

making specific competition deliberations. Consequentially, any mention of attention platforms will assume that such a platform is reliant on Big Data in their business.

## 1.4 Methodology

### *1.4.1 The dogmatic legal method*

The concept of the dogmatic legal method is subject to constant debate. Acceptable source material as well as methods of argumentation are not always clear when it comes to applying this method – there does not appear to be only one "right" dogmatic legal method.[8] At its core however, one may infer at least some lowest common denominators around which this paper will be focused.

As Kleineman has stated, the dogmatic legal method seeks to analyse various sources of law, in order to establish how to understand a specific legal rule in a particular context.[9] For this paper, this understanding will be divided into two parts. One will aim to describe the current state of the law, as it applies to Big Data and the EFD. The other will examine whether the current state of the law is satisfactory. As such, the paper will have the components traditional for the dogmatic legal method of *de lege lata* and *de lege ferenda* discussions.[10]

In accordance with this division, the treatment of sources will primarily be significant for the *de lege lata* argumentation. The basis of the discussion in the *de lege ferenda* section will largely be based on the facts and circumstances established in the *de lege lata* section rather than external sources and therefore it is mainly necessary to consider the sources used to establish these facts and circumstances.

For the discussion regarding pure competition law – when examining Article 102 TFEU separately from Big Data – the paper will aim to focus on primary sources. For the EFD there is a very limited amount of case law to examine, but since the aim will be to establish what the law says, it is not necessarily negative for the purpose of the paper that

[8] Kleineman, "Rättsdogmatisk metod", in *Juridisk Metodlära,* Näv & Zamboni (ed.) 2nd ed, Studentlitteratur, Lund, 2013, p 21.
[9] Ibid.
[10] Ibid., p 36.

the law does not say very much. This fact may instead lend itself to a more interesting *de lege ferenda* discussion.

For the discussion regarding the relationship between competition and Big Data, mainly secondary sources will be used. The impact of the relationship is not fully recognized by the EU (which in itself was one of the reasons the topic of this paper was chosen), and thus it is rarely discussed in primary sources. Instead, these discussions will be based mostly on legal literature. While these secondary sources do not hold as much legal authority, the dogmatic legal method does acknowledge the value of legal literature. Kleineman particularly emphasises its value as an accessible source that is both comprehensive and dynamic in ways primary sources are incapable of being.[11] As the topic of this paper is so current and in such a constant state of change, the dynamic aspect of legal literature is particularly beneficial.

### *1.4.2 The EU legal method*

As a complement to the dogmatic legal method, the paper will also be utilising the EU legal method. The EU as a legal forum is very particular compared to, for example, that of its Member States. The law is developed almost exclusively by the ECJ, and there is much source value attributed to the EU legal principles.[12] Comparatively, legislative history, which in Sweden has a high legal authority as source material, does not hold the same value within EU law.[13]

This paper is at its core examining competition law and, as is established above, will focus on EU competition law. With this in mind and considering what was stated above regarding the specific nature of EU law, it is necessary to consider what implications this angle will have on the paper.

As was mentioned regarding the dogmatic legal method, the *de lege lata* discussion is based on primary sources. Considering the EU legal method, the focus will be on EU case law. The *de lege ferenda* discussion will focus on secondary sources and what is referred to within EU law as soft law. While soft law holds a lower authority as a source within EU law, it will still be valuable for informing the discussion when primary law is

[11] Kleineman, *Juridisk Metodlära,* p 34.
[12] Hettne & Otken Eriksson, *EU-rättslig metod,* 2nd ed., Norstedts juridik, Stockholm, 2011, p 40.
[13] Ibid., p 41.

applied.[14] Further, a screening will be required of what sources may be used. It would be inappropriate to use an American source when examining what properties make up the EFD, since the paper will be discussing the EU version of the doctrine. For other aspects of the paper such as Big Data, which is not geographically dependent on any one country or legal doctrine, sources outside of the EU will be included.

### *1.4.3 Economic analysis of law*

When it comes to economic theories of law, there is some dispute regarding whether such theories should be applied to EU law. There is an undisputable connection between economics and the goals of the EU, which were traditionally focused on the internal market and the accompanying principles of the free market economy. This connection between EU law and economic theory is particularly prominent when it comes to competition law. Whether the behaviour of an undertaking limits competition is primarily estimated according to economic theories such as efficiency and profit, and thus when utilising the EU legal method on competition law, one automatically uses terms and deliberations founded in economic theories.[15]

Despite this, it is not necessarily appropriate to use economic theories of law independently when assessing competition law. Hettne and Eriksson have identified a number of reasons why such an application may not be appropriate, and the one that becomes especially significant for this paper is how economic efficiency is only a partial aim for competition law.[16] Other socio-political aims arise when looking at competition law – for this paper this includes technological advancements and privacy. For this paper, this means that while economic considerations will be made as part of the competition analysis, it will be done as a complement to the dogmatic and EU legal methods, rather than as an independent analysis.

## 1.5 Disposition

The paper will begin by defining Big Data in section 2. This includes explaining both the significance of data in general and how Big Data differs from regular data. The section

[14] Hettne & Otken Eriksson, *EU-rättslig metod,* p 47.
[15] Ibid., p 122 f.
[16] Ibid., p 127.

will also examine Big Data's relevance for competition law as well as discuss whether the idea of their interconnectivity is reasonable.

Section 3 will explain the different criteria used in the EFD. These criteria will then be applied to Big Data in section 4, to determine whether it is possible to consider Big Data as such an essential facility.

Finally, section 5 will discuss the implications of the outcome of the previous analysis in section 4. Depending on whether the answer in section 4 is that Big Data could or could not to be considered an essential facility today, the paper will consider if the answer is satisfactory for the legal climate. This will include considerations regarding competition aims and Big Data's effect on privacy.

# 2 Big Data and Competition

## 2.1 Defining Big Data

In recent years, Big Data has almost become synonymous with the knowledge and efficiency that mark the digitalized society we live in today. Despite this awareness of Big Data, however, there is still some ambiguity surrounding what in fact constitutes Big Data.

There is a common misconception that Big Data simply describes the gathering of large amounts of data. While quantity is certainly one aspect of Big Data, it paints a very narrow picture of the actual concept. Simply collecting data is rarely useful unless one also has the means to understand the data, and this requires infrastructure, advanced technology and analytical techniques.[17] Stucke and Grunes propose four categories which help distinguish Big Data from regular data; the "3 V's" originally introduced by Laney[18] as well as a fourth V. These four V's represent volume, velocity, variety and value respectively.[19]

Volume, as mentioned above, is perhaps the aspect of Big Data that most are familiar with. Companies such as Facebook and Google are famous for collecting very large amounts of data from their users. What makes Big Data so particular in terms of volume, however, is the realisation of Moore's Law.[20] Moore's Law is a term coined to describe how the number of transistors on a micro processing chip doubles every two years. Simply put, since the technological revolution in the 1960's, there has been a massive time reduction in data processing, so companies are able to gather and process data at a very high rate.[21]

[17] Colangelo & Maggiolino, "Big Data as Misleading Facility", *European Competition Journal*, Legal Research Paper no 2978465, p 2.
[18] Laney, "3D Data Management: Controlling Data Volume, Velocity and Variety", Meta Group, 2001, p 1-2.
[19] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 5.
[20] Ibid., p 6.
[21] Some believe that growth according to Moore's Law now has stagnated, but it has still reached considerable size (https://www.nature.com/news/the-chips-are-down-for-moore-s-law-1.19338).

Velocity, according to Stucke and Grunes, can be critical for companies aiming to use Big Data for a competitive advantage. While volume concerns the amount of data that may be collected, velocity concerns the speed at which this data may be analysed. Today, some companies are able to analyse data in near real-time, and thus can follow and adapt to the preferences of users or, as suggested by the OECD, spot potential competitors by for example monitoring the number of downloads of other applications.[22]

The variety of the data that is gathered is particularly significant for companies that rely on advertising for revenue. A wide variety of user data offers greater information about users, and thus allows for greater spread in advertising opportunities.

Finally, value is described by the OECD as both the cause and consequence of the increase in the other three V's.[23] The increased capacity for volume, velocity and variety in data gathering gives value to data, as it enables an incumbent to profit more efficiently from the information derived from the data. However, it is clear that data also holds an intrinsic value, as the development of the other V's stems from an ambition to hone and maximize this value.

Some have further suggested that a fifth V be included in the definition of Big Data – veracity, referring to the accuracy of data gathered.[24] This classification does not seem to be widely acknowledged as a core aspect of Big Data, as accuracy is significant for most information. It is certainly probable that companies in most cases are reliant on the accuracy of Big Data, as they often base business strategies on the information, but it is not an aspect that sets Big Data apart from other types of information. Therefore, I have chosen not to engage further with this particular aspect of Big Data.

In reference to the above criteria, Big Data may be defined as consisting of two parts. Firstly, the gathering and aggregation of datasets, and secondly the extraction and utilization of knowledge from these data sets.[25] Thus, the concept of Big Data as it is applied in this paper refers not only to data, but also application of data as part of business strategies.

[22] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 6.
[23] Ibid.
[24] Gal & Rubinfeld, "Access Barriers to Big Data", *Arizona Law Review*, vol 59, 2017, p 347.
[25] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 5.

## 2.2 Big Data's significance for business

Competition is a means of encouraging companies to meet consumer wants, both through low prices and variety of goods and services to match differing consumer tastes.[26] Many companies today make use of Big Data to meet these consumer wants. On a general basis, the input offered from data gathering and analysis offers an understanding of customer needs, thus enabling an incumbent to improve their product and gain a competitive advantage over rivals.[27] However, Big Data is not *one size fits all*, and may benefit different businesses in different ways.

One such type of business that benefits from Big Data is attention platforms, and the following segment will focus on the significance of Big Data for incumbents who fall under this category. Before further addressing Big Data's significance for these businesses, it is necessary to clarify what is meant by an attention platform in this context. It is a term used by the OECD among others, and typically refers to search engines and social networking platforms.[28] What is distinctive about these platforms is that they are two-sided, and that one of these sides provides a "free" service.

There are a number of different ideas of what a two-sided market is, but the most frequently used definition focuses on the relationship between different sides of the platform.[29] Attention platforms traditionally have one side that caters toward platform users and one that caters toward advertisers hoping to reach users. An attention platform is said to act on a two-sided market because it considers both sides (users and advertisers) simultaneously.[30] This consideration also means that attention platforms often choose to have one side be free (the user side) and instead gain revenue from the other side, where advertisers pay to reach platform users.

For attention platforms, Big Data becomes the connection between the two sides of the market. Users, while not paying actual money for a service such as a search engine,

[26] Furman et al., "Unlocking digital competition", *Report of the Digital Competition Expert Panel*, 2019, p 18.
[27] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 2.
[28] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 12.
[29] Hermalin & Katz, "What's So Special About Two-Sided Markets?", *Toward A Just Society*, p 115.
[30] Ibid.

instead pay with the data they allow the platform to collect from them. In turn, this data allows the platform to charge advertisers money for targeted advertisements.

This treatment of Big Data in relation to users and advertisers creates what is called *user feedback loops* and *monetisation loops* (positive feedback loops). By obtaining a large base of users from which to gather data, an undertaking can use these large amounts of data in order to improve the quality of their service. These improvements, in turn, draw in even more users from which the undertaking may collect even more data.[31] This is the user feedback loop. This same trove of user data may also be used, as was mentioned above, for targeted advertisements, thus allowing the undertaking to monetise its service on the business side of the platform.[32] The funds acquired from the selling of such advertisements can, as with the user feedback loop, be used to improve the quality of the service on the user side, thus acquiring yet more users and more data.[33] This is the monetisation feedback loop.

This structure means, as it has been put by Graef, that the more customers join one side of an attention platform, the more valuable this platform becomes for the customers on the other side.[34] Through the use of Big Data, an undertaking may create a "circle of growth" on either side of the platform.[35] When switching costs are high and multihoming[36] on the relevant market undesirable, this can lead to a winner-takes-all market dynamic where an undertaking controls the entire market. This leaves little choice for the consumer and allows the dominant undertaking to obtain substantial rents from both platform users and advertisers[37] – in the form of data and money respectively.

Therefore, if used properly Big Data can hold great competitive significance for attention platforms. This significance, however, has not yet been solidified within EU case law. While there have been a number of large mergers where Big Data has played a

[31] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 10
[32] Ibid.
[33] Ibid.
[34] Graef, "Stretching EU competition law tools for search engines and social networks", *Internet Policy Review*, vol 4, no 3, 2015, p 2.
[35] Varian, "Use and Abuse of Network Effects", *Toward A Just Society*, p 228.
[36] "Switching between, or simultaneous use of, competitor services" – Doherty & Verghese, p 6.
[37] Doherty & Verghese, "Competition Policy in a Globalized, Digitalized Economy", *World Economic Forum*, 2019, p 6.

role, the Commission has been unpredictable in its treatment of Big Data as a competitive factor. This treatment will be addressed below.

## 2.3 State of the law

Over the past decade, there have been a number of mergers on digital markets[38] of companies that hold large amounts of user data. The decisions made by the Commission regarding the effects on competition of these mergers paint an unclear picture of the Commission's view on Big Data as a relevant aspect of competition.

The Commission unreservedly acknowledges in both *Google/Doubleclick*[39] and *Facebook/Whatsapp*[40] that the combination of data troves enabled through such mergers would allow the data owners to better improve their services. The Commission particularly emphasizes the value of targeted advertisements that would be enhanced through such mergers. Still, the Commission chose to allow both these mergers despite having acknowledged the competitive importance of combined data troves, since it did not find that such advantages would impact competition negatively.

In the case of *Google/Doubleclick*, the Commission adduced a number of reasons for this. It referenced Doubleclick's contractual obligations towards advertisers which could potentially restrict Google in using data gathered by Doubleclick for targeted advertisements (despite also noting that such obligations may not remain once the merger goes through).[41] The Commission also noted that the cross-referencing between data about user searches and about users' web searching behaviour is already available to competitors such as Yahoo!.[42] It did not, however, consider the scope of the data troves obtained through this merger compared to, for example, the those held by Yahoo! Finally, the Commission claimed that any negative impact on competition though this merger could be undercut by competitors simply buying corresponding data from third parties.

[38] Within this paper, the term "digital market" refers to any market for a product or service which is supplied on the internet. Conversely, the term "traditional market" refers to any market where a product or service is supplied in the physical world.
[39] *Google/DoubleClick* (Case M.4731) [2008] OJ C/184/06.
[40] *Facebook/WhatsApp* (Case M.7217) [2014] OJ C/297/13.
[41] *Google/DoubleClick*, §§ 361-363.
[42] Ibid., § 365.

In the *Facebook/Whatsapp* decision, the Commission had two main arguments for allowing the merger despite its acknowledgement of the competitive impact of data. Firstly, it emphasized the relevance of consumer power. It argued that should Facebook choose to use the data available from Whatsapp, users of the platform would leave and instead choose a less intrusive social networking platform.[43] Secondly, the Commission found that despite Facebook obtaining large amounts of data from Whatsapp, very little of this data was unavailable for competitors to collect and use.[44]

Thus, in these two cases the Commission found that despite data allowing for an increase in monetized services through advertisements that, as we have seen through the monetisation loop, would in turn lead to a better service and an increase in users, this would not give Facebook or Google a significant competitive advantage.

In the *Microsoft/Yahoo! Search Business* merger decision[45], the Commission again acknowledged the importance of combined data troves in helping to provide a better service and also allowing for a better performing search engine.[46] In this case, however, the Commission chose to allow the merger not because it would not affect competition, but rather because it would. The Commission was of the view that the merger of Microsoft and Yahoo! would allow them to catch up with Google and indeed put competitive pressure on Google.[47] Where the Commission before this decision with *Google/Doubleclick* and after with *Facebook/Whatsapp* concluded that the role of data would not have a significant impact on competition, it instead found in this case that data in fact could be used to gain competitive power.

While this inconsistency in many ways seems to stem from the matter of harmful competition – Microsoft and Yahoo! catching up to the largest actor on the market would certainly not be harmful for competition – it does beg the question of what significance the Commission in fact grants Big Data from a competitive perspective. Can it, or can it

[43] *Facebook/Whatsapp*, § 180.
[44] Ibid. § 189.
[45] *Microsoft/Yahoo! Search Business* (Case M.5727) Commission Decision 2004/139/EC [2010] OJ C/20.
[46] *Microsoft/Yahoo! Search Business*, §§ 225-226.
[47] Ibid., §§ 235-237.

not be used to increase market power? No clear answer can be found from these merger decisions.

What can be inferred from the *Google/Doubleclick* and *Facebook/Whatsapp* merger decisions, however, is a clear reason why the Commission questioned the competitive importance of data, which is non-rivalry. The Commission was of the view that data collected through a merger with a company sitting on more, or different, data does not bring an advantage because this same data can be collected through other means laid out in the decisions discussed above.

This same stance can be seen in other Commission decisions as well. The *Telefónica UK/Vodafone UK/Everything Everywhere* joint venture decision was not directly relating to the non-rivalry of data, but in it the Commission did emphasise how users tend to give their data to many market players, thus making data a commodity.[48] Likewise in both *TomTom/Tele Atlas*[49] and *Thomson/Reuters*[50], the Commission emphasised the particular difficulty in compiling databases manually. It has been tentatively suggested by the German and French national competition agencies, the *Bundeskartellamt* and the *Autorité de la concurrence* (the NCAs), that the conclusion can be drawn from this that data is considered easier to collect on a digital market, and thus does not impose any competition concerns.[51]

In conclusion, the state of the law regarding Big Data as a relevant competitive factor is unclear. Data being non-rivalrous is certainly one aspect that, at least in the past, has been relevant to consider when analysing data driven mergers. These Commission decisions are several years old, however, and Big Data's role in business has developed considerably since they were made. Therefore, how the argument of non-rivalry holds up today and whether Big Data can in fact be significant for competition analysis will be analysed next.

[48] *Telefónica UK/Vodafone UK/Everything Everywhere (Case M.6314) [2012] OJ C/66/04*, § 543.
[49] *Tomtom/Teleatlas (Case M. 4854) [2008] OJ C/237/12*, §§ 238-250.
[50] *Thomson Corporation/Reuters Group (Case M. 4726) [2008] OJ C/210/09*654, §§ 361-364.
[51] Autorité de la concurrence & Bundeskartellamt, "Competition Law and Data", 2016, p 46.

## 2.4 The debate surrounding Big Data and competition

While the Commission decisions discussed above focused primarily on non-rivalry as their reason for dismissing Big Data's importance for competition, legal writers have established a number of further arguments regarding Big Data as a relevant parameter to consider in competition analysis. These arguments have here been divided into three sections depending on which area of the issue it pertains to: data characteristics; platform characteristics, and market characteristics, and the arguments of each section will be considered and weighed in turn. The aim in this section is not to make a judgement on whether Big Data is always a competition concern, but rather to establish whether these different characteristics mean that Big Data can be wholly dismissed as a competition concern.

### *2.4.1 Data characteristics*

The first argument pertaining to the specific characteristics of data is that of non-rivalry. As mentioned, this argument has been used several times by the Commission as a means to lessen the significance of data as a competitive factor, and it has also been supported by some legal writers. Sokol and Comerford for example, have argued that no one company could control all the world's data, and that the collection of one piece of data does not happen at the expense of a competitor.[52] Data collection, as it were, is a non-zero sum game in their view. Were that the case, as the Commission has argued in the past, increased amounts of data would not offer competitive advantage over rivals.

This view has in part also been supported by the NCAs in their investigation regarding competition law and data. They acknowledged that one company having a certain dataset does not automatically mean another company may not collect the same dataset. What they stress, however, is that this reasoning only holds up if competitors to the dominant incumbent can in fact access these same datasets.[53]

In the current market climate, it seems this is not necessarily the case, though it might have been at the time of the Commission's various merger decisions. As has been pointed out by Graef, dominant attention platforms do in fact often try to shield data away from

[52] Comerford & Sokol, "Does Antitrust Have A Role to Play In Regulating Big Data?", *Cambridge Handbook of Antitrust, Intellectual Property and High Tech*, 2016, p 6.
[53] Autorité de la concurrence & Bundeskartellamt, "Competition Law and Data", p 36.

their competitors. She gives the examples of Facebook in their general terms and conditions forbidding third parties from gathering content off the platform and of Google requiring websites to enter into exclusivity agreements for search advertisements.[54] With this in mind, it has been questioned whether data can in fact be considered non-rivalrous, if rival companies can be excluded from collecting or using it. If not, this challenges the Commission's main argument for dismissing Big Data's significance in its previous decisions.

Graef's opposition does not, however, account for the Commission's view from *Google/Doubleclick* that competitors can instead collect the necessary data from third parties. If data is non-rivalrous, it stands to reason that a company should not have to rely on rivaling companies to obtain such data. In response to such a claim, one may look to Stucke and Grunes, who point out that if data were indeed freely available for anyone to collect, why are prominent attention platforms spending fortunes creating free services in order to gather this data? If data is freely available for all to collect, why not simply collect it?

The second argument relates to data freshness and has been raised *inter alia* by Sokol and Comerford. They argue that while Big Data may be useful in terms of the gathering of new data, old and "stale" data does not offer any competitive advantage for an incumbent.[55] It does hold merit that having a lot of data is not automatically significant from a competition perspective. Merely looking at the amount of data combined through the *Google/Doubleclick* and *Facebook/Whatsapp* mergers would be irrelevant for a competition analysis if they could not in fact make use of it. This does not mean, however, that old data cannot hold importance for an undertaking. Through such data, habits and patterns can be extracted and monetized, and these patterns are not immediately available to new market actors. Thus, Big Data as a competitive factor cannot be rejected on the basis of this argument.

The final argument relates to the combining of data troves. In traditional markets, a merger such as that of *Google/Doubleclick* would have very limited impact on the market,

[54] Graef, "Market Definition and Market Power in Data: The Case of Online Platforms", *World Competition: Law and Economics Review*, vol 38, no 4, 2016, p 479.
[55] Comerford & Sokol, "Does Antitrust Have A Role to Play In Regulating Big Data?", p 7.

as the small undertaking holds a small market share and there is no horizontal overlap.[56] In the digital market, however, the NCAs have argued that such a merger could have a great impact on the market due to the combining of data troves. It allows for differentiated data access, such as the case of *Google/Doubleclick* where Doubleclick had gained data from a market distinct from the one in which Google operates. According to the NCAs, this can lead to a collection of data that is hard to replicate, as it has been gathered from two different markets, which in turn could raise competition concerns.[57] This is also an aspect of Big Data that was conceded by the Commission in both *Google/Doubleclick* and *Facebook/Whatsapp*.

### *2.4.2 Platform characteristics*

The particular business model of attention platforms requires certain considerations regarding Big Data and competition, some of which have been briefly addressed above.

The first of these is the two-sided structure of attention platforms. The positive feedback loops which were mentioned previously are thought by some to have significant impact on competition. These feedback loops, whereby an increasing number of users leads to more data, leads to more advertisers, leads to more money and better services, leads to even more users *et cetera*, lead to the reinforcement of an already strong market position according to Schepp and Wambach.[58] This is called indirect network effects, and according to Schepp and Wambach it can lead to a market concentration or even market dominance.[59] The OECD seems to be of a similar opinion, and suggests that an undertaking does not have to engage in strictly anticompetitive behaviour, but due to the positive feedback loops may still gain a strong market position due to the reinforcement of dominance.[60] This effect of Big Data on undertakings' market position suggests its clear relevance for competition.

[56] Autorité de la concurrence & Bundeskartellamt", Competition Law and Data", p 16.
[57] Autorité de la concurrence & Bundeskartellamt, "Competition Law and Data", p 16.
[58] Schepp & Wambach, "On Big Data and Its Relevance for Market Power Assessment", *Journal of European Competition Law & Practice,* vol 7, no 2, 2016, p 121.
[59] Ibid.
[60] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 10.

This view is not universally shared, however. Sokol and Comerford are of the opinion that the relevance of positive feedback loops has been "grossly overstated".[61] They claim that there are other ways of gathering data to gain scale in users; that the acquiring of data does not automatically bring with it quality of a service, and that any incumbent holding a strong market position due to Big Data can be displaced by an innovative rival.

The question of innovation will be addressed thoroughly below, but the relationship between data and user scale and service quality will be handled here. I do not seek to deny that an incumbent may gain scale in users through means other than data, such as a high-quality service. But when it comes to competitive advantage, it also becomes a question of efficiency. If an undertaking wishes to rival Facebook for example, it may be able to reach Facebook's number of users (point A) by providing a good service. It runs a risk, however, of Facebook having already reached point B or C or D while this rival was establishing, and Facebook may continue to advance since they are able to reinforce their market position thanks to Big Data. Similarly, holding data does not immediately bring quality, but it has been pointed out that platforms such as Google are able to sacrifice quality[62] – presumably in favour of the accuracy of the search results accomplished through the use of Big Data, though this is not clarified by the authors.

Thus, though there seems to be some contention regarding the exact importance of positive feedback loops for competition, it cannot be immediately disregarded.

The second consideration for attention platforms is the non-price dimension. Attention platforms are technically free on the user side, since the users do not have to pay money to access the platform. Evans has argued that this fact instantly excludes the free user side of attention platforms from competition considerations. Since business practices will never lead to higher prices, there is no risk of consumer harm and therefor no need to care about attention platforms from a competition standpoint.[63]

While it may be true that users do not risk having to pay more money for the service provided by an attention platform, the Commission has stated that where price is concerned within competition law, the term does not necessarily only entail the monetary

[61] Comerford & Sokol, "Does Antitrust Have A Role to Play In Regulating Big Data?", p 13
[62] Ibid, p 9.
[63] Evans, "The Antitrust Economics of Free", *Competition Policy International*, 2011, p 12.

aspects of purchasing a good or service. Non-price dimensions such as product attributes, service and innovation should also be included when considering anticompetitive behaviour.[64] Thus, while consumers may not suffer outright from price surges, they may be subject to declining service quality or similar abuses, so it would be unwise to reject Big Data's impact due to a lack of a monetary pricing.

Finally, attention platforms bring with them particular barriers to entry that many believe can provide a competitive advantage. Entry barriers are, as the name suggests, factors which may hinder undertakings from entering a market.[65] These can be ascribed to, for example, the structure of a particular market or the behaviour of the incumbents already present on the market. For attention platforms, the entry barriers are mainly caused by the positive feedback loops discussed previously.

Stucke and Grunes have called attention to the high economies of scale and scope that they believe are especially prevalent within data-driven industries, which can become especially high due to positive feedback loops.[66] Economies of scale is a term describing the phenomenon where an increase in production leads to lower production costs.[67] Economies of scope, in turn, describe when it becomes cheaper to produce several products together rather than separately.[68] Thus, economies of scale and scope amplify the positive feedback loops attention platforms benefit from – the more data that is gathered, the more an attention platform is able to rely on the feedback loops to gain more users and further monetise the advertiser side of the platform. As has been described above, this can help to further solidify an incumbent's dominant position.

It has been pointed out that high economies of scale and scope enjoyed by an incumbent do not necessarily preclude a rival from imposing competitive pressure.[69] Multi-sided businesses are said to be especially prone to such pressure, since it may come

[64] Communication from the Commission, "Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings", C 45/7, dated 24.02.2009, § 11.
[65] O'Donoghue & Padilla, *The Law and Economics of Article 102 TFEU*, 2nd ed., Hart Publishing, 2016, p 152.
[66] Grunes & Stucke, "Debunking the Myths Over Big Data and Antitrust", *CPI Antitrust Chronicle*, 2015, p 6.
[67] Bailey & Whish, *Competition Law*, 9th ed., Oxford University Press, 2018, p 10.
[68] Ibid.
[69] Schepp & Wambach, "On Big Data and Its Relevance for Market Power Assessment", p 122.

from all sides of the market and not simply one directly related to Big Data.[70] Since attention platforms rely on Big Data on both sides of their business models this argument doesn't fully hold up however, since the positive feedback loops do appear to allow incumbents to achieve significant market power. However, even if it is the case that attention platforms are vulnerable to competitive pressure despite high economies of scale and scope, that does not exclude Big Data from competitive consideration. I do not mean to suggest that action is necessary to disallow such economies for competitive reason. However, such network effects do have a potential to affect competition that is sufficient to justify consideration in competition analysis.

Attention platforms also generate entry barriers in the form of high start-up costs. The collection and analysis of data require the establishment of complex infrastructure and storage facilities *et cetera*, which bring with them initial costs (though this is true for all Big Data reliant industries). Potential rivals wishing to enter the market of attention platform are also likely to find it difficult to "catch up" to the large amounts of data already collected by large market actors through the positive feedback loops. This is in part an issue of efficiency, as new entrants do not yet have the benefit of these loops. It also means that a potential market entrant risks being unable to compete on the market, or alternatively having to buy large amounts of data in order to catch up, possibly at unfair prices, further increasing start-up costs.

Kennedy has pointed out that many industries in fact have high start-up costs; that 'some things are just inherent to the business of offering customers a valuable product'.[71] As with economies of scale and scope, this statement by Kennedy is not false. The purpose of the argument made regarding high start-up costs, however, is not to suggest that it is a unique quality, nor that it would unequivocally prevent any market entries. It simply suggests, like the various arguments above, that the quality warrants competitive consideration.

[70] Ibid.
[71] Kennedy, "The Myth of Data Monopoly: Why Antitrust Concerns About Data are Overblown", *Information Technology and Innovation Foundation,* 2017, p 8.

### *2.4.3 Market characteristics*

For the final set of characteristics, which concern general characteristics of Big Data markets, there has been much discussion regarding how these should be handled for competition considerations. The main argument from those maintaining that Big Data does not hold weight as a competitive factor is that any competitive advantage gained specifically from Big Data can be countered by disruptive innovation. Sokol and Comerford use the example of Tinder, which entered the market without relying on data, thanks to 'the strength of its underlying solution'.[72] The same with MySpace and Facebook, where Facebook was able to displace MySpace without large economies of scale or network effects.[73] The argument goes that once an undertaking creates an innovative enough product, they will displace and take over the position of the incumbent currently dominant on the relevant market. This creates a competitive structure where market actors compete *for* the market rather than *on* the market; the market is controlled by one dominant actor until it is replaced by a new dominant actor, rather than multiple undertakings competing within the same market simultaneously.[74]

While this structure of competing for the market has been used successfully in the past, that does not mean that such a structure would be effective today. Much time has passed since Facebook's market entry, and with the actualization of Moore's Law among other changes concerning Big Data's impact on digital markets, it is not so obvious that a similar market entry would be possible today. And even if it were, it is not certain that the consequences of competition for the market are desirable.

The two main reasons why the argument of disruptive innovation does not necessarily hold up are the following. Firstly, it assumes that the business models of data driven companies look the same as they did when companies such as Tinder or Facebook entered the market. As has been noted by the NCAs, the strategic use of Big Data is a relatively recent aspect of business, and technological developments have come much farther than the time of Facebook and Tinder's market entries. With this in mind, they suggest it would

[72] Comerford & Sokol, "Does Antitrust Have A Role to Play In Regulating Big Data?", p 7.
[73] Ibid., p 13.
[74] OECD, "Competition For-The-Market", DAF/COMP/GF(2019)7, p 6.

be much more difficult for companies today to come up with something sufficiently innovative to actually disrupt a Big Data market.[75]

Secondly, it is common practice today that whenever an innovative start-up seeks to enter the market, it is quickly bought up by a large market actor. This is a phenomenon called *killer acquisition*[76], where dominant incumbents aim to eliminate competition before it may enter the market.[77] Thus, even if it is theoretically possible to create something innovative enough to displace the current market leader, it will likely never get a chance to.

Even if it were in fact possible to disrupt a Big Data market using innovation, the consequence of such a structure can also be questioned. Allowing Big Data reliant companies having a near-monopoly scale market position to go unchecked, with the reasoning that they will eventually be displaced by a disruptive innovator entirely exposes, according to Stucke and Grunes, consumers to potential anticompetitive behaviour. The very reason for Article 102 TFEU is to protect consumers from potential abuse from a dominant incumbent. As Stucke and Grunes argue, it would not be right to allow the consumer to suffer harm while waiting for a potential disruptive innovator to enter the market, particularly considering the aims of competition law in relation to consumers.[78]

Thus, the argument of innovation does not seem to fully hold up in the current market, both because innovation might not actually be enough to displace a large Big Data incumbent, and because even if it did such a system would be undesirable from a consumer protection perspective.

### *2.4.4 Conclusion*

All in all, there seem to be a number of reasons why Big Data is indeed a factor to be considered in competitive analysis. While no reason, alone or together, suggests that the use of Big Data automatically should be considered anticompetitive or to have anticompetitive effects, the evidence makes clear the large impact a Big Data reliant

[75] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 22.
[76] Calvano & Polo, "Market power, competition and innovation in digital markets: A survey", *Information Economics and Policy*, 2020, p 11.
[77] Schepp & Wambach, "On Big Data and Its Relevance for Market Power Assessment", p 122.
[78] Grunes & Stucke, "Debunking the Myths Over Big Data and Antitrust", p 8.

incumbent can have on competition. Thus, it is certainly relevant to address Big Data from a competition perspective.

# 3 Essential Facilities

Now that it has been established that Big Data is indeed a factor that is relevant in competition considerations, we may begin to address the EFD, which is the proper topic of this paper.

The EFD aims to deter certain exclusionary behaviour in breach of Article 102 TFEU. It encompasses situations where dominant undertakings refuse to supply products or services if such a facility is essential to maintaining competition on a particular market.[79] In such a situation, the dominant undertaking may be required to share the essential facility with competitors at a fair price. This remedy is said to be contrary to two main principles of free competition; freedom of contract and exclusivity of ownership, since the doctrine may "force" an undertaking to sell a product or a service even though it would not have done so willingly.[80] Its intrusive nature means the ECJ rarely applies the doctrine, and when it does it is according to very strict requirements.[81]

The question of Big Data becomes especially complex in this context, since there is much ambiguity regarding whether the EFD can in fact be applied to Big Data. Since some are of the view that data is open for all to collect, there could never be a need for undertakings to share their data with competitors since data could not be considered essential.[82] However, as has been shown above, the idea that data is open for all to collect is not so clear-cut, particularly considering positive feedback loops and powerful incumbents holding data for themselves.

The fact that smaller competitors are potentially prevented from collecting data, however, does not in itself prove that the data is essential according to the EFD, nor that the incumbent holding the data has a dominant position on the relevant market.[83] However, if data were found to be important enough from a competition perspective, and the incumbent at hand were to have a dominant position on the relevant market, this could

[79] Bruc, "Data as an essential facility in European law: how to define the "target" market and divert the data pipeline?", European Competition Journal, vol 15, no 2, 2019, p 183.
[80] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", *International Review of Intellectual Property and Competition*, 2012, p 1.
[81] Ibid.
[82] Schepp & Wambach, "On Big Data and Its Relevance for Market Power Assessment", p 123.
[83] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 7.

mean that such an incumbent would have to share their data with competitors; potentially by licensing it.[84]

To examine the EFD and Big Data, the paper will first present the ECJ cases that have established the doctrine and the assessment conditions that have been developed. Then, the conditions will be applied to Big Data to ascertain whether Big Data can indeed be considered an essential facility.

## 3.1 Development through case law

### *3.1.1 Traditional development*

The term "Essential Facilities Doctrine" has never been mentioned by the General Court (GC) or the ECJ, who have chosen instead phrases such as "refusal to deal" or "refusal to supply".[85] Regardless of the label, however, the ECJ has developed five criterion for when a product or service is considered an essential facility.

1. The incumbent must be dominant in the market for the supply of the facility (the product or service) in question.
2. Access to the facility must be indispensable.
3. Refusing access will eliminate all competition.
4. Refusing access cannot be objectively justified.
5. In the case of an IPR, refusing access would hinder the appearance of a new product for which there is consumer demand.[86]

The first four of these conditions were presented in *Commercial Solvents*[87], which was the first time a refusal to deal was assessed under EU competition law.[88]

Commercial Solvents produced the raw material aminobutanol, which is necessary for the production of ethambutol. Commercial Solvents stopped selling this raw material to

[84] Schepp & Wambach, "On Big Data and Its Relevance for Market Power Assessment", p 123.
[85] Graef, "Rethinking the Essential Facilities Doctrine for the EU Digital Economy", p 41.
[86] Temple Lang, "The Principle of Essential Facilities in European Community Law – The Position Since Bronner", *Journal of Network Industries*, 2000, p 376
[87] Joined cases C-6/73 and C-7/73, Istituto Chemioterapico Italiano and Commercial Solvents v Commission of the European Communities, ECLI:EU:C:1974:18
[88] Graef, "Rethinking the Essential Facilities Doctrine for the EU Digital Economy", p 41.

Zoja, a competitor to Commercial Solvents on the derivative market for ethambutol. The ECJ found this conduct to be in breach of Article 102 TFEU, arguing that Commercial Solvents was abusing its dominant position on the primary market when refusing to supply to a competitor on the derivative market. By "reserving such raw material for manufacturing its own derivatives" they risked "eliminating all competition on the part of this customer".[89]

The next case to address the EFD was *Magill*.[90] In it, three Irish broadcasting companies were required to provide the publishing company *Magill* with the weekly listings of their television programming, as *Magill* was planning on releasing a television guide. The ECJ listed three reasons for their ruling: that the broadcasting companies reserved the secondary market for themselves, that there was no justification for not providing *Magill* with the information and a new requirement, namely that withholding the indispensable raw material (the broadcasting information) would prevent the appearance of a new product for which there was demand by a potential consumer.[91] This new criteria, however, was only applicable due to the involvement of the IPR held by the broadcasting companies, and thus is not a condition that must be met under different circumstances.[92]

After that came the *Bronner* case[93], where the indispensability criterion was further developed. Mediaprint and Oscar Bronner were both newspaper publishers in Austria, and Oscar Bronner sought access to Mediaprint's home-delivery scheme for newspapers but was denied. The ECJ rejected Bronner's argument that it would not be economically viable to set up a separate delivery system due to the small scale of Bronner's circulation. They held that indispensability must be judged on the basis of the economic viability of establishing a comparable circulation to that of Mediaprint.[94]

[89] *Commercial Solvents,* § 25.
[90] Joined cases C-241/91 and C-242/91, Telefis Eireann and Independent Television Publications Ltd v Commission of the European Communities, ECLI:EU:C:1995:98.
[91] *Magill*, §§ 52 – 56.
[92] Bruc, "Data as an essential facility in European law", p 185.
[93] Case C-7/97, Oscar Bronner GmbH& Co. KG v MediaprintZeitungs, ECLI:EU:C:1998:569.
[94] *Bronner,* §§ 43-46.

The final case regarding the criteria mentioned above is *IMS Health*[95], where a clarification was made regarding the primary and derivative market. IMS provided data on regional sales of pharmaceutical products in Germany and refused to grant the competitor NDC the licence for its copyrighted brick structure. In its judgment, the ECJ clarified that it is not necessary for the requested input (in this case the brick structure) to have been marketed separately by the incumbent for it to be considered an essential facility. They particularly referenced *Bronner*, in which Mediaprint had not marketed their delivery scheme as a separate product from their newspaper, and made the interpretation that it would be sufficient to identify "a potential or even a hypothetical market" in order to establish the derivative market.[96] The ECJ went on to clarify that the primary or "upstream" market for the facility can be defined as long as the entrant can show that the facility is a necessary input to compete on the derivative or "downstream" market.[97]

### *3.1.2 Changes after Microsoft*

The four cases presented above all support one consistent set of conditions for applying the EFD. This set of conditions predominantly favour the requested undertaking. The *Microsoft* case[98], however, widened two of these conditions: the eliminates all competition; and new product conditions. Since this paper does not address IPRs however, the focus will be on the first condition.

In the case of *Microsoft*, the company was fined by the Commission for two types of abusive behaviour, one of which was in refusing to licence interoperability information to its competitor Sun. Sun was a competitor on the derivative market for so called work group server operating systems, and wanted access to Microsoft's interoperability information in order to communicate with Microsoft's client operating system Windows, which Microsoft refused. Microsoft appealed the Commission's decision to the GC, and it was upheld in this instance. Microsoft never appealed the case to the ECJ.

[95] Case C-418/01, IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG, ECLI:EU: C:2004:257.
[96] *IMS Health*, §§ 42-43.
[97] *IMS Health*, § 45.
[98] Case T-201/04 Microsoft Corp. v Commission of the European Communities, ECLI:EU:T:2007:289.

As was mentioned above, the *Microsoft* case is significant because, among other things, it is more lenient with the condition of eliminating all competition. In its judgment, the GC rephrases the condition to say that the condition is met when, "the refusal at issue is liable to, or is likely to, eliminate all effective competition on the market"[99]. Through this change, competition would be considered eliminated not when there are no other actors on the relevant market, but when there are none that put any real competitive pressure on the dominant incumbent.[100]

This change could potentially be significant in future applications of the EFD, and as such it is important to try and discern what effect it has on the state of the law. Had the change been made in a judgment by the ECJ it would hold clear precedent and it could without much question be established that the assessment according to the EFD had been made more lenient. In this case, however, the judgment was made by the GC, and therefor does not hold as much legal authority. Therefore, before deciding whether to incorporate this change, the reason behind it must be considered, to distinguish when and how this new condition may be used appropriately.

There have been a number of theories established in legal writings regarding the GC's change of assessment. Hou claims that the softening of the condition was a means for the GC to explain why Microsoft's conduct was abusive according to the EFD while there still remained several competitors on the relevant market. He argues that the relevant market was inaccurately defined and thus included market actors that were not in fact active on the relevant market Sun was operating on in this case.[101] Aware that Microsoft's conduct was in fact abusive, the GC had to adjust the condition of eliminating competition in order to be able to apply the EFD despite there being other market actors present.[102] If this were the case, the change would hold very little legal relevance for future application since it was only done to correct an error made by the Commission.

Larouche suggests that the change may be linked to the super-dominant nature of Microsoft specifically, allowing for a more lenient assessment if the requested

[99] *Microsoft*, § 563
[100] Vesterdorf, "Article 82 EC: Where do we stand after the *Microsoft* judgment?", *ICC Annual Competition Law and Policy Lecture,* 2008, p 8.
[101] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 17.
[102] Ibid.

undertaking is powerful enough.[103] This could be supported by the Commission's statement that the case is of an exceptional nature.[104] It would mean the broader condition could only be used when dealing with other super-dominant undertakings, and otherwise the narrower condition should be applied.

Ahlborn and Evans, finally, suggest that the change to the condition was in fact an indication of a desired shift of the assessment, bringing it more in line with other more modernised areas of EU competition policy.[105] Were this the case, it would grant more credibility to the change as a permanent one.

Nothing official has been said outright about how the *Microsoft* case should be dealt with going forward. There has been no statement confirming or denying whether the change was in fact due to an error in market definition or indicates a permanent shift, and as such nothing firm can be said about how to handle the case. However, in a communication from the Commission regarding the application of Article 102 TFEU published after the *Microsoft* judgment, the Commission did in fact phrase the relevant condition as "elimination of effective competition".[106] This is significant, and seems to entirely discount the notion that the change was made due to an error by the Commission.

However, the Commission did note that the *Microsoft* case was exceptional, and while it was not explained what particular aspect of the case this referred to it has been assumed by some that the Commission was referring to Microsoft's exceptional market power. The concept of super-dominance is, however, not properly established within competition law. Article 102 TFEU does not mention any varying degrees of dominance or corresponding levels of responsibility. It has also not been clarified anywhere within the official writings of the EU why a company in a "super-dominant" position should have additional responsibilities compared to other dominant undertakings.[107] Considering the fact that the Commission never in fact specified what was extraordinary about *Microsoft*,

[103] Larouche, "The European Microsoft case at the crossroads of competition policy and innovation", *TILEC Discussion Paper*, no 2008.021, p 22.
[104] *Microsoft* (Case C-3/37.792) Commission Decision 2007/53/EC [2004] OJ L/32/23, § 19.
[105] Ahlborn & Evans, "The *Microsoft* Judgment and its Implications for Competition Policy Toward Dominant Firms in Europe", *Antitrust Law Journal*, vol 75, no 3, 2009, p 909.
[106] Communication from the Commission, § 85.
[107] O'Donoghue & Padilla, *The Law and Economics of Article 102 TFEU*, p 207.

it would be inappropriate to adopt an interpretation of a concept as ambiguous as that of super-dominance.

Thus, since the Commission chose the more lenient phrasing in its guideline it would be wrong to ignore such a change, but due to the lingering ambiguity regarding the exceptional nature of the *Microsoft* decision the phrasing cannot be categorically adopted. Since no application of the EFD conditions will have to be made on a specific scenario in this paper, it is not necessary to choose either wording when considering the applicability on Big Data. Going forward in this paper, the discussions regarding this condition will be applicable to both versions of the condition. While this is not the ideal solution in terms of consistency, the uncertainty of the state of the law in this matter compels me to err on the side of caution.

## 3.2 Market definition

The first condition for the EFD requires the incumbent to be in a dominant position. In order to make such a determination, a market definition is required. According to the Commission, a market definition is a tool used to identify and define the boundaries of competition between undertakings.[108] Traditionally, a market definition consists of two parts; defining a relevant market and assessing market power.[109]

A relevant market consists of a relevant product market and a relevant geographical market, which combined creates the limits within which market power is assessed[110]. Market power is what directly determines whether an undertaking is in a dominant position within the relevant market, since economic theory holds that market power is necessary for an undertaking to affect competition negatively.[111] For any action by an undertaking to be considered abusive according to Article 102 TFEU, it is necessary for the undertaking to be in a dominant position on the relevant market.

[108] Commission Notice on the definition of relevant market for the purposes of Community competition law, C 372/5, dated 0.12.97, § 2.
[109] Ibid., § 4.
[110] Ibid., § 9.
[111] Bishop & Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, 3rd ed., Thomson Reuters Limited, 2010, p 6.

It is crucial to first establish the relevant market, as an undertaking's market power is to be assessed based on their position within that particular relevant market. An undertaking that is smaller by most measures can be considered big within a specific relevant market.[112]

### *3.2.1 Relevant market*

The basic principles of defining a relevant market consist of demand and supply substitution.[113] Demand substitution examines the market from the consumer's perspective and is thought to have the greatest significance.[114] This assessment determines the range of products that are substitutable according to the consumer, using the small but significant non-transitory increase in price test (SSNIP test).[115] Supply substitution instead examines the market from the supplier's perspective. According to the Commission's Notice, supply substitution exists when suppliers are able to switch production to other products on the short term without suffering "significant additional costs or risks in response to small and permanent changes in relative prices".[116]

A market definition within the EFD requires the definition of two separate relevant markets because the application of the doctrine requires two separate products or services (though for the purpose of simplicity, only the term product will be used when describing these): the primary product, which is also the requested product, and the derivative product for which the requested product is essential as an input.[117] Applying the doctrine, and thus imposing a duty to share, to a situation where both the undertaking possessing the primary product (requested undertaking) and the undertaking wishing to gain access to the primary product (requesting undertaking) are active on one and the same market would mean forcing the requested undertaking to aid its rivals. In identifying a derivative market as well, the outcome of the EFD instead

[112] Doherty & Verghese, "Competition Policy in a Globalized, Digitalized Economy", p 9.
[113] Commission Notice, § 13.
[114] Bailey & Whish, *Competition Law,* p 32.
[115] Ibid., p 30.
[116] Commission Notice, § 20.
[117] *Commercial Solvents*, § 25.

becomes preventing the dominant requested undertaking from reserving this derivative market for themselves.[118]

When attempting to define the relevant primary market there are two potential methods, depending on how the primary product has been treated on the market. If the primary product has already been made available on the market on its own, traditional methods focused on past transactions, such as the SSNIP test, may be used.

If, however, the primary product has only been sold as a bundle with the requested undertaking's final product, it is necessary to first determine whether this primary product may be unbundled from the final product to possess its own relevant market.[119] Since the primary product has never existed independently from the final product, there does not exist any transactional data for the primary product. The SSNIP test and other methods used to define the relevant market that rely on such data cannot be used. Still, it may be possible to define the relevant market according to the denied request.[120] The problem rather lies in how to unbundle the primary product.

The question was briefly addressed by the ECJ in *IMS Health*, where they stated that ''it is determinative that two different stages of production may be identified,''[121] and ''there is an actual demand for them on the part of undertakings which seek to carry on the business for which they are indispensable''[122]. The issue has also been handled by the Commission, both in *FAG*[123] and *Ricoh*[124]. What seems to be crucial when determining whether a primary product may be unbundled is the existing unbundling experience.[125] If there is already a practice on the market to unbundle the primary product, it would be possible to unbundle it for the purpose of a relevant market analysis within the EFD. According to Hou, this strikes an appropriate balance between the requested

[118] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 17.
[119] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 3.
[120] Ibid.
[121] *IMS Health*, § 45.
[122] Ibid., § 44.
[123] *FAG* (Case L.072) Commission Decision 1998/190/EC [1998] OJ L/72.
[124] *Ricoh* (Case M.5334) Commission Decision 2004/139/EC [2003] OJ L/56.
[125] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 5.

undertaking's ownership of the primary product and encouraging competition from the requesting undertaking.[126]

For the derivative market, it was established in *IMS Health* that it was only necessary to define a potential or hypothetical market.[127] Thus, it is sufficient to show two interconnected markets (like those for aminobutanol and ethambutol in *Commercial Solvents*) rather than proving that the primary product has been used as an input for the derivative market.[128] The Commission has clarified that such a potential or hypothetical market exists when there is actual demand for the primary product by undertakings wishing to use the product on the derivative market.[129] Presumably then, a derivative market is always present whenever a request for access to the primary product has been made for the purpose of creating a different product, since an undertaking would not request access without identifying a demand for the product.

### *3.2.2 Market power*

The need to determine market power in order for the EFD to be applicable is also dependent on which market is at hand. For the primary market it is necessary for the requested undertaking to have a dominant position on the primary market. The need for a dominant position can be found in Article 102 TFEU, of which the EFD is a part, and it has also been reiterated in the relevant case law from the ECJ.[130]

The conditions for when an undertaking is to be considered dominant was originally presented in *United Brands*, where the ECJ stated that a dominant position "relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of its consumers."[131] Whether an undertaking fulfils the above conditions established by the ECJ is based partly on market shares, where an incumbent holding a

[126] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 5.
[127] *IMS Health*, § 44.
[128] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 17.
[129] DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses, 2005, p 65.
[130][130] See, *inter alia*, *IMS Health* § 49 & *Bronner* § 23.
[131] Case 27/76 United Brands Co and United Brands Continental BC v. Commission of the European Communities, ECLI:EU:C:1978:22, § 65.

market share exceeding 50% is presumed to be dominant[132], and a combination of several factors such as barriers to entry, countervailing buying power and product differentiation.[133]

It is not necessary to show dominance for the requested undertaking on the derivative market. Since the EFD concerns market leverage and is exercised on the primary market to keep the dominant undertaking from reserving the derivative market for themselves, it is sufficient to show that the undertaking is present on the derivative market.[134] This was confirmed in *TetraPak II*[135].

## 3.3 Indispensability

The indispensability test was established in *Commercial Solvents* and further developed in *Bronner*. In the latter, the ECJ clarified that the primary product is indispensable if there are "technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult"[136] for the requesting undertaking to establish on the derivative market.

From the *Bronner* judgment, legal writers have inferred an indispensability test consisting of two elements: objective necessity and lack of an economically viable substitute.

The need for objectivity can be found later in the *Bronner* judgment, where the ECJ stated that "[F]or such access to be capable of being regarded as indispensable, it would be necessary at the very least to establish… that it is not economically viable to create a second home-delivery scheme for the distribution of daily newspapers with a circulation comparable to that of the daily newspaper distributed by the existing scheme."[137] Thus, the size and ability of the specific requesting undertaking is irrelevant, and it is rather an

[132] Case C-62/86 AKZO Chemie BV v Commission of the European Communities, ECLI:EU:C:1991:286, § 60.
[133] Bishop & Walker, *The Economics of EC Competition Law*, p 62.
[134] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 7.
[135] Case C-333/94 P, Tetra Pak International SA v. Commission, ECLI:EU:C:1996:436, § 30.
[136] *Bronner*, § 44.
[137] *Bronner*, § 46.

objective analysis of whether a hypothetical undertaking of a similar size to the requested undertaking that should be used to determine whether the primary product is necessary.[138]

The ECJ's judgment has been interpreted as implying that the EFD is not aimed at allowing smaller undertakings to "free-ride" on dominant ones. [139] It is a crucial aspect of competition law that inefficient undertakings are replaced or simply unable to enter the market, and these effects should not be deterred through competition law remedies. [140] The EFD is rather a tool to ensure the survival of the derivative market when there are no appropriate substitutes, not to ensure the survival of inefficient undertakings.

The second element, regarding economically viable substitutes is said to consist of two prongs: a substitutability prong and a replicability prong.[141] If the primary product can be neither substituted nor replicated and the non-disclosure of it thus blocks an undertaking from the derivative market, the primary product is indispensable.

The substitutability prong deals with options.[142] Is there a viable option to use an alternate product to the primary product in order to enter the same derivative market? If so, the primary product is not indispensable. Similarly, the replicability prong concerns, as the name suggests, copying the primary product. As was the case in *Bronner*, the ECJ determined that *Bronner* could replicate the home-delivery scheme used by Mediaprint, and thus the scheme was not considered indispensable. It was established in *Bronner*, as is referenced above, that substitutability and replicability can be obstructed by both legal, technical or economic obstacles. A legal obstacle can, for example, refer to an IPR, like in *Magill*, and a technical obstacle refers to physical constraints such as the one in *Commercial Solvents*, where presumably the laws of chemistry impeded the possibility of substitutability. Pertaining to economic obstacles, this generally means that replicating or finding a substitute for the primary product would cost more than it would generate in revenue, as was suggested but ultimately rejected by the ECJ in *Bronner*.[143]

[138] Temple Lang, "The Principle of Essential Facilities in European Community Law", p 381.
[139] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 9.
[140] Doherty & Verghese, "Competition Policy in a Globalized, Digitalized Economy", p 6.
[141] Bruc, "Data as an essential facility in European law", p 196
[142] Ibid., p 200.
[143] Competition Discussion Paper, p 65.

The element of objectivity ties into either of these prongs. The ability to replicate the primary product or acquire a substitute for it is determined based on the ability of a hypothetical objective undertaking.[144] The assessment for replicability by the Commission is normally also based on whether a competitor could effectively duplicate the primary product in the foreseeable future, and often in similar quality or quantity.[145]

## 3.4 Eliminates all (effective) competition

As has been established, the purpose of the EFD is to keep dominant undertakings in the primary market from reserving the derivative market for themselves. The condition at hand has thus been established by the ECJ as part of the EFD analysis, but despite this many do not consider it necessary as an independent condition. The judgment in *Magill* is said to link this condition with that of indispensability through the phrasing that the requested undertakings "reserved to themselves the secondary market of television guides by excluding all competition on a relevant market… since they denied access to the basic information which is the raw material indispensable to the compilation of such a guide."[146]

The "since" in the phrasing would suggest that the fact that the primary product was indispensable was the cause for competition being eliminated.[147] The notion that eliminating all competition is an inevitable consequence of indispensability and that it does not require independent analysis has been supported by various legal writers, and Hou suggests that European courts in fact do not exercise independent analysis of this condition.[148]

When looking at the structure of the EFD assessment however, it does not suggest that the eliminates competition condition is dependent on the indispensability condition, but rather that they are dependent on each other. It is true enough that if a facility is indispensable, inaccessibility to the facility will lead to inaccessibility to the market, as

[144] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 9.
[145] Bruc, "Data as an essential facility in European law", p 202.
[146] *Magill*, § 56
[147] Le, "What does "capable of eliminating all competition" mean?", *European Competition Law Review*, vol 26, no 1, 2005, p 2.
[148] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 10.

Le has pointed out. This relationship must however be said to go both ways. In the *Microsoft* judgment, the court distinguished a competitor's ability to "remain viably on the market" as a necessary tool for assessing indispensability.[149] Therefore it appears that when making an assessment according to the EFD, these two conditions should be analysed in tandem.

## 3.5 Justification

The final condition of the EFD is that refusing access cannot be objectively justified. While a part of the doctrine, this final condition is rarely actualized. The principle rule within competition law is that undertakings are not obliged to share their products or services with rivals, from which the EFD is a rare exception, making the justification condition of the EFD an exception from the exception.[150] Since the requested undertaking's interests have already been considered in the previous analysis, it is uncommon that they will have an appropriate justification.[151]

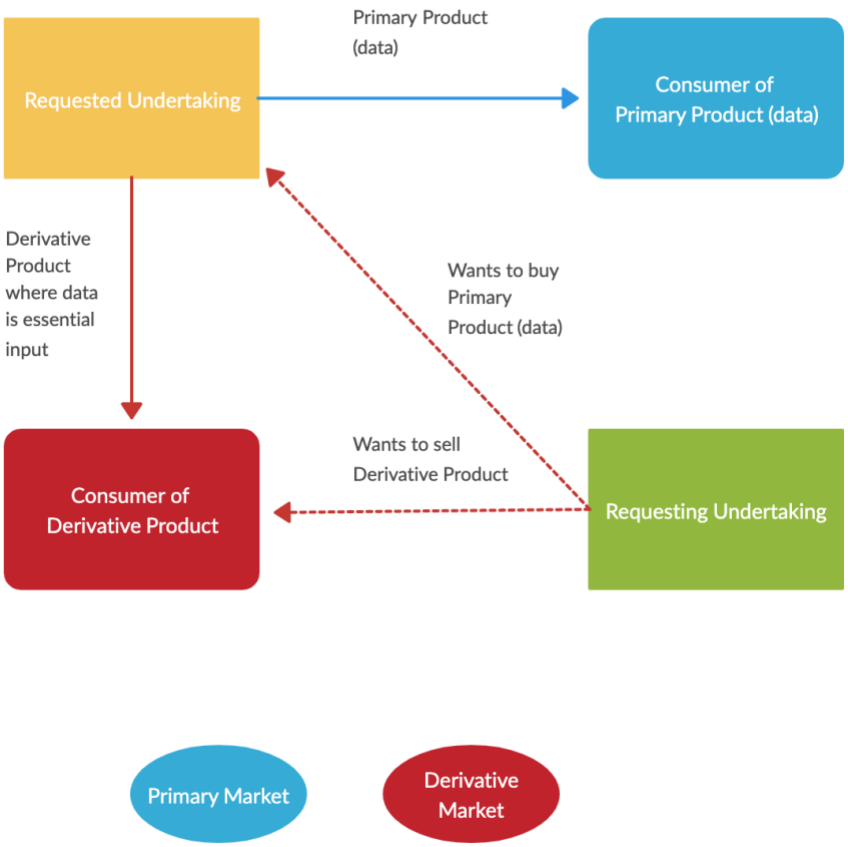
While rare, there are certain circumstances that constitute a valid justification. The Commission has specifically emphasised efficiencies as potentially constituting such a justification.[152] An examples of this could, according to the Commission, be that that the requested undertaking wants to ensure adequate return on its investment in the primary product before giving others access.[153] The requesting undertaking being unable to provide appropriate commercial assurances that they will be able to fulfil its obligations to the requested undertaking could also be seen as an acceptable justification.[154] What is never considered an objective justification, however, is the self-interest of the requested undertaking in wanting to avoid competition on the derivative market.[155]

[149] *Microsoft*, § 369.
[150] Hou, "The Essential Facilities Doctrine – What Was Wrong in Microsoft?", p 12.
[151] Ibid.
[152] Commission Guidelines § 89.
[153] Competition Discussion Paper, p 66.
[154] Ibid.
[155] Temple Lang, "The Principle of Essential Facilities in European Community Law" p 375.

# 4 Essential Facilities and Big Data

## 4.1 Market definition

As has been presented previously, an analysis according to the EFD requires a specific market structure as well as dominance. When applied to Big Data, a hypothetical market structure would first have to have a primary market on which the requested undertaking is dominant and the primary product is Big Data, meaning Big Data is sold to consumers by the requested undertaking. Second, it would need a derivative market onto which the requesting undertaking wants to enter and Big Data as the primary product is an essential input into a derivative product. Thus, for the EFD to be applicable Big Data must have two functions: one where it is sold or licenced as its own product, and one where it is used to make another product which could be sold or licenced.



Since this paper only addresses a hypothetical situation where EFD should be applied to Big Data, certain aspects of this particular market structure will not be addressed in detail. Deciding whether the requested undertaking is present on the derivative market is one such question in which Big Data poses no particular issue. This paper assumes that for attention platforms the primary market would be that of advertisment sales and the derivative market would be the user platform. That a requested undertaking such as Facebook or Google are present on either market requires no thorough analysis for the purposes of this paper. Focus will also not be put on determining the potential derivative product, since this would vary depending on the specific attention platforms at hand.

There are, however, several aspects of the EFD analysis where Big Data does pose an issue. These will be examined below, but whether or not any one condition is applicable will not affect the treatment of the remaining conditions. All conditions will be discussed in relation to Big Data, and any crucial conflicts and their consequences for the potential applicability of the doctrine will be addressed at the end of section 4.

### *4.1.1 Relevant market*

As has been established, both supply and demand substitution can traditionally be used to determine a relevant market. When doing so for Big Data, however, neither method is ideal. The two markets attention platforms are present on in which Big Data holds relevance is that of offering a service to a user and that of selling targeted advertisment space to advertisers. On these platforms, it is uncommon that Big Data is ever truly traded; the platform does not collect data from users as part of a traditional transaction, and it uses Big Data as an input for targeted advertisements purchased by advertisers. Due to this, Graef has held that traditional competition law standards cannot be used to define a relevant market.[156] There is particular difficulty with the user side of attention platforms, since the SSNIP test relies on pricing.[157]

Despite this, legal scholars have discussed non-traditional alternatives for defining a relevant market. One such alternative suggested by the OECD is to use a small but significant non transitory decrease in quality test (SSNDQ test). Instead of focusing on

[156] Graef, "Stretching EU competition law tools for search engines and social networks", p 492.
[157] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 15.

the effects of price, this test would measure the effect of quality. While this test is used successfully in certain sectors where quality is easily quantifiable, the OECD does admit that it might not be appropriate for industries where such measures of properly measuring quality have yet to be developed.[158]

However, others have suggested a similar approach, though not focusing solely on quality but on other non-price parameters such as innovation as well.[159] This may create a more balanced view compared to looking only at quality. Graef also suggests the use of a potential market for data, in which platforms use data to compete by improving the quality and relevance of their service.[160] Former US Federal Trade Commissioner Pamela Jones Harbour suggested a similar idea of a "putative" relevant market in her dissenting statement regarding the decision of the Federal Trade Commission to allow the Google/DoubleClick merger in 2007.[161] She argued that a putative relevant market where data holds independent value, separate from the end services it is used for, would more closely reflect the actual market where companies derive value from data far beyond their initial intended use.[162] While this statement was based on American competition law and derived from a discussion of merger control, it still supports the idea that zero-price markets may (and possibly should) be defined using non-traditional means.

Finally, Bruc has suggested what he calls a holistic inter-dynamic analysis test in order to determine a relevant market for both sides of a two-sided market, which incorporates several of the above suggestions. On the supply side (which for the analysis at hand would mean the user side of an attention platform) a SSNDQ test would be used. According to Bruc, this would account for the particularities of such platforms and avoid pigeonholing platforms according to certain characteristics, which in fact are constantly evolving.[163] On the demand side, Bruc argues that a SSNIP test can in fact be used for the platform/advertiser transactions. At the intersection of these two models, Bruc suggests, it is possible to analyse the data from interactions with customers and thus appreciate the

[158] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 15.
[159] Bruc, "Data as an essential facility in European law", p 188.
[160] Graef, "Stretching EU competition law tools for search engines and social networks, p 492.
[161] Google/DoubleClick F.T.C. File No. 071-0170, Dissenting Statement of Commissioner Pamela Jones Harbour, p 9.
[162] Graef, "Stretching EU competition law tools for search engines and social networks, p 492.
[163] Bruc, "Data as an essential facility in European law", 191.

extent to which the platform may act independently without "significantly incurring a switch of customers from both sides"[164].

Though there is little precedent to base it on, there do appear to be options for how to properly determine a relevant market when dealing with Big Data and attention platforms in particular.

### *4.1.2 Market power*

The zero-price aspect of attention platforms also obstructs the traditional method of assessing market power by looking at market shares. Market shares are calculated based on revenue and can therefore not easily be used for the user side of attention platforms. Since market shares are only one part of defining market power, however, Big Data poses less of an issue compared to trying to define a relevant market, and many scholars have suggested alternative means.

Firstly, the OECD suggests a method similar to that of calculating market shares, but that dominance on zero-price markets is better measured by shares of control over data, rather than shares of sales.[165] They base this in large part on the NCAs' remark that Big Data may be a significant source of market power despite creating no revenue, particularly since it may be used by the incumbent as a barrier to entry.[166]

Secondly, Graef has similarly highlighted barriers to entry as a means of assessing market power. She suggests, however, that rather than using an altered version of market shares, barriers to entry and recent market entries can be analysed in order to determine whether the incumbent is able to behave independently from its competitors and customers.[167]

Thirdly, Graef has also suggested a second way of calculating market shares where one looks at share of total turnover within the relevant market.[168] This is particularly useful for incumbents reliant on Big Data since it takes into consideration not only the

[164] Bruc, "Data as an essential facility in European law", p 191.
[165] OECD, "Big Data: Bringing Competition Policy to the Digital Era", p 17
[166] Authorité de la concurrence & Bundeskartellamt, "Competition Law and Data", p 11.
[167] Graef, "Stretching EU competition law tools for search engines and social networks", p 7.
[168] Graef, "Stretching EU competition law tools for search engines and social networks", p 502.

amount of data the incumbent has collected, but also how effectively it monetizes this data.[169]

### *4.1.3 Primary market structure*

The final issue with market definition is, in a similar vein to the definition of a relevant market, the significance of trade. It has already been established that for the EFD to be applicable, there must be a primary market and a derivative market. On the primary market, the primary product is sold, while on the derivative market it is an essential input in the derivative product.

The problem with most attention platforms in relation to this structure is that Big Data never constitutes the primary product. On the user side of the platform, data is used to improve the platform and gain users, and on the advertiser side it is used to enable targeted advertisements. While this structure clearly creates revenue for the platform, the data is never the primary product as it is never used in a B2B transaction ("business to business"). Comparatively, Twitter has in the past sold the data collected from users to advertisers, who then may use it themselves for targeted advertisements, thus establishing this B2B relation by making data the product being traded.[170] For Facebook and Google, who claim not to sell user data to any third party, the data used on either side of the platform may be positioned as the derivative product, but cannot make up the primary product within the traditional EFD market structure.[171]

Despite this, it is interesting to consider whether one may in fact construct a primary market without the direct B2B transaction of data that is required by the EFD. As has been discussed, the ECJ established in *IMS Health* that for the derivative market, it is necessary only to establish a potential market.[172] This was based on the opinion by AG Tizzano, who argued that a dominant undertaking may abuse its position on a derivative market despite not being active on it. If there is demand for a certain market, Tizzano

[169] Ibid.
[170] Ibid., p 478.
[171] Ibid.
[172] *IMS Health*, § 44.

reasoned that withholding such a market from establishing would be harmful to the consumer.[173]

When considering the primary market of attention platforms, Big Data is never sold directly. However, one could argue that there is an indirect demand for Big Data, since it is indispensable to the supply of targeted advertisements. It could theoretically be possible to construct a potential or hypothetical market for Big Data, were it to have been sold as part of a B2B structure. It would in a way be appropriate to treat Big Data in such a way, since it more accurately addresses the true significance of Big Data for the dominant positions of certain attention platforms. As Tizzano stated, inactivity on a particular market could still be harmful to the consumer, which is the exact situation current dominant attention platforms have established. They do not sell Big Data directly, but they do use it in a way that allows them to take advantage of consumers. There is actual demand for data, which is being denied through attention platforms' business strategies, and allowing for an analogy from the *IMS Health* ruling to establish a potential primary market would target the true core of these platforms' dominant positions.

While I consider this to be an appropriate measure in theory, the question of applicability poses an issue. For a derivative market, it is only required to establish a relevant market. For the primary market, on the other hand, it is necessary to establish both a relevant market and market power, which is further complicated when also attempting to establish a hypothetical market. Would it be necessary to determine a new relevant market based on such a hypothetical B2B relationship, upon which further analysis of market power will be based, or would it be more appropriate to base a relevant market analysis on the actual market, and merely establish that there is demand for Big Data and that Big Data is the underlying reason for a dominant position in order to show that a potential market may be established? The analogy is too ambiguous to be unproblematically applied to the primary market definition. I find it would require a declaration at least from the Commission that such an analogy may be drawn, for it to be deemed appropriate in such a case.

[173] Case C-418/01, IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG, Opinion of AG Tizzano, ECLI:EU:C:2003:537, § 58-59.

Thus, in the current state of the law a primary market may not be established. This is not an issue connected to Big Data specifically, but rather to the particular business strategy of many attention platforms. An attention platform could sell or licence their data to third parties, which would mean that this condition of the EFD would be applicable to Big Data. However, since the attention platforms that hold enough market power to ever be considered within the scope of the EFD (Facebook and Google for example) do not in fact trade their Big Data , and for the purposes of this paper, the issue of the primary market still becomes relevant when discussing Big Data and attention platforms.

## 4.2 Indispensability

As has been established in the previous section, indispensability is determined through objectivity and substitutability. While objectivity is largely unaffected by the particular characteristics of Big Data, it does inform the analysis of whether Big Data can ever not be substitutable since such an analysis must be based on an undertaking of similar size and means to that of prominent attention platforms but that have reached such size without data input.

The question of whether Big Data could ever not be substitutable relates to what has already been discussed in relation to Big Data and competition law in general, regarding the supposed non-rivalrous nature of Big Data. If data is available for any undertaking to collect, the sceptics propose, then it must be considered substitutable.[174] The flaws in the argument pertaining to rivalrous data has already been addressed when discussing the actual significance of data for competitive strength. Here, however, it will be discussed within the purview of the EFD and substitutability. As Colangelo and Maggiolino have pointed out, it is not enough for data to be inaccessible for the indispensability condition to be fulfilled.[175] The terms set forth in *Bronner* are applicable, and require Big Data to be technically, legally or economically impossible to substitute.[176]

[174] Davilla, "Is Big Data a Different Kind of Animal? The Treatment of Big Data Under the EU Competition Rules", *Journal of European Competition Law & Practice*, vol 8, no 6, 2017, p 380.
[175] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 20.
[176] Ibid.

As mentioned, substitutability contains two possibilities for entering the relevant market without access to the primary product at hand: substitutability[177] and replicability. For Big Data to be substitutable according to the first prong, there must exist alternate means to enter the market. The common suggestion is innovation, which has indeed been previously brought forward as an argument against Big Data as a competitive factor. Sokol and Comerford argue that Big Data cannot be indispensable, since "innovative challengers" are able to displace competitors with much larger data troves than themselves.[178] When previously discussing this argument, the idea that dominant undertakings such as Facebook or Google could be displaced by innovative start-ups was said to be unlikely in the current market climate for two reasons.

First, the examples used to back the argument are from several years ago and the business strategies today are much more data heavy, making it increasingly harder to accomplish a product or service that is innovative enough to compete with business models benefitting from Big Data. Second, even if such an innovative start-up existed, it is likely to fall victim to killer acquisitions, making the argument moot.

The first argument can be assessed in the same way here as when discussing Big Data and competition, but the second requires further consideration, pursuant to the objectivity criterion. The possibility of achieving innovation that may displace the large incumbents present on the market today is unlikely to be affected by the size of a comparable undertaking. The obstacle does not lie with the size of other undertakings, but rather with any undertaking being able to achieve a product or service that could displace a Big Data attention platform. Thus, this argument still holds when applied to indispensability.

The argument regarding killer acquisitions, however, is not as easily applied. The idea of killer acquisitions pertains specifically to start-ups, which are likely to have low funds and thus are more willing to sell off their innovative product to an incumbent. In the case of indispensability, an objectively comparable undertaking will have significant power (though on a different market) and will likely be less in need of funds and thus less inclined to allow themselves to be bought up by an incumbent. Thus, this argument is less likely to be applicable when assessing indispensability.

[177] The term "substitutability" refers both to the overarching term and the individual prong.
[178] Comerford & Sokol, "Big Data as Misleading Facility", p 5.

However, considering the outdated grounds for the argument that disruptive innovation is an option for entering the market for user platforms, there still appears to be room for Big Data to not be substitutable. If disruptive innovation is no longer possible, it may in fact be technically impossible to substitute Big Data.

For Big Data to be replicable potential competitors have to be able to both acquire data of corresponding volume and variety and process it to achieve a corresponding velocity and value (see the 4 V's). Colangelo and Maggiolino have suggested that even if the required data is not put up for sale – a likely scenario given the competitive significance of Big Data – a potential competitor can instead vertically integrate onto the primary market and collect the data by themselves, making data replicable.[179] When addressed by the legal writers that will shortly be discussed, the user side of attention platforms is positioned as the primary market. This paper has rather chosen to place advertisement sales as the primary market, as it more accurately fits into the EFD market structure. If one were to draw a very harsh line in the sand, it may make sense not to consider the argument of vertically integrating for this reason. However, the discussion of vertical integration as it relates to Big Data is still an interesting one, and one which may still lend some comprehension to the behaviour of Big Data markets. Because as it stands, the argument, which in fairness focuses on data in general, does not hold up when examining the particular qualities of Big Data, but also falls short when looking at what types of data may be collected.

To properly dissect the argument made by Colangelo and Maggiolino, the first aspect to consider is an undertaking's ability to actually enter the primary market. As was previously mentioned, many consider Big Data to have high barriers to entry. Big Data requires large amounts of infrastructure, both in order to collect and store data, but also to analyse and make use of the data collected. This in turn will likely require large investments in R&D in order to have a chance at matching the dominant undertaking.[180] While perhaps a deterring factor for an undertaking considering integrating onto the market, high start-up costs is unlikely to be a significant enough economic obstacle for an objectively comparable undertaking.

[179] Colangelo & Maggiolino, "Big Data as Misleading Facility", p 9.
[180] Authorité de la concurrence & Bundeskartellamt, "Competition Law and Data", p 38.

Bruc has also identified a lack of data portability and interoperability as a cause for high entry barriers when it comes to Big Data.[181] Such a deficiency leads to switching costs on top of the investments already made to create the product. This argument once again does not hold up for an objectively comparable undertaking, as they would likely be able to afford such an investment. Additionally, it does not account for the new requirements regarding data portability that came into force through the General Data Protection Regulation (GDPR). Article 20 GDPR ensures a right to data portability, meaning consumers can freely move their personal information from an incumbent on the market to a potential competitor looking to enter the market. However, this new regulation does not fully allow for replicability.

First, relying on data portability would create a catch 22 situation. O'Donoghue and Padilla have offered up an example which, while not relating specifically to attention platforms, demonstrates the issue at hand. Within the context of game consoles and corresponding games, they stated the following:

> No game platform can sell consoles without games to play on. But no game platform will ever convince game developers to write for its console without the prospect of an installed base of consumers.[182]

A similar situation is at hand when market entry is reliant on data portability. The potential competitor cannot create a competitive product until it receives data input, and it can only receive this input if consumers choose to move their data to the potential competitor. It is highly unlikely, however, that a consumer would choose a product before it is good. Thus, the potential competitor will never receive the input it requires to make its product good, since it will only receive the input if the product is already good, and thus will struggle to ever enter the market.

Second, and more importantly however, Article 20 GDPR only reserves the right to data portability for 'provided personal data'. When it comes to Big Data, data collecting comes in different forms. The OECD divides these into three categories.[183] There is "volunteered" data, which is data that has willingly been given to a platform by a

[181] Bruc, "Data as an essential facility in European law", p 197.
[182] O'Donoghue & Padilla, *The Law and Economics of Article 102 TFEU,* p 158.
[183] OECD, "Exploring the Economics of Personal Data: A Survey of Methodologies of Measuring Monetary Value", *OECD Digital Economy Papers*, no 220, p 10.

consumer. There is "observed" data, which is collected as consumers use the platform. Finally, there is "inferred" data, which is generated through analysing personal data gathered through the two previous means of data collecting.

While the exact definition of the term "provided personal data" according to GDPR is still unclear, scholars seem to agree that it only affects data that the data subject has inserted into the service, thus corresponding to volunteered data according to the OECD.[184] Since data portability is thus likely only to apply to volunteered data, and not observed or inferred data, which is arguably the most valuable for an attention platform, it does not bring with it enough possibility for replicability for the indispensability criterion to be rejected.

While this further diminishes the significance of data portability in relation to replicability, the concept of different types of data also further puts into question the possibility of successfully vertically integrating into the primary market in order to replicate Big Data. Data given by users is much less valuable within the attention platform business structure than data derived from user behaviour on the platform. Vertically integrating may allow the potential competitor to replicate volunteered data easily – particularly if consumers on the relevant market are prone to multihoming and thus volunteer their personal data to several platforms. Observed and inferred data, however, cannot as easily be gathered and put to use.

Since inaccessibility does not equal indispensability, the fact that gathering such data may be difficult for a new market entrant does not necessarily discount the ability to replicate Big Data within the limits of the EFD. However, it was highlighted in *Google Search (Shopping)* that the two-sided structure of attention platforms creates an additional barrier to entry since it allows for the originally collected data to grow at such a fast pace.[185] While any potential competitor may utilize this structure to their advantage, it may be difficult to "catch up" with an incumbent such as Google who has had time to acquire such vast amounts of data and continue to do so even as new undertakings seek to enter the market.

[184] Graef, Valcke & Verschakelen, "Putting the right to data portability into a competition law perspective", *The Journal of the Higher School of Economics*, 2013, p 4.
[185] *Google Search (Shopping)*, § 293.

Therefore, while it may be possible to enter the market despite high barriers to entry, it is unlikely that an objective hypothetical undertaking would be able to replicate Big Data, particularly in producing equivalent amounts. There is, therefore, a technical boundary in gathering sufficient amounts of useful data as well as a potential economic boundary caused by high barriers to entry, though this one is less likely to be applicable.

As a final note on the question of indispensability, it should be clarified that the arguments above do not hold for any given Big Data driven undertaking. Depending on how big the undertaking is and what type of data their business requires, among other aspects, Big Data may be substitutable. This segment simply shows that the EFD is objectively possible to apply to Big Data as far as the indispensability condition is concerned.

## 4.3 Eliminates competition and justification

There is not much to discuss regarding the two final EFD conditions and Big Data. As has been discussed, there have been no independent assessment conditions for the "eliminates competition" criterion, but rather it goes hand in hand with the previous criterion of indispensability. It could be worth noting within the purview of Big Data, however, that the rewording of the criterion in the *Microsoft* case would likely become imperative when looking at for example Google or Facebook. Both in similar market positions to Microsoft in the GC case, they will likely also be directly affected by the change to "eliminates all effective competition". There are likely attention platforms that have managed to create a platform that technically exists on the same relevant market as Facebook or Google, but do not in fact apply any effective competitive pressure.

Further, there is nothing about the justification criterion that suggests its applicability would differ depending on what facility is at hand. What type of justification may be used could of course differ depending on the facility and various underlying factors, but there is nothing inherent about Big Data as a facility that would disallow the application of this particular criterion.

## 4.4 Conclusion

Big Data does appear to complicate certain aspects of the applicability of the EFD. The doctrine, along with all forms of regulation of abuse of a dominant position under Article 102 TFEU is based on an outdated view of the market where price is key. When attempting to define a relevant market or assess market dominance, Big Data is impeded by the current competition law structure within the EU.

Based on the above analysis, however, the biggest obstacle is in this case not in fact Big Data, but rather the specific business strategies of dominant attention platforms. It is the lack of a primary market that encumbers the application of the EFD, faltering under the rigid need for traditional supply and demand. While this may be an accurate application according to the conditions set forth by the ECJ, the strict demand for a particular market structure permits a loophole for dominant attention platforms to avoid having to share their Big Data.

Dominant incumbents are able to reserve the derivative market of the user side of an attention platform for themselves simply because Big Data is considered an input in relation to advertisement sales rather than a primary product. Even though Big Data is not technically being sold, it is at the heart of the trade between the platform and the advertiser and is in fact the true source of revenue for these platforms, and dominant incumbents are able to benefit from this loophole by avoiding the EFD, maintaining their dominant position, and carving out a near monopolised space within the derivative market.

Considering the ambiguity the EFD poses in relation to attention platforms, the question remains whether the competitive significance of Big Data necessitates a change in how the doctrine is applied, allowing for attention platforms monetizing Big Data without trading it to fall within its purview. Whether such a change would be desirable will make up the final discussion of this paper.

# 5 Discussion of the outcome

## 5.1 Competition aims

When deciding whether the EFD should be applicable to Big Data markets, one of the main questions arising is what type of competition is preferable. It has been established that in the current market climate, attention platforms reliant on Big Data generally rely on competition for the market. As a reminder, when a particular market or product has certain characteristics, these lead to rivals competing not for market shares, but for the entire market.

The OECD identify four different types of monopolies that may constitute competition for the market. Attention platforms fall under the fourth type: platform monopolies.[186] For this type of monopoly, powerful network effects – such as the feedback loops discussed previously in this paper – create a winner-takes-all dynamic where a company hoping to enter the market must displace the current dominant incumbent and take over the entire market.[187] The purpose of the EFD is to allow for plurality on the relevant derivative market by allowing multiple competitors access to it. Thus, the EFD promotes competition on the market, where several market actors compete within the same market.

When considering the applicability of the EFD, one must decide whether competition on or for the market is more appropriate. Since the aim of competition law is grounded in protecting consumers from harm, this should understandably be the focus of such a discussion. What actually benefits the consumer, and how a balance may be struck between different aims and approaches is particularly under scrutiny.

### *5.1.1 Innovation*

Innovation is a prominent objective for the EU as a whole, and has close ties with competition policies in particular.[188] When considering consumer benefits, prospering innovation allows for better products and services that may better satisfy consumer

[186] OECD, "Exploring the Economics of Personal Data", p 10.
[187] Ibid.
[188] Mooij & Rusu, "Innovation and EU Competition Law: In Need of a Narrative for Where the Money Is Put", *Legal Issues of Economic Integration*, vol 43, no 2, 2016, p 174.

needs.[189] It is arguable then that, in order to maximize consumer benefits, competition policies should seek to maximize innovation. The potential discussion of the possibility of too much innovation notwithstanding, maximizing innovation is complicated by the clash between competition for the market and competition on the market.

Within economic theory there are two main arguments regarding what effect competition has on innovation. The first can be ascribed to Schumpeter, who argued that acquiring monopoly power stimulates innovation as it leads to higher profits, which will motivate the dominant undertaking to innovate.[190] Such innovation is called drastic innovation.[191] This idea speaks for competition for the market as the preferable choice when seeking to maximize innovation.

The second argument was presented by Arrow. He was of the opposite view that innovation will thrive from "fierce" competition. Under such circumstances, he argued, innovation would be the only "feasible strategy to resist competitive pressure" and a dominant undertaking would be forced to innovate in order to maintain its market share.[192] This is called incremental innovation.[193] This would in turn hold competition on the market as the appropriate means of stimulating innovation.

While either approach may indeed benefit innovation, the question is which one should be used in relation to the application of the EFD.

In the *Microsoft* case, it has been argued that the Commission agreed with Arrow's view that market pluralism is the appropriate way. In its decision, the Commission made what is referred to by Leveque as an incentives balance test in order to determine whether allowing a non-disclosure of the essential facility would impede incentives to innovate.[194] They looked at incentives both for the competitors seeking access to the relevant market and for Microsoft, and found that non-disclosure would lead to impeded incentives for both parties.

[189] Galloway, "Driving Innovation: A Case for Targeted Competition Policy in Dynamic Markets", *World Competition*, vol 34, no 1, 2011, p 76.
[190] Mooij & Rusu, "Innovation and EU Competition Law", p 180.
[191] Calvano & Polo, "Market power, competition and innovation in digital markets", p 11.
[192] Mooij & Rusu, "Innovation and EU Competition Law", p 180.
[193] Calvano & Polo, "Market power, competition and innovation in digital markets", p 11.
[194] Lévêque, "Innovation, Leveraging and Essential Facilities: Interoperability Licensing in the EU Microsoft Case", *World Competition*, vol 28, no 1, 2005, p 78.

For the competitors, non-disclosure of the essential facility would make it pointless to innovate, since consumers would not be interested in the final product (in this case, it was argued that consumers would be unwilling to buy a work group server operating system if it was not compatible with Windows).[195] On the part of Microsoft, the Commission argued along the line of Arrow that non-disclosure would lead to an absence of competitive pressure and thus a decline in incentives to innovate.[196]

The Commission has suggested a similar view in its communication, stating that:

> "Rivalry between undertakings is an essential driver of economic efficiency, including dynamic efficiencies in the form of innovation. In its absence the dominant undertaking will lack adequate incentives to continue to create and pass on efficiency gains."[197]

There has been some criticism of the Commission apparently prioritizing incremental innovation over drastic. Lévêque questions the Commission's view that Microsoft's incentive to innovate would not decrease were it forced to disclose its product. He argues along the line of Schumpeter, that if a dominant company is no longer the only producer of a product, it will have less incentive to innovate since the company will not be able to reap the entire reward from the innovation.[198]

As has been discussed with regards to the possibility of Big Data being indispensable, competition for the market may also encourage innovation as new entrants seek to displace the current dominant undertaking. These entrants may be forced to establish new product behaviour or design in order to attract consumers away from the dominant incumbent.[199] Not only does this force potential entrants to innovate, but it potentially also encourages dominant incumbents to do the same in order to maintain their sole place on the market. Looking at Google, for example, they have something very close to a

[195] Lévêque, "Innovation, Leveraging and Essential Facilities", p 78.
[196] Ibid., p 79.
[197] Communication from the Commission, § 30.
[198] Lévêque, "Innovation, Leveraging and Essential Facilities", p 79.
[199] Geroski, "Competition in Markets and Competition for Markets", *Journal of Industry, Competition and Trade*, vol 3, 2003, s 162.

monopoly on the market of search engines, holding more than a 90% market share for search engines, and they still continue to innovate.[200]

Despite these arguments, there are certain aspects of Big Data markets in particular that would seem to point toward competition on the market being more beneficial to the consumer.

Firstly, the risk of innovation being blocked by a dominant incumbent is said to become higher when such an incumbent is at the "technological frontier" – which is the last advancement of technology.[201] Similarly to what was argued by the Commission in its *Microsoft* decision, undertakings at the technological frontier would both discourage innovation from new entrants who have no real hope to compete and thus no incentive to innovate, and relieve themselves of any competitive pressure to innovate.[202] In fact, contrary to Schumpeter's view that innovation benefits from a dominant incumbent being able to reserve the market for themselves, research has shown that dynamic markets (such as Big Data markets) are likely to experience more innovation when undertakings in the technical frontier are threatened by technologically advanced entrants.[203]

The above does not on its own necessarily suggest that competition on the market is necessary in order for technologically advanced entrants to be able to enter the market. In theory, it could be sufficient to have potential entrants competing for the market and thus intensifying innovation through competitive pressure. When considering the particularities of Big Data markets however, such a solution appears inadequate. Since dominant undertakings on these markets are prone to killer acquisitions, any technologically advanced entrants that could have imposed competitive pressure are unlikely to get the chance to do so.

It seems then, that strictly from an innovation perspective, it would be most beneficial for the consumer to favour competition on the market. Thus, it would be desirable to allow the application of the EFD to attention platforms.

[200] Berry, "2020 Search Market Share: 5 Hard Truths About Today's Market", WebFX, 1/1/2020, https://www.webfx.com/blog/seo/2019-search-market-share/, accessed 11/5/2020
[201] Montagnani, "Remedies to Exclusionary Innovation in the High-Tech Sector: Is there a Lesson from the Microsoft Saga?", *World Competition*, vol 30, no 4, 2007, p 631.
[202] Ibid.
[203] Galloway, "Driving Innovation", p 79.

### *5.1.2 Consumer protection*

There are other aspects of consumer harm that also do not favour the use of competition for the market. It has already been discussed briefly that in the current state of the law, dominant attention platforms are able to maintain near monopoly-sized market shares due to the barriers to entry created from the use of Big Data. While Big Data may offer such platforms great profits that, according to Schumpeter could be used for innovation to the benefit of the consumer, the dominant positions these attention platforms receive through Big Data may also be used to the detriment of the consumer.

The aim of Article 102 TFEU is to keep undertakings from abusing their dominant position and thus harm the consumer. If exclusivity is allowed, a dominant incumbent may use their position to charge higher prices or otherwise take advantage of the consumer.[204] While attention platforms are usually zero-price markets, it has already been established that the Commission also attributes aspects such as output, variety and quality to the term "price" when discussing increased prices.[205] Not allowing the application of the EFD onto attention platforms puts the consumer at risk of being taken advantage of by a dominant undertaking. As has already been mentioned previously, while consumers may or may not benefit from innovation derived from competition for the market, it is inappropriate to allow consumers to suffer while they wait for such an outcome.

Thus, it seems that when looking at consumer harm strictly within the purview of competition law, competition on the market is more beneficial for the consumer. From this perspective, it would be desirable to adjust the applicability of the EFD to include Big Data attention platforms. From a privacy perspective, however, such a change would be problematic.

## 5.2 Privacy

In the more traditional EFD cases, the disclosure of an essential facility is typically considered good for consumers, since the market opens up and they are thus offered more choice. Were the doctrine to be applicable to Big Data, however, disclosure would mean

[204] Galloway, "Driving Innovation", p 78.
[205] Mooij & Rusu, "Innovation and EU Competition Law", p 190.

the consumer's personal data gets shared to third party competitors without their consent. This would likely constitute a significant conflict with EU privacy policies.

Privacy protection has been a long-standing focus of the EU, and the right to protection of personal data is protected in Article 16 TFEU, Article 8 European Convention of Human Rights (ECHR) and Article 8 EU Charter of Fundamental Rights (CFR). With the implementation of the GDPR in 2018, specified principles of what such protection involves has been established. Article 5 GDPR provides, among other things, that personal data can only be collected for specific purposes and any further processing may not be incompatible with such a purpose. The lawfulness of data processing is regulated in Article 6, and it can be assumed that for attention platforms, consent is the applicable legal ground. However, such consent must be given for every specific purpose for which personal data is processed. These provisions are likely to cause a problem for attention platforms being required under the EFD to share their Big Data. The data is gathered for specific purposes relating to service development and advertisement sales, and not for the purpose of sharing it with competitors. Such a disclosure may therefore betray consumers' consent contrary to the provisions of GDPR.

Whether privacy protection is a concern that should be considered within competition law, however, is contentious. The NCAs are of the view that privacy may be relevant for competition consideration when it is liable to affect competition, and offers abuse by a dominant undertaking for which data is crucial as an example.[206] The ECJ, however, has stated that data protection concerns (at least flowing from a transaction) are not relevant for competition law.[207]

Despite this statement from the ECJ, there are still certain privacy issues that arise when applying the EFD to Big Data. First, as mentioned above, privacy is protected by measures outside of the GDPR. Article 16 TFEU and by extension Article 8 CFR in particular are relevant to the dealings of the Commission when making competition decisions. In Regulation 1/2003, which regulates the implementation of Article 101 and 102 TFEU, it is stated in Recital 37 that the Regulation should be interpreted and applied

[206] Authorité de la concurrence & Bundeskartellamt, "Competition Law and Data", p 23.
[207] Case C-238/05 Asnef-Equifax v AUSB, ECLI:EU:C:2006:734, § 63.

with respect to the rights and principles protected by the CFR.[208] Thus, when applying Article 102 TFEU, the Commission is required not to breach the right to privacy established in the Charter.

Second, there are pure competition concerns that may potentially arise from the EFD's conflict with privacy, and thus further allowing the Commission to account for privacy in its deliberations. Allowing for the possibility of attention platforms having a duty to share personal data with competitors risks damaging consumer trust. Trust is an important part of online platforms, as it stimulates consumers to dare to enter such markets.[209] Companies being forced to break this trust by violating consumer privacy may have a chilling effect on the market for attention platforms as consumers may be weary of using such services if it poses a risk of loss of control over personal data.

Consequentially, this outcome is likely to affect companies' willingness to enter the market in turn. The chilling effect of not being able to reap the entire reward of one's investments has already been discussed as it pertains to innovation. If a duty to share data with competitors will hamper consumers' willingness to stay on the market, however, this is likely to deter potential market actors from ever entering the market - the risk would be too great. So, while the EFD aims to allow more access to the market, the privacy aspect may mean it in fact has the opposite effect.

However, this argument assumes that consumers act rationally in relation to their own privacy. If something about the product is bad (its breach of user privacy), it would be rational for the consumer to switch to a better product. Historically, it has been suggested this is not the case. Barnes was the first to speak of the privacy paradox in 2006:

> Herein lies the privacy paradox. Adults are concerned about invasion of privacy, while teens freely give up personal information. This occurs because often teens are not aware of the public nature of the internet.[210]

[208] Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, Recital 37.
[209] Graef, Valcke & Verschakelen, "Putting the right to data portability into a competition law perspective", p 2.
[210] Barnes, "A privacy paradox: Social networking in the Unites States", *First Monday*, vol 11, no 9.

In the following years, many have agreed that consumers allow for much invasion of privacy on the internet, irrespective of whether they are adults or teenagers.[211] This paper will not fully engage with the discussions that may be had surrounding the privacy paradox, as this would require a paper all on its own. The purpose is merely to emphasise that it would be presumptuous to assume that privacy issues would have such a great impact on consumers, when little of consumer behaviour today suggests that such is the case. Platforms such as Facebook and Google already handle colossal amounts of consumer data, and it has so far had very little impact on whether or not people use their services. Consumers simply do not appear to care.

Additionally, even if consumers were rational in relation to their own privacy, they would not necessarily have any alternative services to switch to. The very point of attempting to apply the EFD to Big Data is that the attention platforms that have been mentioned in this paper have near monopoly power over their respective markets. If one wished to switch from Facebook to a similar service by a competitor, where would one turn? Thus, it is likely that this aspect of privacy related competition would not be as big an issue as it may appear from a theoretical standpoint.

On the part of incumbents already present on Big Data markets, the privacy aspect may constitute a loophole for these undertakings hoping to maximize their profits through their dominant position. As has been discussed above, there are situations, though rare, where an undertaking may be objectively justified in refusing to supply according to the final condition of the EFD. Bearing in mind the considerable impact a duty to share Big Data would have on user privacy, it is not unlikely that the justification condition may be triggered through such an application of the doctrine. It is of course a hypothetical scenario which has not been judged by the Commission or the ECJ, but despite the justification rarely being used, the significant potential impact both on privacy and the efficiency of Big Data markets suggests it may meet the criterion. Consequentially, this would render an adjustment of the application of the EFD onto Big Data attention

[211] See ie Dienlin, Reinecke & Trepte, "Risky Behaviors – How Online Experiences Influence Privacy Behaviors", *From the Gutenberg galaxy to the Google galaxy*, Jackob, Stark & Quiring (ed.), UVK, 2014, p 16.

platforms pointless, as abusive dominant incumbents would be “protected” by the justification.

It seems that the question of whether the EFD should be applicable to Big Data comes down to the choice between different consumer concerns. On the one hand, pluralism on the market would be beneficial for the consumer as it both seems to promote innovation and protect consumers from abuse. On the other hand, pluralism on the particular market of Big Data would jeopardize consumer privacy. As has been discussed, there is no way of knowing beforehand to what extent consumers would be driven from the market should their personal data be shared with third party rivals, and it is likely that the impact would be less than on a traditional market. Still, the Commission is required not to invade the right to privacy provided through the CFR, and given the EU’s aims regarding competition and privacy it seems unwise to allow for a policy that risks harming one if not both of those. Thus, the EFD should not be altered to allow for application to Big Data reliant attention platforms.

# 6 Conclusion

It has been made clear throughout this paper that Big Data holds considerable significance for competition. For attention platforms in particular, Big Data can create substantial barriers to entry through positive feedback loops. Incumbents that have been active on Big Data markets for years have been granted such a head start through their use of Big Data that even if potential competitors were able to break through the entry barriers, it would be very challenging (not to say impossible) to catch up with these incumbents.

The primary aim of this paper was to assess whether it would be possible to use the EFD on attention platforms reliant on Big Data in order to alleviate the market concentration that has been created by such platforms. The particular market structure that is required in order for the EFD to be applicable is, however, incompatible with the Big Data markets considered in this paper. Since attention platforms rarely use Big Data as an actual product on either side of the market, but rather as an input, a primary market for Big Data cannot be established. Thus, the issue with applying the EFD does not lie with Big Data as such, but rather with the chosen business models of attention platforms. Still, the effects on competition are the same.

The secondary aim was to consider whether it would be desirable to change the conditions of the EFD in order to allow for application to attention platforms. The discussion centred around different aspects of consumer harm, both in and outside the context of competition law. From a competition perspective it would be positive to use the EFD to make a switch from competition for the market to competition on the market and thus allowing for consumer choice and innovation. However, the considerable negative effects on privacy brought by such a change would be decidedly undesirable. Considering the lack of trust that may result from such an outcome and the consequent market effects it would have, along with the breach of privacy policy it would entail, the negatives of applying the EFD on Big Data outweigh the positives.

While it may be a bad idea to implement the EFD to Big Data, that does not change the fact that Big Data still poses a competition concern that should be dealt with. While the EFD may not be the appropriate route, it is my view that a route must indeed be chosen in order to prevent considerable consumer harm from large Big Data incumbents. There are a number of ways that may be more appropriate than the EFD at tackling the

competition issues of Big Data. Possibly it would be more appropriate to focus on merger control, so that the issue of market concentration due to Big Data is not allowed to grow through mergers similar to *Facebook/Whatsapp* and *Google/Doubleclick*. Potentially, could a system of concessions be implemented for Big Data (though at a glance the logistics of such a measure appear problematic)? Or perhaps there may be a solution involving the EFD where anonymisation of data may relieve some privacy concerns. I do not know what the appropriate solution is, only that one is required, sooner rather than later.

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