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## On the use and abuse of Big Data in competitive markets – Possible challenges for competition law

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### Abstract

Today many companies are collecting and extracting data from different sources to help them with their strategic decision-making. Big data is the basis of the data-driven economy, bringing significant competitive advantage and market power to companies who are able to harness and exploit its potential. The digital transformation of markets and economy challenges the existing structures of consumer protection, data protection, and competition law. Data is a commodity and a strategic asset. Traditionally, data issues are part of data protection law. However, given their possible effect on the competitive structure of the market, the use of big data and its underlying technology requires the involvement of competition regulators as well. A huge amount of data can reveal information about consumers' behaviour and preferences, and companies are keen on harvesting and monetising this data. This is quite evident in the multi-sided platforms where on the one side of the platform there is monetary payment, and on the other side the users are paying with their data. The use of algorithms may lead to a dominant position and possible abuses, as critical mass of data collected can lead to competitive advantage. The paper will examine the possible application of Article 102 TFEU on the disputes over access to data. It will scrutinize some examples of anticompetitive practices through accumulation of big data. The idea is to try to bridge the gap between competition and data protection law.

**Keywords:** big data, EU competition law, digital economy, dominant position

**JEL Classification:** K210

### 1. Introduction

We are confronted with the era of big data that transforms our traditional way of thinking. Undertakings may gain a competitive advantage with the collection of huge amount of data. Personal data becomes a key input in the digital economy. Undertakings gain valuable information that enable them to understand users'

behaviour and preferences and to adapt their future business strategy. This may lead to practices that pose competition, consumer, and privacy considerations (Stucke, Grunes, 2016, p. 1). The phenomenon of big data is not necessarily negative. It all depends on understanding and using it. In the Digital Single Market Strategy, the European Commission points out that

A Digital Single Market is one in which the free movement of goods, persons, services and capital is ensured and where individuals and businesses can seamlessly access and exercise online activities under conditions of fair competition, and a high level of consumer and personal data protection, irrespective of their nationality or place of residence. (A Digital Single Market Strategy for Europe, 2015, p. 2).

Big data converts into the key element for catching the benefits of the data economy. Harvesting data does not need to be perceived negatively. The objective is to understand the way how can everyone, from companies to consumers, gain from it. The competition authorities are paying much attention to companies that rely on data in their business performance. When it comes to online platforms, usually one side of the platform is monetized and the other side is offered without payment (Pošćić, 2019, p. 252). Today, undertakings compete not only over goods and services, but also over data. The boundaries between competition, data protection, and consumer protection law have been blurred.

The process of digitalisation has brought tremendous benefits for the evolution of business by opening the door to vast opportunities in flourishing new products and services. These developments invoke possible competition concerns. Fast market expansion and possible changes have to be addressed. It has to be accentuated that new technologies and innovations must not be perceived negatively. Indeed, the synergy and the balance in the protection of privacy considerations and market development could guarantee the stable development.

With the emergence of new markets, the competition enforcers are confronted with challenges. The main idea is to protect the existing rules without suppressing innovation. New innovative products bring benefit to every aspect of society and contribute to consumer welfare but, on the other side, deteriorate and challenge existing practices and established norms. There is a need to reassess the existing norms and see if they are fit for new markets.

In the past decades, we have witnessed the flow of big data and big data analytics. There are many books and reports dealing with the question of big data and privacy considerations. Despite that, many open and unresolved questions remain. The paper will try to shed some light on some issues concerning big data, particularly the data and privacy considerations in the context of competition law. The query is whether competition law should pay more attention to various

data accumulation and eventually bring forward new tools in its assessment (Robertson, 2020a, p. 3).

Innovation and digitalisation challenge the traditional competition concepts. Competition law plays an essential element in fostering innovation that must become an integral part of competition assessment (Pošćić, Martinović, 2020, p. 250). There are many open questions at the intersection of competition and new digital markets. Due to the size constraints, this paper will focus only on the possible application of Article 102 TFEU on the disputes over access to data. It will examine some examples of tech giants' dominant position and possible anticompetitive practices through accumulation of big data.

## 2. Definition of Big Data

Today, a person can get information with only one click. We use digital platforms to interact with our family and friends, to shop or to do business. A vast amount of data is collected and processed. This phenomenon is called Big Data. What do undertakings do with the immense amount of personal information? Can it lead to possible abuses?

Before analysing the undertakings' behaviour and potential anticompetitive practices it is necessary to define Big Data. There is no uniform definition accepted. There are various definitions proposed. One sees Big Data as "a collection of data that cannot be processed by traditional informatics devices in a short amount of time, ..." (Gallo Curcio, 2020, p. 7). Inglese speaks of mass of stocked, anonymous data with certain economic value (Inglese, 2019, p. 138).

Doctrine distinguishes "four Vs" that characterize Big Data: volume, variety, velocity, and value. Some other authors add another two features: veracity and valence (Gallo Curcio, 2020, p. 7). Volume refers to the amount of data from different sources. In the past years, companies have collected a vast volume of data thanks to decreased costs of data collection, storage, and analysis (Stucke, Grunes, 2016, p. 17). Duhigg stresses that data trails begins before one's birth and lasts and increases until one's death (Stucke, Grunes, 2016, reference 25, p. 19). With the increase of volume, velocity, and variety of data an undertaking can predict future behaviour. It is also called a "freshness" of data and refers to the swiftness of change (Kathuria, Globocnik, 2019, p. 522). Those moments bring potential competitive advantages. The situation is called "contemporaneous forecasting" (Stucke, Grunes, 2016, p. 19). Variety refers to different types of data collected. Velocity means the speed at which big data is generated and is closely associated with time frame as with time the value decreases. Every undertaking urges for new and updated data so it can tailor them to users' demand. The last situation is known as data fusion and it entails a situation where data from different sources is connected with new particulars that emerge (Stucke, Grunes,

2016, p. 21). Put in simple words, it is a synthesis of different information that bring new facts. Volume, variety, and velocity increase the value of data. The interrelation of big data, algorithms, and network effects reinforce undertaking's position. Veracity means truthfulness of data. The last characteristic is valence and it shows the level of connections between different data (Gallo Curcio, 2020, p. 7). Having in mind all the above-mentioned characteristics of Big Data, it is easy to understand its importance in the context of digital markets. However, Big Data alone does not have much value. Here, algorithms come to scene. They must process, store, and analyse it in order to have certain value. The undertakings filter necessary data, increase their market power, and lock users. Consumers are used to certain platforms and will unlikely switch to another portal. Everything is just one click away and is user friendly. The distribution and production of these data amount to zero. Despite that, this does not have to lead to the false conclusion that in these markets barriers to new entrants are really low. Small undertakings are not equipped with powerful algorithms and are unable to process huge amount of data in short time period.

Data is seen as a valuable asset that can bring a lot of benefits in terms of new products and services with increasing number of efficient companies (Final report on the E-commerce Sector Inquiry, 2017).

### 3. Dominant position and Big Data

Big data strengthen an undertaking's position. The dominant position in EU competition law is not problematic. It is not prohibited, but its abuse is. An undertaking possessing a large amount of data can lay down entry barriers to new entrants.

Article 102 TFEU deals with the abuse of dominant position and states: "Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States".

The definition of a dominant position and its assessment has been well developed in the case law of the Court of Justice of the EU (CJEU). In the case *United Brands* and *Hoffman la Roche* the dominance was defined as a position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on a relevant market, by affording it the power to behave to an appreciable extent independently of its competitors, its customers, and ultimately of consumers. This definition developed for traditional markets must be applied to new digital markets as well. The criterion of independence has been disputed as the one that is neither applicable nor suitable to digital markets

(Pošćić, Martinović, 2020, p. 258). The digital market is interconnected and every market player depends on the other's actions.

Although a dominant position is not prohibited, the undertaking has a special responsibility not to abuse its dominant position. Abuse can take a number of different forms. Article 102 TFEU provides a non-exhaustive list of possible abuses. Unlike Article 101 TFEU, no exemptions are foreseen to Article 102 TFEU.

New technologies develop sophisticated algorithms that process a large amount of data. We can imagine a situation where an undertaking has acquired a dominant position by the manipulation of algorithms. This is legal and legitimate for now, even though the dominant position is not a consequence of undertaking's merit. This relates to the dilemma expressed in the literature. The argument is as follows. One criterion of establishing dominant position relates to the position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on a relevant market. A dominant position precludes effective competition, but the dominant position is not sanctioned by itself. Maybe, as Surblytė-Namavičienė suggests, the time is ripe for a "monopolization" type of abuse as it is regulated in the US competition law (Surblytė - Namavičienė, 2020, p. 220 and on).

Today undertakings operate in different markets. They accumulate data in one market, gain market power, and possibly try to leverage it to another market. Robertson speaks about data – centric nature of digital ecosystems (Robertson, 2020a, p. 14). We can encounter another scenery where an undertaking does not have a dominant position in the primary market, but has a dominant position regarding the users' data (Lucchini *et al.*, 2018, p. 567). The dominant undertaking possessing a large amount of data and refusing to share it with its competitors may qualify as abuse in the form of limiting market and technical development to the prejudice of consumers (Lucchini *et al.*, 2018, p. 567). According to the European Commission, privacy considerations are part of the consumer welfare standard. It is part of quality reduction assessment.

### ***3.1 Can accumulation of Big Data be considered an essential facility?***

Another point that is gaining more attention is the so called "portability of data". Competition regulators pay more and more attention to it. We can easily imagine a situation where a small undertaking cannot access data owned by a dominant undertaking (Chirita 2018, p. 159). Is it possible to invoke Article 102 TFEU in a situation where we want to protect access to data? It is not a novelty. The essential facility doctrine refers to an undertaking in dominant position owning an indispensable facility that has an obligation to grant access to its competitors. A dominant undertaking owns something that other undertakings need access to in order to grant products or services. The first decision dealing with this

was *Sea Containers v. Stena Sealink* where an essential facility was defined as “a facility or infrastructure without access to which competitors cannot provide services to their customers”.

According to the well-established case law of the CJEU there are five elements to be satisfied in order to determine that a refusal to supply amounts to abuse: is there a refusal to supply, does the accused undertaking have a dominant position in an upstream market, is the product indispensable to someone wishing to compete in the downstream market, would a refusal to grant access lead to elimination of effective competition in the downstream market, and can the refusal to supply be objectively justified (Whish, Bailey, 2018, p. 716).

There are many CJEU leading cases establishing the essential facility doctrine but we shall mention *IMS Health* case that may be of particular interest for this paper. *The IMS Health* case involved a company that abused its dominant position by refusing to grant licences to other companies. The case was decided in the preliminary procedure. It started before the German courts. IMS Health developed a database on the regional sales of pharmaceuticals. This database was protected by copyright under German law. The competing company NDC referred the case to the European Commission claiming that IMS Health was abusing its dominant position by refusing to grant licence for that database. The European Commission ordered an interim measure, that was later suspended by the General Court and confirmed by the Court. The decision was withdrawn by the European Commission. Meanwhile, the German court requested a preliminary ruling from the Court on the same issue. The Court addressed the case from the perspective of compulsory licence of a database. Here, one interesting point emerges. A former manager of IMS Health, after leaving the company, created the company Pharma Intranet Information. He wanted to use the database protected by the German copyright law and was prohibited access. As Surblytė-Namavičienė stresses, the case was more about whether a particular piece of data can be used by a former employee. So, the case was not about access to data, but on the possible unfair behaviour of a former director. This is outside the scope of Article 102, but may provide guidance of the reasoning of the Court on this issue as well (Surblytė-Namavičienė, 2020, pp. 208 and 209).

Although all the elements must be determined in order to apply an essential facility doctrine, we find the indispensability test interesting. It was developed in the *Bronner* case. The case confirmed that a refusal to supply may amount to an abuse of dominant position where the input is incapable of being duplicated or it is extremely difficult to duplicate, especially where it is physically and legally impossible and economically not viable (Whish, Bailey, 2018, p. 719). It is crucial to formulate a balance between the need of companies to compete on their merits and to give access on some indispensable information. Can we apply those criteria

to the digital environment? Can we consider data as indispensable in certain situation? Despite the well elaborated criteria, the obligation to give access to a facility will be granted only in exceptional circumstances in the situation where it is difficult or almost impossible to duplicate access and only where there is no justification for the refusal.

#### **4. Possible abuses of dominant position**

Article 102 TFEU prohibits any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it as incompatible with the internal market in so far as it may affect trade between Member States. The article further provides a list of possible abuses, such as directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions, limiting production, markets or technical development to the prejudice of consumers, applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage, and making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts. We differentiate between exclusionary and exploitative abuse, although any abuse can take both forms.

All of the above-mentioned practices can be found in digital markets. We shall try to point to some problematic situations from the perspective of digital markets and see if the applicable tools are adequate to deal with “new abuses”. A technical revolution is ongoing and it is impossible to predict all possible breaches. This is not problematic as Article 102 TFEU enumerates only a list of possible abuses and it is not exclusive.

Contrary to Article 101 paragraph 3 TFEU, there is no list of justifications in the Treaty. Nevertheless, the undertaking has to show that some conduct can be justified by bringing certain benefits to consumer welfare. The EU is usually concerned about economic efficiency that entails also benefit to consumers. Data protection is not part of economic efficiency and does not serve economic goals (Graef, 2018, pp. 124 and 125). But if data are becoming indivisible part of consumer protection, does it not mean that protecting consumers from harm involves also data issues?

We have seen that tech giants, such as Google, accumulate a huge amount of data on its users and advertisers. Big data together with algorithms are main tools for their functioning. Tech giants collect vast amount of data about its users, analyse their choices, and offer suggestions for search results. The user receives personalised information (Gallo Curcio, 2019/2020, p. 15). An online service is provided for free with companies receiving data. Those are zero price services. (Gallo Curcio, 2020, p. 7). The question is: is it prohibited or can it come under



the Article 102 TFEU scrutiny? We have to take a look at possible abuses and see if they fit under Article 102 TFEU framework.

The European Commission has been centred mostly on exclusionary abuses. Recently, a few possible exploitative abuses have been brought to its attention. One form of exploitative abuse is excessive pricing in the form of imposing “unfair purchase or selling prices”. Usually, the European Commission is not keen to intervene in cases of possible excessive prices as it is considered a barrier to innovation (Jones, Suffrin, 2004, p. 380). In data driven markets the balance between data given and received can be problematic. Here we have to recall the case law about excessive prices, especially the *United Brands* case.

In this case, *United Brands* was condemned for charging excessive prices for bananas. Although the decision of the European Commission has been crushed because of not providing sufficient evidence, the Court stated that excessive prices will constitute abuse in a situation where an undertaking is charging a price that has no economic value to the product. The Court considered that comparison with a price of other product was valid. It is necessary to answer the question if the price exceeds its costs. One way suggested is to compare the prices charged and the costs occurred. These criteria are usually not feasible, so the European Commission turns to other criteria such as comparing the disputed prices with those in other markets or comparing the price with competitors’ prices (Whish, Bailey, 2018, p. 740).

The *United Brands* case determined two steps in establishing excessiveness of a certain price. The first criterion is whether there is a difference between the costs occurred and the price charged. Applying it to our situation it means to compare the amount of data gathered and the gain of the user in turn. If the answer is positive, then the second phase is to see if the price is unfair in itself or in comparison to competing product. So, it means that there is a need to determine the connection between the data collected and the economic value the user receives. The user is usually not aware of the way the data is collected. In platform markets products are diverse. The comparison between platforms may be a good starting point only if their terms of policy are transparent and accurate. Privacy policy may be seen as trading conditions and come under the Article 102 TFEU assessment. In other words, it is necessary to see if the terms and conditions are unfair alone or in comparison to competing conditions. Close collaboration of experts from different sectors will be crucial.

It is extremely difficult to determine at what point the value of data exceeds the value of services received. The situation of excessive price is difficult to determine in the current traditional markets. In online markets it will be even more difficult to measure. How to address those situations? Can criteria for excessive prices be applied to excessive data collection? The assessment of excessive prices is one

of the most controversial elements in competition analysis. The difficulty is in showing monetary value of data. There are some tests for establishing the cost of data in market value. As Robertson rightly points out, we have to be careful because it will be difficult to specify the price of data, as for example it depends on the person that uses it. So, the potential analogy is probably questionable. There are also some pitfalls as personal data include notions of privacy and moral standards. These are so called non-monetary values of data (Robertson, 2020b, p. 10). In order to suppress the difficult test in showing the excessiveness of data, Robertson suggests defining this situation as unfair trading conditions according to Article 102 TFEU as it speaks of unfair prices and unfair pricing conditions (Robertson, 2020b, p. 13). He further proposes also taking into consideration other EU instruments, such as GDPR or Unfair Commercial Practice Directive (Robertson, 2020b, p.10 and 11). He points to the situation where competition law and data protection law are not in line, as for example data protection breach may not result automatically in the abuse of dominance.

In its Guidance on Article 102 TFEU, the European Commission states that it will intervene only where a pricing practice has been, or is capable of, hindering competition from undertakings that are “as efficient” as the dominant undertaking (Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, 2009, paras 23 and 27). The excessive prices involve a situation where the price charged is excessive in relation to the costs incurred. It is not a simple task, since a regulator has to understand economic terms, various cost concepts such as fixed costs, sunk costs, marginal costs, variable costs and so on (Whish, Bailey, 2018, p. 733). Although excessive prices are unlawful under Article 102 TFEU, the European Commission investigates those cases very rarely. Nevertheless, there always has to be space for competition authorities to act instead of market (Whish, Bailey, 2018, p. 737).

A tech giant can abuse its dominant position by involving practices of tying where party sells one product on the condition that the buyer also purchases different or tying product or agrees not to purchase that product from any other supplier. According to Article 102 TFEU it is a situation where the conclusion of contract is subject to acceptance by the other parties of supplementary obligations, which by their nature or according to commercial usage, have no connection with the subject of such contracts. In the digital markets as well as in traditional markets the undertaking tries to leverage its dominant position from one to another market. Curcio distinguishes two situations: one where tying is offered through contractual basis and the other where it is formed on technological basis (Gallo Curcio, 2020, p. 33). The second situation is of our particular interest. In the famous *Google Android* case the European Commission

determined that Google's Android mobile operating system was engaged in anti-competitive tying by requiring manufactures of smart phones to pre-install its search and browser apps if they wanted to license Google's popular Play store. Also, it was deployed in another instance of tying by requiring manufactures to install the Google approved version of Android if they wanted to pre-install Google apps. These cases rely on classic tying cases. The user has no other options (Gallo Curcio, 2020, p. 34). It will be extremely difficult to separate the situation where it is indispensable to receive products together or where we are speaking of complementary or separate products.

According to Article 102(c) TFEU one example of abuse is applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage. The question is how can price discrimination take a form of abuse of personal data. According to case law there are certain elements to be satisfied to apply Article 102(c) TFEU: has a dominant undertaking entered into equivalent transactions with other trading parties, has a dominant undertaking applied dissimilar conditions and are other trading parties placed in a competitive advantage (Whish, Bailey, 2018, p. 779).

Privacy and competition questions come to an intersection with platforms collecting personal data. The dilemma is whether we have to rethink the list of possible abuses enumerated in Article 102 TFEU or maybe develop new ones.

## **5. Conclusion**

With the emergence of Big data competition regulators might be confronted with possible new abuses. Big data is the basis of the data-driven economy, bringing significant competitive advantages and market power to companies who are able to harness and exploit its potential. Given their possible effect on the competitive structure of the market, the use of Big data and its underlying technology requires the involvement of competition regulators as well. There are some reasons why competition authorities should be concerned by the abuse of personal data in digital markets. One relates to economic value of personal data to undertakings. Data becomes a new currency and a strategic asset. Despite forming part of data protection law, an undertaking can be condemned for abusing its dominant position by exploiting data about consumer preferences and their private life (Chirita, 2018, p. 157, 158).

A large amount of data boosts companies' position but it is not enough just to possess a huge amount of data, it all depends on the undertaking's capability in analysing and using it. It is not all in harvesting data but also in increasing a potential value in terms of monetisation. The competition regulators will have to invest in education and experts in order to understand the fine tuning of possible data breaches. We are confident that current competition tools are adequate and

ready to deal with possible abuses of big data. We are not witnessing a dramatic shift in taking other parameters into competition assessment as non-price criteria. One slight change can be seen in the European Commission's position towards Google where it had tried to establish new types of abuses.

We agree with Robertson, who proposes to introduce a code of conduct for digital companies of certain size or some sort of digital markets board or digital authorities (Robertson, 2020a, p. 16).

Finally, it is important to insist on mutual collaboration and coordination of competition and data protection regulators. Despite certain differences in their approach, those two fields can co-exist perfectly.

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