

Big Data and the Abuse of a Dominant Position by Data- Driven Online Platforms under EU Competition Law

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*“Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?”*

T. S. Eliot

Introduction

1. Background

Data¹ has become a key asset for the digital economy. It has been heralded as the “new oil,” “new currency” or the “new gold.”² The expansion of internet access, the development of new technologies, and the growth of computing power have given rise to the tremendous increase in the amount of data and the emerging business models based on the use of big data. Big data is defined in the book as “the information asset characterised by such a high volume, velocity and variety to require specific technology and analytical methods for its transformation into value.”³ Although few years ago big data could seem another passing trend and buzzword, big data and its use, in particular by online platforms, has remained a subject of interest of different disciplines and fields of law, including competition law, as well as different organisations, in particular the European Union (“EU”).⁴

¹ Although both singular and plural form of the term “data” is grammatically correct, the singular form is knowingly used in the book. Whereas data is treated as a plural noun in particular in writing related to science, mathematics, and computing, in other fields of writing both plural or singular form can be used. Data is treated in this book as a singular mass noun, which better reflects its role as an asset for undertakings.

² See e.g.: The Economist, “The world’s most valuable resource is no longer oil, but data,” 6 May 2017, available at <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>; Michelle Evans, “Why Data Is The Most Important Currency Used In Commerce Today,” Forbes, 12 March 2018, available at <https://www.forbes.com/sites/michelleevans/2018/03/12/why-data-is-the-most-important-currency-used-in-commerce-today/>; “Data – The New Gold Rush for Businesses,” available at <https://www.itchronicles.com/technology/data-the-new-gold-rush-for-businesses/>.

³ Andrea De Mauro, Marco Greco and Michele Grimaldi, “A Formal Definition of Big Data Based on its Essential Features,” *Library Review* 2016, Vol. 65(3): 131. The definitional problems with big data are discussed in chapter 1. The singular form for the term “big data” is knowingly used in the book.

⁴ European Commission, Commission Staff Working Document on Online Platforms accompanying the document Communication on Online Platforms and the Digital Single Market, COM (2016) 288, 6–7 (“Commission Staff Working Document on Online Platforms”); European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Towards a thriving data-driven economy, COM (2014) 442 final.

It is argued that the competitive strength of online undertakings is increasingly being determined by the amount, variety and quality of the data they control and the ability to process it for their own profit, or, in other words, by the use of big data.⁵ That is particularly true for providers of online platforms, such as search engines, social networks and e-commerce platforms, whose business models rely on collecting, processing and monetisation of data (in particular, user data), and thereby can be regarded as data-driven. In fact, data has become a crucial input of production for many services offered by online platforms and precondition of their competitive success. In particular, it is indicated that the control over and the ability to analyse large amounts of data may constitute a source of market power for dominant market players.⁶ Since providers of online platforms have become aware of the advantages derived from possessing and processing vast amounts of data, they increasingly adopt data-driven strategies to achieve and maintain their competitive data advantage over competitors.⁷ The value they attach to data can also be observed by the growing number of mergers that are considered data-driven, whereas the incumbent online platforms, such as Google, Facebook, Microsoft or Apple, acquire smaller platforms with rich datasets (e.g. Google/DoubleClick, Facebook/WhatsApp, Microsoft/LinkedIn, Apple/Shazam and Google/Fitbit mergers).⁸

The competitive effects of the use of big data by online platforms are, however, ambiguous. Although big data may create a lot of efficiencies that benefit consumers and society, it may also reinforce the market power of incumbents, distort competition, and harm consumers.⁹ One can argue that big data equips providers of online platforms with both the incentive and ability to raise barriers to entry and expansion and engage in anticompetitive data-driven practices to maintain market dominance.¹⁰ Since most online services are provided free of charge, the resulting consumer harm does not necessarily consist in higher prices but rather in a loss of choice, quality, innovation,

⁵ Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (Kluwer Law International, 2016), 1–2.

⁶ Graef, *EU Competition Law*, 2.

⁷ Maurice E. Stucke and Allen P. Grunes, *Big Data and Competition Policy* (London: Oxford University Press, 2016), 1.

⁸ Anca D. Chirita, “Data-Driven Mergers under EU Competition Law,” available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3199912; Stucke and Grunes, *Big Data*, 1–2. For relevant cases, see: Case No. COMP/M.4731 – Google/DoubleClick, 11 March 2008; Case No. COMP/M.7217 – Facebook/WhatsApp, 3 October 2014; Case No. COMP/M.8124 – Microsoft/LinkedIn, 6 December 2016; Case No. M.8788 – Apple/Shazam, 6 September 2018.

⁹ OECD, *Data-driven Innovation for Growth and Well-being*, Interim synthesis report 2014, 58–69; OECD, “Big data: bringing competition policy to the digital era,” DAF/COMP(2016)14, 7–12; Stucke and Grunes, *Big Data*, 9.

¹⁰ Maurice E. Stucke and Allen P. Grunes, “Debunking the Myths over Big Data and Antitrust,” *CPI Antitrust Chronicle* (May 2015); Nathan Newman, “Search, Antitrust, and the Economics of the Control of User Data,” *Yale Journal on Regulation* 2014, Vol. 31(2): 403; Nils-Peter Schepp and Achim Wambach, “On Big Data and its Relevance for Market Power Assessment,” *Journal of European Competition Law & Practice* 2016, Vol. 7(2): 121.

and privacy.¹¹ The European Commission (“Commission”) is aware of the competitive importance of big data and online platforms for the digital economy and has placed them in the centre of the EU Digital Single Market Strategy¹² and the European Digital Strategy.¹³

Against this background, the book explores how existing competition tools and concepts used for assessing abuses of a dominant position can be applied to data-driven online platforms and competition concerns arising from their use of big data. The subject of the book is current and essential for the proper enforcement of competition law by the competition authorities and courts, as they are faced with an increasing number of cases concerning online platforms’ practices, some of which can be regarded as data-driven. The research problem posed in the book appears to be not doctrinally elaborated. It has so far not been thoroughly studied by Polish and foreign legal scholarship. While there are a few studies in English- and German-language literature concerning the influence of big data on competition policy in general,¹⁴ or devoted to specific competition concerns arising from the use of big data, but not covering the others,¹⁵ none of these publications covers the subject matter of the book comprehensively. The EU courts’ case law and decision-making practice of the Commission at the EU level is also scarce in that regard. Although the number of cases is steadily increasing, most of them are either pending or are being appealed before the EU courts, and do not allow for drawing any unambiguous conclusions. The approach to the competition concerns arising from the use of big data by online platforms is still evolving, and the book attempts to suggest possible ways of its development.

¹¹ Stucke and Grunes, *Big Data*, 9; Maurice E. Stucke and Allen P. Grunes, “Dancing Around Data,” *The Hill*, 10 December 2014, available at <http://thehill.com/blogs/congress-blog/technology/226502-dancing-around-data>.

¹² The Digital Single Market is the strategy of the European Commission to ensure access to online activities for individuals and businesses under conditions of fair consumer and data protection, removing geo-blocking and copyright issues. The strategy covers three policy areas: (1) better access for consumers and businesses to digital goods and services across Europe; (2) creating the right conditions and a level playing field for digital networks and innovative services to flourish; (3) maximising the growth potential of the digital economy. See: European Commission, *Shaping the Digital Single Market*, available at <https://ec.europa.eu/digital-single-market/en/policies/shaping-digital-single-market>; European Commission (2015), *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A Digital Single Market Strategy for Europe*, COM(2015) 192 final.

¹³ European Commission, *Shaping Europe’s digital future: The European Digital Strategy*, available at <https://ec.europa.eu/digital-single-market/en/content/european-digital-strategy>. See also: European Commission (2020), *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A European strategy for data*, 19 February 2020, COM (2020) 66 final.

¹⁴ Stucke and Grunes, *Big Data*.

¹⁵ See e.g.: Graef, *EU Competition Law*, who focuses on the refusal to give access to data and the question of whether data constitutes an essential facility.

2. Research objective and questions

In light of the above considerations, the main research objective of the book is to analyse whether and if so, how the EU legal framework for the assessment of abuse of a dominant position under Article 102 TFEU¹⁶ should be adjusted to address the competition concerns arising from the widespread use of big data by data-driven online platforms.

To achieve the established objective, the following research questions are considered: (1) whether the EU framework currently used for the assessment of market power allows for taking due account of big data's influence on the market power of data-driven online platforms and, if not, how it should be adjusted; (2) whether the EU framework currently used for defining a relevant market is suitable to deal with data-driven online platforms' businesses and, if not, how it should be adjusted; (3) whether big data contributes to the emergence of a new type of abuse that is data-driven; (4) whether instruments currently used in the EU for the assessment of abuses of a dominant position under Article 102 TFEU are sufficiently flexible to address potential data-driven abuses by online platforms.

The following hypotheses are to be tested in the book: (1) big data constitutes a competitive advantage for data-driven online platforms and is an important factor influencing their market power; (2) big data contributes to the emergence of a new type of abuse of a dominant position that is data-driven; (3) the current EU framework for the assessment of abuse of a dominant position under Article 102 TFEU needs to be adjusted to capture the specificity of data-driven online platforms, the role of big data in their businesses and their potentially abusive data-driven practices.

3. Research methodology and sources

The research methods applied in the book are adjusted to the investigated field of law (i.e. EU competition law) and established research objectives. The primary research methodology used in the book is a doctrinal research approach. The book relies on the analysis of relevant EU legislation, policy documents, EU courts' case law, decision-making practice of the Commission, papers and reports issued by the Commission, the OECD and national competition authorities, as well as literature. The vast majority of research comprises English-language sources, as the discussion about big data and competition law is predominantly conducted in English. In particular, there are only a few references to Polish-language literature since the topic of this book has not been thoroughly studied by Polish legal scholarship. To a more limited extent, reference is made to the relevant cases from other jurisdictions. Although their value is mostly indicative and illustrative for practices discussed in chapter 4, they may also serve as guidance on how some of the identified practices could be tackled under EU competition law. Since the EU courts' case law and the Commission's decision-making practice in that regard are scarce, reference to case law from other jurisdictions appears to be particularly valuable.

¹⁶ Consolidated version of the Treaty on the Functioning of the European Union, OJ C 326 of 26 October 2012, p. 47–390.

The book is a study in the field of EU competition law. However, since the topic is inherently interrelated with data protection law, the applicable data protection regulations and relevant literature are also considered. Although the latter are examined to a significantly lesser extent, they may allow for a better understanding of the competition law concerns arising from the use of big data by online platforms and for more accurate conclusions to be drawn in that regard. The research is not limited to legal literature. Since economics plays a crucial role in competition law, apart from relying on the legal literature, extensive economic literature, in particular in the field of multi-sided platforms and dynamic digital markets, is investigated. Findings from economic literature are integrated into the analysis of how the EU competition framework can be applied to data-driven online platforms and help to identify factors that should be given particular importance within the assessment of their market power. Thus, to the extent the book builds upon the economic literature and draws conclusions therefrom, it makes use of the methods appropriate to law and economics approach. In this context, it should be emphasised that the influence of big data on the market power of online platforms is not examined through research methods used in economic sciences but based on the review and the analysis of economic literature and conclusions drawn therefrom. Moreover, to a certain degree, the book also relies also on the study of relevant business literature and business practices of selected online platforms (including their terms of service, privacy policies, and press releases) that shed light on the rationale underlying their market conduct.

As such, a strictly legal analysis is complemented by economic and practical considerations regarding the functioning of the selected online platforms (i.e. search engines, social networks, and e-commerce platforms). The particular value of the book thus lies in its multidisciplinary approach, which consists in combining the analysis of legal, economic, and business literature, as well as practical aspects of online platforms' businesses. This comprehensive analysis is used to draw conclusions for competition enforcement in the researched area.

The book is based on legislation, EU courts' case law, decision-making practice of the Commission and national competition authorities, as well as literature as of 9 March 2021.

4. Structure of the book

The structure of the book is subordinated to its research objectives. It comprises the introduction, four substantive chapters, and the conclusion.

The first chapter aims to present big data as a foundation upon which business models of data-driven online platforms are built and to clarify basic concepts that structure further analysis. For this purpose, first, a definition of big data is provided, and its main characteristics, the so-called "4Vs of big data" are explained. Since differences in the understanding of big data may affect the assessment of data-driven practices employed by online platforms, it is particularly important to put forward a definition that is relied upon in the book and may determine its conclusions. To capture the effects that big data may have on the competition between online platforms, the economic characteristics of data are discussed and the difference between personal and non-personal data is explained. It is also considered whether big data may become a source of a competitive advantage for

online platforms. In that regard, it is considered how raw data can be transformed into value (the so-called big data value creation cycle), what efficiencies and benefits big data may bring to businesses and consumers, and whether big data should be perceived as an input of production to products or services offered by online platforms or rather as a commodity that can be traded. Finally, it is investigated whether big data can constitute a barrier to entry and expansion for potential or current competitors, and to what extent big data can constitute a competitive advantage for data-driven online platforms.

The second chapter outlines the main characteristics of data-driven online platforms and explains the implications they may have for antitrust analysis, in particular the assessment of potential abuses of a dominant position under Article 102 TFEU. To better understand the business strategies and motivation, which drives the competitive behaviour of online platforms, typical business models of online platforms and their revenue models are presented. The focus is primarily on data-driven online platforms operating in a B2C model, such as search engines, social networks, and e-commerce platforms, as the latter seems to attract the most attention from competition authorities and scholars. Then, the multi-sided nature of online platforms and its implications for competition assessment is discussed. It is followed by presenting other factors that are specific for digital markets and network economy and may influence the functioning of data-driven online platforms, such as network effects, skewed pricing, economies of scale and scope, and consumer lock-in. Finally, it is examined what impact the identified characteristics and factors may have on competition policy, in particular, whether they can be perceived as a barrier to entry.

The third chapter presents the EU framework for the assessment of market power and examines whether it is applicable to data-driven online platforms. It is divided into two main parts following the two-step approach to the market power assessment under EU competition law. Consequently, in the first part, it is analysed how the relevant market for data-driven online platforms should be defined. In particular, due to the multi-sided nature of online platforms, it needs to be decided whether one market encompassing all sides of the platform or several separate markets for each side of the platform should be defined. Moreover, since data appears to be a crucial input for online platforms' businesses, it is also studied whether the relevant market for data can be established. In the second part, it is examined whether the current framework for the assessment of dominance can be applied to online platforms and whether any changes in that regard are needed. Moreover, it is investigated how big data considerations can be incorporated in the current framework, so that it takes due account of the actual influence of big data on the online platforms' market power.

The fourth chapter introduces the concept of data-driven abuse of a dominant position and aims to identify examples of data-driven unilateral practices of online platforms that may be found abusive under Article 102 TFEU. Several examples of potential exclusionary and exploitative data-driven abuses are discussed. The provided list does not attempt to be exhaustive but serves rather as an illustration of practices that may emerge as a result of the increasing role of big data in online platforms' businesses. Finally, it is examined whether such data-driven practices of online platforms can be objectively justified by reasons related to data protection and big data.

The conclusion summarises the most important findings of the book and provides answers to the established research questions. It also formulates some recommendations for the competition authorities (in particular, the Commission) and courts, which are likely to be confronted with problems identified in the book in their practice. The final part of the book provides a list of the used law sources, EU courts' case law, decisions of the Commission and national competition authorities, as well as the literature.

It should be noted that all chapters differ in terms of their volume. Chapters 3 and 4 are significantly longer than chapters 1 and 2. Such differentiation is intentional and justified by the logic underlying the book. Chapters 1 and 2 aim to provide theoretical and economic background for the extensive analysis performed in chapters 3 and 4. Each of the latter two chapters form a coherent whole that serves to verify the respective research questions.

For the sake of research reliability and consistency, it should be briefly indicated what issues and for what reasons are left outside the scope of the book. First of all, the discussion within the book concentrates on business-to-consumer (B2C) online platforms and does not cover business-to-business (B2B) and consumer-to-consumer (C2C) online platforms. The functioning of B2B, C2C, and B2C platforms differ significantly from one another and each of them may raise different competitive concerns. Due to the limited scope of the book, it is not possible to take due account of the peculiarities of each of these platforms and exhaustively discuss the potential competition issues arising from their operations. Moreover, particular attention is paid to data-driven online platforms, such as search engines, social networks, and e-commerce platforms. Although the conclusions and analysis conducted in the book may also be applicable to other online services, the three latter types of online platforms have been chosen due to the importance of data for their business models and the crucial role they play in the digital economy, which is reflected in the fact that they are commonly referred to as "gatekeepers" of the internet.¹⁷ It should also be observed that competition authorities and scholars have so far also centred mainly on the search engines, social networks, and e-commerce platforms, which are all examples of B2C online platforms.¹⁸

Secondly, the analysis focuses on competition law and includes some considerations from data protection law. Although some of the discussed practices may raise concerns

¹⁷ Graef, *EU Competition Law*, 2; Orla Lynskey, "Regulating 'Platform Power,'" *LSE Law, Society and Economy Working Papers* 2017, No. 1: 9–11; Monopolkommission, "Competition policy: The challenge of digital markets," Special Report 2015, No. 68, 58. The notion of a gatekeeper is relied upon in the Commission's Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act), COM/2020/842 final. The Proposal defines a "gatekeeper" as a provider of core platform services (such as online intermediation services, online search engines, online social networking services) designated pursuant to Article 3 (Article 2(1)), i.e. it has a significant impact on the internal market; it operates a core platform service which serves as an important gateway for business users to reach end users; and it enjoys an entrenched and durable position in its operations or it is foreseeable that it will enjoy such a position in the near future.

¹⁸ See e.g.: European Commission, Commission Staff Working Document on Online Platforms; Autorité de la Concurrence and Bundeskartellamt, "Report – Competition Law and Data, 2016" available at https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.pdf?__blob=publicationFile&v=2; Monopolkommission, "Competition policy"; Graef, *EU Competition Law*.

from other fields of law, in particular consumer protection or intellectual property law, they fall outside the scope of the book and are not analysed in the book.

Thirdly, it should be noted that chapter 4 contains illustrative examples of data-driven practices that can constitute abuse under Article 102 TFEU. The examples have been selected based on the analysis of the decision-making practice of the Commission and national competition authorities, as well as the review of literature and media reports. The analysis allowed to identify several practices that currently seem to attract the most attention from the public and competition authorities. Nonetheless, the provided list is not exhaustive, and other practices may fall within the definition of data-driven abuse.

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