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From the more economic approach to the more Digital and Data-Driven (DDD) approach. Enforcing competition law in the digital era

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Abstract

The fourth industrial revolution is based on two main elements: development of cutting-edge technologies with the wide-spread use of Artificial Intelligence (AI) and the growing significance of data. Competition enforcement law should reflect these economic and societal changes and update its economic approach, which was introduced over twenty years ago. This contribution proposes a novel approach to competition law which takes into consideration the two factors that characterise the digital revolution: AI and data. The "more Digital and Data-Driven (DDD) approach" to competition law stands on three pillars. The first pillar considers data protection as a parameter to assess anticompetitive behaviours also in the light of the latest jurisprudence of the European Court of Justice. The second pillar embraces the opportunities presented by technologies and encourages competition authorities to adopt new digital enforcement tools with AI and machine learning features. The third pillar is based on the importance of cooperation in the form of data sharing between private companies and competition authorities (B2G data sharing) and between enforcers (G2G data sharing). Besides looking at the benefits of implementing a new digital and data-driven approach, pros and cons need to be carefully assessed and legal challenges analysed.

Keywords:

Enforcement, Competition Law, Digital Markets, Artificial Intelligence, Data

I.   Introduction

After twenty years from the implementation of the more economic approach, competition law is now facing unprecedented challenges. Digitalisation of economy and society has led to new market dynamics, new business models and even new ways of infringing competition rules, questioning the efficiency and adequacy of traditional approaches to competition law, based on economic analysis and consumer welfare.[1] For this reason, some scholars have started to suggest new ways of enforcing competition law to keep pace with the evolution of society towards the Artificial Intelligence (AI) and Data revolution.[2] Arguably, "[a]n economy dominated by new driving forces needs a competition law that is adapted to these new forces."[3]

This paper suggests a novel approach to competition law that takes into consideration the relevance that data and new technologies play in our digital economy. The "more Digital and Data-Driven (DDD) approach" focuses on digital enforcement tools, and data as the main parameter to assess competition law in the digital markets. Section II shows how competition law is influenced by economic and societal changes and analyses its evolution throughout different schools of thought in two legal systems, the US, with the Chicago School and the New Brandeis movement, and the EU with the more economic approach. Section III delves into the main features of the more DDD approach. From data protection assessment as a new parameter of competition law, through new digital enforcement tools that use technologies such as AI and machine learning techniques, to the importance of cooperation, data and software sharing between enforcers. Section IV analyses the main legal challenges for introducing a new approach to competition law and Section V concludes.

II.   The evolution of Competition Law

Competition law is an evolving field, shaped by political, societal, and economic factors.[4] Different schools of thought have influenced the way antitrust is enforced, with policy makers and courts applying rules, standards and theories of harm that have changed throughout the decades. Such an evolution in competition law can be observed by analysing two legal systems that have always intertwined and influenced each other: the US and the EU legal systems.[5]

2.1. The US schools of thought: from the Harvard and the Chicago School to the New Brandeis School

The US "was one of the first jurisdictions to adopt a proper 'modern' system of competition law"[6] with its Sherman Act dated 1890. The first US antitrust phase is known under the name of the Classical period, dominated by the Harvard School, and characterised by a strong interventionist approach against concentrated markets.[7] "The emphasis was put on the structure of the relevant market or industry" to assess anticompetitive behaviours.[8] This period is also characterised by the introduction of *per se* violations, such as price fixing agreements, which implicated that a thorough analysis of a conduct was not necessary.[9]

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[1] Herwig C H Hofmann and Isabella Lorenzoni, 'Future Challenges for Automation in Competition Law Enforcement' (2023) 3 Stanford Computational Antitrust 36; Isabella Lorenzoni, 'Why do Competition Authorities need Artificial Intelligence?' (2022) 15(26) YARS 34; Isabella Lorenzoni, 'An 'AI whistle-blower' to monitor algorithmic infringements?' (2023) 15 The Competition Law Review 31.

[2] See for instance Rupprecht Podszun, 'The More Technological Approach: Competition Law in the Digital Economy' in Gintare Surblyte (ed), *Competition on the Internet* (MPI Studies on Intellectual Property and Competition Law 23, Springer 2015) and Johannes Kruse, 'Computational antitrust: Computergestützte Ansätze für die kartellbehördliche Praxis' (2023) 1 Wirtschaft und Wettbewerb 13.

[3] Podszun (n 2).

[4] Lorenzoni (2022) (n 1).

[5] See for instance Alison Jones, Brenda Sufrin and Niamh Dunne, *EU Competition Law Text, Cases, and Materials* (7th edn, Oxford University Press 2019) 35.

[6] Ibid 35.

[7] Maher M. Dabbah, *International and Comparative Competition Law* (Cambridge University Press 2010); David J Gerber, *Global Competition: Law, Markets, and Globalization* (Oxford University Press 2010).

[8] Dabbah (n 7); Lina M Kahn, 'Amazon's antitrust paradox' (2017) 126 The Yale Law Journal 710.

[9] Gerber (n 7) 128.

The US landscape changed considerably in the 1970s, when societal and economic events (such as the oil shock and the opening to a wider and global competition) required competition rules to be adapted to what had been called "the law and economics revolution".[10] In this scenario, the Chicago School imposed itself as the dominant school of thought for years to come.[11] The Chicago School is responsible for introducing a different approach to enforce competition law, based on clear economic theories and "quantitative methods" used to measure degradation in consumer welfare.[12] Hence, with the Chicago School, "showing antitrust injury requires showing harm to consumer welfare, generally in the form of price increases and output restrictions".[13] *Per se* rules were progressively substituted with the rule of reason[14] where data analysis and economics were employed to prove a raise in price or a reduction of outputs and therefore to assess a potential anticompetitive conduct.[15]

The Chicago School, anchored to its strict economic methods and to the consumer welfare understood as a maximisation of consumer surplus in terms of low prices and more choices, started to be criticised because outdated and unable to adapt to a new era, dominated by digital markets, data and technological developments.[16] Against this malcontent, a new school of thought proposed a different approach to competition law. The New Brandeis School, with Lina Kahn and her seminal work "the Amazon's Antitrust Paradox" questioned the Chicago approach and showed its weaknesses by presenting a case study of Amazon, and how its predatory pricing behaviour endangers competition without raising prices for consumers.[17] According to this new approach, traditional competition parameters lack to take into consideration the value of data, which is nowadays the main resources for many business models, and it does not have a typical (economic) price structure.[18]

2.2. The EU schools of thought: from the classical period to the more economic approach

In the post-war scenario, the dominant school of thought in competition law in Europe was the German Freiburg School, with a movement known as the "ordoliberalism",[19] aimed at ensuring competition against concentration of powers, which according to this current, contributed to the creation of totalitarian states and to the Second World War.[20] The very first provision on competition law can be found in the Treaty on the European Coal and Steel Community, which aimed at ensuring competition in the sectors of steel and coal which were highly concentrated.[21] In 1957, with the establishment of the European Economic Community (EEC) competition law was seen as one of the tools to realise the common market, and avoid that private companies would raise "private barriers to trade".[22] During the classical period and until the modernisation era in 2004, different goals animated EU competition law, and a different methodology was adopted by the Commission. Firstly, competition law was entrusted to achieve a broad category of goals and values:

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[10] Gerber (n 7) 193; John E Kwoka Jr and Lawrence J White, *The Antitrust Revolution Economics, Competition, and Policy* (5th edn, Oxford University Press 2009).
[11] Gerber (n 7) and Kwoka and White (n 10).
[12] Gerber (n 7) and Kwoka and White (n 10).
[13] Kahn (n 8).
[14] Dabbah (n 7) 240-241 "Courts applying the rule of reason will: (a) examine whether the restraint has substantial anticompetitive effects, including whether the restraint at issue has market impact, in that it raises prices, reduces output, limits choice, or diminishes quality; (b) examine any evidence of pro-competitive aspects of the restraint; and (c) weigh the anticompetitive effects against the pro-competitive effects of the alleged restraint".
[15] Dabbah (n 7); Gerber (n 7).
[16] Lorenzoni (2022) (n 1).
[17] Kahn (n 8).
[18] Kahn (n 8) 746 according to whom "[a]ttention to structural concerns and the competitive process are especially important in the context of online platforms, where price-based measures of competition are inadequate to capture market dynamics, particularly given the role and use of data".
[19] Gerber (n 7) and Jones, Sufrin and Dunne (n 5) 27-8.
[20] Jones, Sufrin and Dunne (n 5) 35.
[21] Hans A. Schmitt, 'The European Coal and Steel Community: Operations of the First European Antitrust Law, 1952-1958' (1964) 38 The Business History Review 102.
[22] Anne C. Witt, *The more economic approach to EU Antitrust Law* (Hart Publishing 2016) 8-9. See also Gerber (n 7) 182-183; Anca D Chiriţă, 'A legal-historical review of the EU competition rules' (2014) 63 The International and Comparative Law Quarterly 281 287; Jones, Sufrin and Dunne (n 5) 43.

integration of the common market, fairness, innovation, efficiency, democratic values and other fundamental objectives of the EU.[23] Secondly, the Commission and the judiciaries adopted a "form-based approach"[24] which consisted in analysing the form of a conduct instead of its effects, disregarding any economic theories or empirical evidence, and relying mostly on presumptions.[25]

In 2004, with the adoption of Regulation 1/2003,[26] EU competition law entered the so-called modernisation period, after a series of reforms which culminated with the adoption of a new approach to competition law: the more economic approach. Among the reasons for such a change, the influence of the US practice and the so-called "transatlantic debate"[27] played a crucial role. The US and the EU enforcers reached opposite conclusions for same cases, with striking differences between the two approaches. The former aimed to protect the consumer welfare, relying on sound economic analysis, under the influence of the Chicago School; while the Commission was criticised to protect competitors, and to disregard economic tools in its assessments.[28] Under this wave of criticism, the more economic approach, adopted in early 2000s, aligned with the US Chicago School. Firstly, the Commission embraced the consumer welfare standard as the goal of competition law, while the integration of the single market remained a priority; and secondly a new methodology was adopted, which abandoned the form-based approach and focused on an economic and "effects-based approach".[29] Anticompetitive behaviours are now assessed by rigorous and complex economic analysis concerning actual or potential effects on competition, using econometric tools, with the consequences that more economists were hired and *ad hoc* units were established within competition authorities.[30]

III.   The more Digital and Data-Driven ("DDD") approach

Twenty years have passed since the adoption of the more economic approach. AI and data have become the driving factors for many business models to compete, and competition authorities should embrace this digital revolution and update their enforcement methods. The suggested approach to competition law – the more Digital and Data Driven approach – is based on three essential pillars. The first pillar aims to include data protection as a parameter to assess competition law, by reshaping competition law's goals to introduce aspects other than the economic welfare.[31] The second pillar is based on the need to embrace the opportunities presented by technological developments, by increasing digital capabilities with the adoption of new digital enforcement tools that have AI and machine learning features which can help enhancing detection efforts and effectiveness.[32] Finally, the third pillar of the more DDD approach stresses the importance of cooperation

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[23] Witt (n 22).

[24] Witt (n 22).

[25] Witt (n 22).

[26] 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.

[27] Witt (n 22) 26-27.

[28] Witt (n 22) 26-27.

[29] Jones, Sufrin and Dunne (n 5) 54-55; Anne C. Witt, 'The European Court of Justice and the More Economic Approach to EU Competition Law—Is the Tide Turning?' (2019) 64 The Antitrust Bulletin 1.

[30] Witt (n 22) 241-242; Jones, Sufrin and Dunne (n 5) 54-55.

[31] See for instance Giuseppe Colangelo and Mariateresa Maggiolino, 'Data Protection in Attention Markets: Protecting Privacy through Competition?' (2017) 8 Journal of European Competition Law & Practice 363 who critically stated that "[i]n the last 20 years EU competition law has not been subservient to the pursuit of policy goals other than the promotion of economic efficiency. Yet, as the Facebook case suggests, big data is likely to be an opportunity to turn the clock back and reintroduce aspects that have nothing to do with competition in antitrust investigations".

[32] This is also corroborated by the recent International Competition Network (ICN) Technologist Forum held on the 25-26 March 2024 which among others stressed the importance of acquiring "technical expertise, tools, and methods [to] strengthen law enforcement […] and help agency teams to conduct more efficient, rigorous, and faster investigations, reduce information asymmetries and blind spots, and get more effective remedies and better outcomes. With the right technical expertise, competition agencies can make the most of technology for detection purposes and to develop more effective tools for enforcement" International Competition Network, 'Building Digital Capacity to Strengthen and Support Law Enforcement Agencies' (Washington, DC, USA, 25-26 March 2024) <https://www.internationalcompetitionnetwork.org/wp-content/uploads/2024/03/ITF-Digital-Capacity-Building-messaging-2024.pdf> accessed 22 August 2024. In this regard, see also Podszun (n 2) who suggests a "more technological

between enforcers. Cooperation means data sharing between private companies and competition authorities ("B2G" data sharing) and between enforcers ("G2G" data sharing). In addition to share relevant data, competition authorities should develop a coordinated approach to develop sharable digital enforcement tools.[33] Each of the three pillars will be dealt in turn in this chapter.

3.1. The first pillar of the more DDD approach: reshaping competition law's goals

The first pillar of the more DDD approach is the inclusion of data protection and privacy in competition enforcement proceedings, reshaping competition law's goals, also in the light of the latest jurisprudence of the Court of Justice of the European Union (CJEU).

The traditional view adopted by enforcers was to leave data protection and privacy outside competition concerns, in line with the more economic approach.[34] For instance, in the *Google/DoubleClick* merger,[35] the Commission ignored the potential competitive advantage that combination of datasets from both companies could have provided to the merged entity.[36] In the *Facebook/WhatsApp* merger,[37] the Commission categorically excluded from its assessment "any privacy-related concerns [which] do not do not fall within the scope of the EU competition law rules but within the scope of the EU data protection rules".[38] The Court of Justice adopted a similar approach in the case *Asnef-Equifax*[39] stating that "any possible issues relating to the sensitivity of personal data are not, as such, a matter for competition law, they may be resolved on the basis of the relevant provisions governing data protection".[40] In the light of the digital developments of economy and society, competition law's goals should be revisited to construe a new approach where data protection and privacy policies are assessed by competition authorities whenever data collection and data processing are key features for businesses to compete.[41] Competition authorities would have to evaluate if data are fairly collected by companies (against excessive data collection which can result in abuse of a dominant position) or whether their privacy policies are fair for all users and not a shield to gain anticompetitive advantages (as in the case of the double standards of privacy).[42]

In this context, new theories of harm have been developed to include for example data protection and privacy as a "relevant non-price parameter of competition whether a dimension of quality or of choice",[43] or as data as the "new currency of the digital age".[44] A new trend of including data protection and privacy within competition law can be observed in latest enforcement proceedings, where competition authorities have increasingly assessed data protection and privacy in their investigations, proving how a data-driven economy has profoundly influenced competition law.[45] For instance the German competition authority (the Bundeskartellamt) stated in its decision against Facebook that "[w]here access to the personal data of users is essential for the market position of a company, the question of how that company handles the personal data of

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approach" which, among others, advocates for integrating technological knowledge and Kruse (n 2) who proposes a "more computational approach" which suggests the development of new computational tools.

[33] This approach is also stressed in the ICN Technologist Forum, which suggests sharing and developing best practices, International Competition Network (n. 32).

[34] OECD 'The intersection between competition and data privacy – Background Note' (2024).

[35] *Google/DoubleClick* (Case COMP/M.4731) Commission decision [2008] OJ C184/10.

[36] Colangelo and Maggiolino (n 31) 365; OECD (2024) (n 34).

[37] *Facebook/WhatsApp* (Case COMP/M.7217) Commission Decision [2014] OJ C417/4.

[38] *Facebook/WhatsApp* [164]. See also Colangelo and Maggiolino (n 31) 365; Marixenia Davilla, 'Is Big Data a Different Kind of Animal? The Treatment of Big Data Under the EU Competition Rules' (2017) 8 Journal of European Competition Law & Practice 370; Autorité de la Concurrence & Bundeskartellamt, 'Competition Law and Data' (2016) 22-23; OECD (2024) (n 34).

[39] C-238/05 *Asnef-Equifax v Asociación de Usuarios de Servicios Bancarios (Ausbanc)* [2006] EU:C:2006:734.

[40] *Asnef-Equifax* [63]. See also Autorité de la Concurrence & Bundeskartellamt (n 38) 22; Colangelo and Maggiolino (n 31) 365; OECD (2024) (n 34).

[41] OECD (2024) (n 34).

[42] Ibid and Thomas Tombal, 'Data protection and competition law: friends or foes regarding data sharing?' (Accepted paper for the TILTing Perspectives 2021 Conference: Regulating in Times of Crisis).

[43] OECD (2024) (n 34) 10. For a more in-depth analysis of the theories of harm, see OECD (2024) (n 34) 13.

[44] Viktoria H S E Robertson, 'Excessive Data Collection: Privacy Considerations and Abuse of Dominance in the Era of Big Data' (2020) 57 Common Market Law Review 161. See also Maurice E. Stucke, 'Should we be concerned about Data-opolies?' (2018) 2 Georgetown Law Technology Review 275 and OECD (2024) (n 34).

[45] Christophe Carugati, 'Overview of privacy in cases relevant to competition law' [2023] Concurrences 1.

its users is not only relevant for data protection authorities, but also for competition authorities."[46] Furthermore, many jurisdictions have started to give mandate or to create *ad hoc* entities entrusted with the task of dealing with cases that have competition and data protection aspects.[47]

Lastly, the *Meta Platforms* case[48] is emblematic to show a change in the Court of Justice's approach when conducts related to the collection and processing of personal data can impact companies' competitiveness. Meta Platforms, formerly Facebook, was found by the Bundeskartellamt to have abused its dominant position for excessive user's data collection.[49] The German competition authority contested Facebook's terms and conditions as users had to agree to an extensive data collection from services other than the social network and from affiliated websites that integrate Facebook features (such as "Like" or "Share" buttons).[50] After an appeal first at the Düsseldorf Higher Regional Court which disregarded the decision of the Bundeskartellamt and a subsequent appeal of the latter to the German Federal Court of Justice which substantially agreed with the German competition authority, the case went back to Düsseldorf, and the Court decided to stay proceeding and referred to the CJEU for a preliminary ruling.[51] The CJEU stated that competition authorities may find an abuse of dominant position on the basis of compliance or non-compliance with rules different than competition law, including the GDPR,[52] as it can be "a vital clue" to assess an anticompetitive conduct.[53] A breach of the GDPR can determine an infringement of competition law, "depending on the circumstances".[54] In fact, according to the CJEU

> "[…] access to personal data and the fact that it is possible to process such data have become a significant parameter of competition between undertakings in the digital economy. Therefore, excluding the rules on the protection of personal data from the legal framework to be taken into consideration by the competition authorities when examining an abuse of a dominant position would disregard the reality of this economic development and would be liable to undermine the effectiveness of competition law within the European Union".[55]

3.2. The second pillar of the more DDD approach: methodology

The second pillar of the more DDD approach is the use of digital enforcement tools, such as AI and machine learning to proactively detect anticompetitive behaviours, enhance internal efficiency, understand companies' digital tools and gather evidence from billions of data.[56] Over twenty years ago, competition authorities underwent a structural change in their organigram to implement the more economic approach. Economists were hired and *ad hoc* units dedicated to econometric and statistical analysis were implemented (e.g. the Commission established a Chief Economist). Competition authorities are now facing similar changes, as they need skills that reflect the evolution of our economy and society towards a digital antitrust revolution. Many competition authorities have started to acquire computational skills, by hiring data and computer scientists and

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[46] Bundeskartellamt, 'Bundeskartellamt prohibits Facebook from combining user data from different sources Background information on the Bundeskartellamt's Facebook proceeding' (2019) 6 <https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Diskussions_Hintergrundpapiere/2019/07_02_20219_Hintergrundpapier_Facebook.pdf?__blob=publicationFile&v=2> accessed 05 August 2024. See also OECD (2024) (n 34).

[47] Carugati (n 45); OECD (2024) (n 34).

[48] C-252/21 *Meta Platforms Inc. et al. v Bundeskartellamt* [2023] EU:C:2023:537.

[49] OECD (2024) (n 34).

[50] Ibid; Christophe Samuel Hutchinson, 'Potential abuses of dominance by big tech through their use of Big Data and AI' (2022) 10 Journal of Antitrust Enforcement 443; Anne C Witt, 'Excessive Data Collection as a Form of Anticompetitive Conduct: The German Facebook Case' (2021) 66 The Antitrust Bulletin 276.

[51] Giuseppe Colangelo, 'The Privacy-Antitrust Curse: Insights from GDPR Application in EU Competition Law' (2023) ICLE White Paper 2023-10-12 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4599974> accessed 25 August 2024; Anne C Witt, 'Facebook V. Bundeskartellamt – May European Competition Agencies Apply the GDPR?' (2022) Competition Policy International, TechREG Chronicle <https://www.competitionpolicyinternational.com/wp-content/uploads/2022/04/5-FACEBOOK-v-BUNDESKARTELLAMT-MAY-EUROPEAN-COMPETITION-AGENCIES-APPLY-THE-GDPR-Anne-C-Witt.pdf> accessed 30 August 2024; OECD (2024) (n 34); Tombal (n 42); Hutchinson (n 50).

[52] Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

[53] *Meta Platforms* (n 48) [47] and OECD (2024) (n 34).

[54] *Meta Platforms* (n 48) [47] and OECD (2024) (n 34).

[55] *Meta Platforms* (n 48) [51].

[56] Hofmann and Lorenzoni (n 1); Lorenzoni (2022) (n 1).

build dedicated digital units.[57] The more DDD approach follows this trend and encourage enforcers to develop digital enforcement tools in each phase of competition enforcement procedure.

In a "typical decision-making cycle model"[58] of an antitrust procedure, advanced digital tools can help competition authorities in each phase, with some tools also relevant for merger control proceedings. Firstly, in the initiation phase, competition authorities have several tools they can dispose to detect suspicious behaviours that can lead to open an investigation. Traditionally, they can count on proactive tools, such as screens based on econometric and statistical techniques, which can give the authority an idea of whether collusion can be formed in a specific market (structural screening) or whether a company shows signs of collusion (behavioural screens).[59] The tool competition authorities, including the Commission, mostly rely on is their leniency programs, which belongs to the category of reactive tools, as the logic behind is to make cartelists report themselves in exchange of immunity or reduction from fines.[60] Lately, leniency applications have registered a sharp decrease and some scholars have criticised the actual deterrence and detection powers of leniency programs.[61] Furthermore, it is assumed that "the enforcement activity of competition authorities could represent only the tip of the iceberg" as "the annual likelihood of a cartel getting caught in the European Union is about 13%".[62] For these reasons, a more proactive approach of competition authorities in the initiation phase is desirable. Digital screening tools can offer great opportunities to competition authorities to reinforce their screening methods, making them more accurate, by reducing risks of false positives and false negatives, with the use of AI and machine learning techniques combined with big data.[63] An increasing number of competition authorities have started to implement digital screening tools in the field of public procurement to uncover cases of bid rigging, as in this sector competition authorities have access to more data.[64] The main challenge is represented by data availability, as enforcers need data in machine readable format that can be used to train their algorithms, and the more data they dispose – in terms of quantity and quality – the more accurate the results can be, the more competition authorities can rely on to start *ex officio* investigations, avoiding wasting resources on hypothesis of cartels that did not occur, missing the real ones.[65]

Secondly, during an investigation, digital tools can help competition authorities to navigate the ocean of data they gather following an inspection or a request for information, from which they need to extract pieces of information with evidentiary value.[66] They usually rely on third-parties providers for forensic tools, but some competition authorities have started to build their own document management software with machine learning and natural language processing (NLP) techniques, as "[i]n many areas of their work there are no software products available commercially which fully meet agencies' needs. For example, the AI capability in commercial document review software is generic and not set up to understand the language used in the context

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[57] Hofmann and Lorenzoni (n 1); Lorenzoni (2022) (n 1); Ioannis Lianos, 'Computational Competition Law and Economics: Issues, Prospects – An Inception Report' (2021) Hellenic Competition Commission. See also Thibault Schrepel and Teodora Groza, 'The Adoption of Computational Antitrust by Agencies: 2021 Report' (2022) 2 Stanford Computational Antitrust 78 and Thibault Schrepel and Teodora Groza, 'The Adoption of Computational Antitrust by Agencies: 2nd Annual Report' (2023) 3 Stanford Computational Antitrust 55.

[58] Hofmann and Lorenzoni (n 1).

[59] Joseph E Harrington Jr and David Imhof, 'Cartel Screening and Machine Learning' (2022) 2 Stanford Computational Antitrust 133; Joseph E Harrington Jr, 'Behavioral screening and the detection of cartels' (2006) EUI-RSCAS/EU Competition 2006 – Proceeding <https://joeharrington5201922.github.io/pdf/Florence.pdf> accessed 25 August 2024; Rosa M Abrantes-Metz, 'Proactive vs Reactive Anti-Cartel Policy: The Role of Empirical Screens' (8th European Summer School and Conference in Competition and Regulation, Corfu, Greece, July 2013); OECD, 'Data Screening Tools in Competition Investigations' (2022) Competition Policy Roundtable Background Note; Hofmann and Lorenzoni (n 1).

[60] Johan Ysewyn and Siobhan Kahmann, 'The decline and fall of the leniency programme in Europe' (2018) 1 Concurrences 44; OECD, 'The Future of Effective Leniency Programmes: Advancing Detection and Deterrence of Cartels' (2023) Competition Policy Roundtable Background Note; Abrantes-Metz (n 59); Lorenzoni (2022) (n 1).

[61] OECD (2022) (n 59) 10; OECD (2023) (n 60); Ysewyn and Kahmann (n 60); Lorenzoni (2022) (n 1).

[62] Hannes Beth and Olivier Gannon, 'Cartel screening – can competition authorities and corporations afford not to use big data to detect cartels?' (2022) 7 Competition Law & Policy Debate 77.

[63] Ibid; OECD (2022) (n 59); Hofmann and Lorenzoni (n 1).

[64] OECD (2022) (n 59); Viktoria H S E Robertson and Jürgen Fleiß, 'Computational Antitrust and the Future of Competition Law Enforcement' [2024] GRUR International XX(XX) 1; Hofmann and Lorenzoni (n 1).

[65] Hofmann and Lorenzoni (n 1); OECD (2022) (n 59).

[66] Hofmann and Lorenzoni (n 1).

of mergers, nor is there any commercial product to monitor markets for potential law breaches".[67] A more digital approach has also been tested to help competition authorities with their task of defining the relevant market. In fact, "[t]he process for defining the relevant product and geographic market is a data-intensive sector, with data concerning price elasticity, demand, and supply substitutability. Where quantitative techniques based on economic analysis are employed, machine learning algorithms can likewise be developed".[68] In particular, after the Commission updated the notice on market definition, according to which other non-price factors should be taken into consideration to define the relevant market,[69] machine learning and natural language processing techniques can help competition authorities with this task. For instance, instead of using typical price-data to identify boundaries of competition between companies, NLP techniques, which work with atypical data, namely natural language, can transform written texts into machine readable format.[70] Studies apply NLP to measure product similarity by analysing product reviews, product descriptions and social media posts.[71] Another project shows how closeness between companies can be assessed by taking into consideration transfer of workers from one company to another.[72] Furthermore, NLP techniques were used to identify competitors by analysing business descriptions and they were able to spot small companies that provided a precise description of their business, which were not spotted by the Commission in past merger cases.[73]

Thirdly, studies suggest that a more digital approach could help competition authorities to predict how "a court will enforce the law" avoiding that their decisions will be overturned in courts.[74] In the decision-making phase of an antitrust procedure, sophisticated digital tools could be employed by competition authorities to anticipate the outcome of a case judged by a court, as it has already been experimented in the field of tax law, and to predict outcomes of cases before the European Court of Human Rights.[75] "Accordingly, such a tool could help shape the decision-making process by relying on a benchmark that ensures that similar cases are treated in a similar way".[76] Finally, some competition authorities have developed digital tools, such as web scraping techniques, to monitor compliance with remedies imposed in the implementation phase of an antitrust proceeding.[77] "For instance, in cases of anticompetitive behavior of tech companies, among the remedies, they

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[67] Stefan Hunt, 'The technology-led transformation of competition and consumer agencies: The Competition and Markets Authority's experience' Discussion paper (*Competition and Markets Authority*, 14 June 2022) p. 23 <https://assets.publishing.service.gov.uk/media/62b9ab0d8fa8f5357862f49e/The_technology_led_transformation_of_competition_and_consumer_agencies.pdf> accessed 25 August 2024.

[68] Hofmann and Lorenzoni (n 1) 44.

[69] Commission, 'Notice on the definition of the relevant market for the purposes of Union competition law' (Communication) C/2024/1645 according to which "[…] when defining the relevant market, the Commission takes into account the various parameters of competition that customers consider relevant in the area and period assessed. Those parameters may include the product's price, but also its degree of innovation and its quality in various aspects – such as its sustainability, resource efficiency, durability, the value and variety of uses offered by the product, the possibility to integrate the product with other products, the image conveyed or the security and privacy protection afforded, as well as its availability, including in terms of lead-time, resilience of supply chains, reliability of supply and transport costs" [15].

[70] Klaus Gugler, Florian Szücs and Ulrich Wohak, 'Using Natural Language Processing to Delineate Digital Markets' (2024) 4 Stanford Computational Antitrust 33 and Rashid Muhamedrahimov, 'Using Natural Language Processing in competition cases' (*Compass Lexecon*, 22 March 2022) <https://www.compasslexecon.com/insights/publications/using-natural-language-processing-in-competition-cases> accessed 13 August 2024

[71] Muhamedrahimov (n 70). See also Yi Yang, Kunpeng Zhang and P K Kannan, 'Identifying Market Structure: A Deep Network Representation Learning of Social Engagement' (2022) 86 Journal of Marketing 37.

[72] Muhamedrahimov (n 70).

[73] Gugler, Szücs and Wohak (n 70).

[74] Benjamin Alarie, Anthony Niblett and Albert H. Yoon, 'Regulation by Machine' (30th Conference on Neural Information Processing Systems, Barcelona 2016).

[75] Ibid and Masha Medvedeva, Michel Vols and Martijn Wieling, 'Using machine learning to predict decisions of the European Court of Human Rights' (2020) 28 Artificial Intelligence and Law 237.

[76] Hofmann and Lorenzoni (n 1) 45.

[77] See for instance the experience of the Competition and Markets Authority (CMA) where "[s]craping can also be used to check compliance with CMA remedies or guidance. The payday lending market investigation included a remedy that lenders needed to put a link to a price comparison website on their webpage. We created code to scrape company websites to check that there was a link, writing to any non-compliant firms and telling them to comply" Hunt (n 67) 22.

could be ordered not to upload certain contents on their web page, such as links or ads, and this could easily be monitored using advanced software tools".[78]

3.3. The third pillar of the more DDD approach: cooperation and data sharing

To enable competition authorities to build their own digital enforcement tools and enhance their proactive approach, access to data is a key element.[79] A digital approach which suggests the use of AI and other technologies to enforce competition law can succeed only if data are available. Hence the new approach to competition law should take data into consideration. Cooperation and data sharing are also part of latest efforts of the EU legislator to create a "Common European Data Space",[80] where data can freely move within the single market, becoming the fifth freedom, in addition to freedoms related to citizens, goods, services and capitals.[81] At the EU level, a voluminous body of legislative acts[82] encourages cooperation and data sharing between private actors and public authorities ("B2G") and between public authorities among each other ("G2G").[83] In this scenario, two possible mechanisms can help competition authorities to "access [...] relevant, up-to-date and structured business data".[84]

Firstly, private companies could be obliged to share their data in machine readable format to competition authorities (B2G data sharing).[85] Imposing data access through "a mandatory access law"[86] in order to acquire knowledge and improve digital tools for market monitoring and detection purposes should occur in an earlier stage, before the starting of an official investigation. For instance, Robertson and Fleiß suggest that "[i]f the legal framework foresees that digital platforms, companies under investigation or their competitors need to provide the competition authority with access to data in a structured format, then this will greatly facilitate the authority's ability to analyse said data with a computational antitrust tool".[87] As seen in the previous section, in the initiation phase and before an official investigation has started, competition authorities need to rely on privately held business data in order to develop screening tools as accurate as possible.[88] At this stage, private companies may be reluctant to share their data with authorities without official Requests for Information,[89] increasing the gap between enforcers and private businesses, due to information asymmetries.[90] Hence, voluntary data sharing, even against payment may not be a feasible solution in competition law.[91] Mandatory B2G data sharing rules should ensure data protection compliance when personal data are requested and they need to provide a justification for restricting a fundamental right, that is the freedom to conduct a business, in

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[78] Hofmann and Lorenzoni (n 1) 45 and Jay L. Himes, Jason Nieh, and Ron Schnell, 'Antitrust Enforcement and Big Tech: After the Remedy Is Ordered' (2021) 1 Stanford Computational Antitrust 64.

[79] Robertson and Fleiß (n 64).

[80] <https://digital-strategy.ec.europa.eu/en/policies/data-spaces> accessed 28 August 2024.

[81] Commission, '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' COM(2020) 66 final; Oscar Borgogno and Giuseppe Colangelo, 'Data sharing and interoperability: Fostering innovation and competition through APIs' (2019) 35 Computer Law & Security Review 1.

[82] Herwig C H Hofmann and Felix Pflücke, 'New Regulatory Approaches under the EU's Legislation on Digitalisation' (2024) European Journal of Risk Regulation (forthcoming).

[83] See for instance Regulation (EU) 2018/1807 of 14 November 2018 on a framework for the free flow of non-personal data in the European Union; Regulation (EU) 2022/868 of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act); Regulation (EU) 2023/2854 of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act) and Regulation (EU) 2024/903 of 13 March 2024 laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act).

[84] Robertson and Fleiß (n 64).

[85] Herwig C H Hofmann, Dirk A Zetzsche and Felix Pflücke, 'The changing nature of 'Regulation by Information': Towards real-time regulation?' (2022) 28 European Law Journal 172; Robertson and Fleiß (n 64).

[86] Heiko Richter, 'The law and policy of government access to private sector data ('B2G data sharing')' in German Federal Ministry of Justice and Consumer Protection, Max Planck Institute for Innovation and Competition (eds), *Data Access, Consumer Interests and Public Welfare* (Nomos, 2021).

[87] Robertson and Fleiß (n 64).

[88] Ibid; Hofmann and Lorenzoni (n 1).

[89] Article 18 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.

[90] Hofmann and Lorenzoni (n 1); Richter (n 86).

[91] Robertson and Fleiß (n 64).

the light of the principle of proportionality.[92] Regulations of this kind have been adopted in the UK, with the UK Digital Economy Act which obliges private companies to share data for statistical and research purpose.[93] In Germany, the Market Unit Transparency Act "authorises the Economic Affairs Ministry to issue a regulation enabling [the Market Transparency Unit for Fuels (MTU Fuels)] to carry out its mission at the Federal Cartel Office. The regulation […] lays out reporting obligations for public filling station operators"[94] which have to communicate every change in retail fuel prices for market monitoring.[95]

Secondly, data can be obtained also through cooperation mechanisms among competition authorities and between them and other relevant public bodies (G2G data sharing). The third pillar of the more DDD approach should rely on cooperation between public authorities, with the aim to have access to a large pool of data. Cooperation between competition authorities in the longstanding fora of the European Competition Network (ECN) at the EU level, and the International Competition Network (ICN) and the Organisation for Economic Co-operation and Development (OECD) at the international level, should not be limited to exchange best practices and information during investigations, but also to share data and digital enforcement tools. Sharing data can help creating a large database on which algorithms can be trained, based on past examples of collusive and non-collusive behaviours.[96] Furthermore, sharing not only data, but software and digital systems, such as screening tools, may help enhancing detection capabilities and a more coordinated and harmonised approach among competition authorities.[97]

Finally, cooperation should also occur between competition authorities and other relevant public bodies (G2G data sharing). Competition authorities might be interested in accessing personal and non-personal data in machine readable format held by public procurement bodies to detect possible bid rigging cases in tenders.[98] Competition authorities may also be interested in cooperating and exchanging data with data protection authorities.[99] This may be especially relevant in a data-driven economy where data has become a key antitrust parameter, with implications for both, data protection and competition authorities.[100] Also in the light of the latest *Meta Platforms* case, already discussed in the previous chapter, cooperation should occur between competition and data protection authorities whenever "the compliance or non-compliance of that conduct with the provisions of the GDPR may, depending on the circumstances, be a vital clue among the relevant circumstances of the case in order to establish whether that conduct entails resorting to methods governing normal competition and to assess the consequences of a certain practice in the market or for consumers".[101] In its decision, the CJEU established a cooperation mechanism between the two authorities, as neither the GDPR, nor any other EU law instruments could be used to extrapolate rules on cooperation between different public enforcement bodies.[102] In this regard, competition authorities should first consult data protection authorities to see whether the same conduct or similar ones have been already the subject of a decision or are under investigation. In the first case, a competition authority is obliged to comply with the data protection authority's

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[92] Richter (n 86); Hofmann, Zetzsche and Pflücke (n 85).

[93] Digital Economy Act 2017, s 80(45D) <https://www.legislation.gov.uk/ukpga/2017/30/section/80> accessed on 23 July 2024. See also Commission, 'Towards a European strategy on business-to-government data sharing for the public interest' (Final report prepared by the High-Level Expert Group on Business-to-Government Data Sharing 2020) 35 <https://op.europa.eu/en/publication-detail/-/publication/d96edc29-70fd-11eb-9ac9-01aa75ed71a1> accessed 27 August 2024.

[94] <https://www.bmwk.de/Redaktion/EN/Artikel/Energy/market-transparence-units.html> accessed 27 August 2024.

[95] Ibid. See also Richter (n 86).

[96] Lianos (n 57); OECD (2022) (n 59).

[97] Hunt (n 67) on the experience of the UK Competition and Markets Authority where their "DaTA unit has started sharing its coding assets with other agencies and we think there is considerable potential for agencies to develop digital assets together" 23. See also the example of the Bid Viewer screening tool developed by the Danish Competition and Consumer Authority with the aim of being shared with and used by other competition authorities, stating "we believe that many of these [challenges] can be overcome by sharing knowledge, data, and computational tools internationally and across agencies […] sharing international datasets and know-how will enable the construction of better and more accurate screens and models to detect collusion". Danish Competition and Consumer Authority, 'Collusion Detection in Public Procurement using Computational Methods' (2022) 56 Competitive Markets and Consumer Welfare 1. See also Kruse (n 2).

[98] Robertson and Fleiß (n 64).

[99] Carugati (n 45); OECD (2024) (n 34).

[100] OECD (2024) (n 34).

[101] *Meta Platforms* (n 48) [47].

[102] *Meta Platforms* (n 48) [42-43].

decision, and in the second case, the competition authority should stand by. Following a request from a competition authority and without a reply within a reasonable time from the data protection authority, the former may carry on its own investigation.[103] On a final note, it is worth noting that several countries have established bodies which combine competition and data protection capabilities, ensuring a more coherent approach between these two rules.[104]

IV.   Legal challenges for the more DDD approach

The more DDD approach to competition law bears the promise of improving detection's capability of competition authorities, providing more access to data and enhancing efficiency of the overall enforcement procedure. However, *all that glitters is not gold*. Potential concerns and criticism can be identified in each pillar of the more DDD approach which should be carefully addressed by competition authorities.

In the first pillar of the more DDD approach, integrating data protection into competition law may raise some issues. Scholars who advocate for keeping competition law and data protection law as two separate compartments highlight the fact that they pursue different goals and merging them together would only create confusion.[105] On the one hand, competition law's main goal is to safeguard consumer welfare and to ensure undistorted competition, protecting individual rights only indirectly.[106] On the other hand, data protection law deals with fundamental rights of individuals when processing their personal data and aims to facilitate the free flow of such data within the EU.[107] Furthermore, the main problematic point within the first pillar of the more DDD approach is the risk of parallel investigations, when the same conduct may be pursued by two different authorities – competition and data protection authorities – which may dangerously infringe de *ne bis in idem* principle.[108] However, in competition law cases, this principle is not violated when the two separate proceedings are different "either as to the identity of the offender, or as to the relevant facts, or as to the protected legal interest […]",[109] which would be the case considering the different legal interests protect by the two authorities.[110]

The second pillar of the more DDD approach, which suggests the use of AI and machine learning solutions as enforcement tools may give raise to complicated issues that competition authorities would have to face throughout their entire decision-making process. First of all, some of these technological tools are considered "black boxes" because of their inscrutability and opacity, which makes their outcome more difficult to explain.[111] Depending on which phase of a competition enforcement procedure such tools are employed, different procedural rights may be put in danger. For example, using black box AI in the initiation phase as a screening tool may lead to flag suspicious anticompetitive conducts, but if it is not possible to understand which parameters have been taken into consideration and which have been disregarded, and therefore the system's outcome cannot be explained, it is unlikely that such tool can serve as a base for an inspection decision. This is even more challenging when, in some jurisdictions, inspections are allowed under a warrant provided by a judge, who needs to understand and be convinced by the outcome of such screening tools. In

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[103] *Meta Platforms* (n 48) [56-59].

[104] Carugati (n 45); OECD (2024) (n 34). See also Christophe Carugati, 'The Antitrust Privacy Dilemma' (2021) working paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3968829> accessed 28 August 2024.

[105] See for instance Colangelo (n 51).

[106] Marco Botta and Klaus Wiedemann, 'The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey' (2019) 64 Antitrust Bulletin 428 and OECD (2024) (n 34) 6.

[107] *Meta Platforms* (n 48) [45].

[108] Peter Stauber, 'Facebook's Abuse Investigation in Germany and Some Thoughts on Cooperation Between Antitrust and Data Protection Authorities' (2019) 2 CPI Antitrust Chronicle 36; OECD (2024) (n 34).

[109] Case C-117/20 *bpost SA v Autorité belge de la concurrence* [2021] EU:C:2021:680, Opinion of AG Bobek [165]. See also OECD (2024) (n 34).

[110] Stauber (n 108); OECD (2024) (n 34).

[111] Jenna Burrell, 'How the machine 'thinks': Understanding opacity in machine learning algorithms' (2016) 3 Big Data & Society 1; John Danaher, 'Three Types of Algorithmic Opacity' (*Algocracy and the Transhumanist Project*, 5 March 2016) <https://algocracy.wordpress.com/2016/03/05/three-types-of-algorithmic-opacity/> accessed 30 August 2024 and Jennifer Cobbe, Michelle Seng Ah Lee and Jatinder Singh, 'Reviewable Automated Decision-Making: A Framework for Accountable Algorithmic Systems' (ACM Conference on Fairness, Accountability, and Transparency (FAccT '21), Virtual Event, Canada, March 2021).

this context, the right of a reasoned decision may suffer, as well as the principle of an effective judicial review.[112] Under the right of a reasoned decision, competition authorities are required to explain their methodology and the tools employed to the counterpart and the judiciary, and show that their decision is accurate and supported by sound evidence.[113] Using AI tools as enforcement instruments may require explanations on "the functioning and the logic of the system chosen, as well as documents and reports of processing activities within the system, ideally with a view to ensuring that such reports are understandable for non-experts in the field".[114] Secondly, AI and machine learning systems may be exposed to the risk of bias, in the form of both algorithmic and automation bias. The first refers to a situation in which algorithms are fed with data from a biased database, and, as a consequence, the outcome of the AI system will also be biased and therefore unreliable.[115] The second form of bias relates to the risk of blindly trusting a machine's result without any meaningful supervision exercised by a human being.[116] In competition law whose decision-making process is characterized by discretionary choices, the outcome presented by an AI system may "shape, constrain, or limit human discretion by structuring information intake".[117] In fact, "[c]ase-handlers (who most likely are not computer scientists) might tend to trust the outcome provided by an AI system, and in any case, they might not be able to contradict it, due to their lack of understanding".[118]

The third pillar of the more DDD approach encourages data exchange and cooperation between competition authorities and other private and public actors. B2B and B2G data sharing may expose to the risk of data protection infringements when personal data are handled. Against a reluctance to share data with competition enforcers, some safeguards can be adopted, in order to build a trust environment and encourage practices of data sharing, which should become "a default".[119] Also in the light of the latest EU digital legislation, anonymisation and pseudonymisation can be adopted to ensure data protection and privacy of the individuals involved.[120] Anonymization is "the process of either encrypting or removing personally identifiable information from datasets, such that the people whom the data describe (data subjects) remain anonymous";[121] while pseudonymization protects against the risk of identifying data subjects by adopting pseudonyms and artificial markings in place of personal information.[122] Furthermore, *ad hoc* intermediary bodies could ensure a safe and trustworthy data exchange between public bodies, acting as a "data trustee".[123] Intermediaries

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[112] Herwig C H Hofmann, 'An Introduction to Automated Decision-making (ADM) and Cyber-Delegation in the Scope of EU Public Law' (2021) Indigo Working Paper; Hofmann and Lorenzoni (n 1); Lorenzoni (2022) (n 1).

[113] Hofmann and Lorenzoni (n 1).

[114] Ibid 53. See also Hofmann (n 112).

[115] Hofmann and Lorenzoni (n 1); Filipe Brito Bastos, 'Reasons-giving in AI-assisted decision-making: what can we (not) learn from current EU Administrative Law?" [2023] The Digital Constitutionalist the Future of Constitutionalism <https://digi-con.org/reasons-giving-in-ai-assisted-decision-making-what-can-we-not-learn-from-current-eu-administrative-law/> accessed 23 August 2024.

[116] Hofmann and Lorenzoni (n 1); Jennifer Cobbe, 'Administrative Law and the Machines of Government: Judicial Review of Automated Public-Sector Decision-Making' (2019) 39 Legal Studies 636, p. 641.

[117] Hofmann and Lorenzoni (n 1). See also Lorenzoni (2022) (n 1).

[118] Lorenzoni (2022) (n 1) 50. See also Hofmann (n 112) 14.

[119] Regulation (EU) 2024/903 of 13 March 2024 laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act) Recital 25.

[120] Jens Prüfer, 'Competition Policy and Data Sharing on Data-driven Markets Steps Towards Legal Implementation' (Friedrich-Ebert-Stiftung project 2020) <https://library.fes.de/pdf-files/fes/15999.pdf> accessed 26 August 2024; Commission (n 89). See also the article 5(3)(a) and recital 15 Data Governance Act.

[121] Prüfer (n 120).

[122] Ibid.

[123] Ibid and Hofmann and Pflücke (n 82).

entrusted to strengthen cooperation have been established by the Data Governance Act (i.e. the European Data Innovation Board)[124] and by the Interoperable Europe Act (i.e. the Interoperable Europe Board).[125]

V.   Conclusions

The data revolution on the one hand, and the AI revolution on the other have changed competition dynamics and brought novel challenges and opportunities in the competition landscape. Undertakings' activities revolve around data and new technologies, as they need access to users' data and AI tools to innovate, develop products and ultimately compete in digital markets. Competition authorities need to embrace this digital revolution and maximise the opportunities that technology presents, by updating and creating new tools and methods to assess anticompetitive behaviours, increase detection capability and strengthen *ex officio* investigations.[126]

This article has shown how the field of competition law is sensitive to these changes, how different schools of thought have influenced policy makers and judiciaries depending on several factors, such as the market structure, economic crisis, and now the wave of digitalisation. Hence a new and innovative approach to competition law is here proposed, which is characterised by three main aspects that reflect our modern "algorithmic data-driven society".[127] The more DDD approach stands on three different grounds: goals, methodology and cooperation. Data has become a crucial factor also in competition assessments, and therefore, data protection aspects should be integrated in competition law, as a parameter and as a crucial clue of an anticompetitive infringement. Digital instruments should be developed as a method to detect, investigate, and assess companies' behaviours in the markets. AI and machine learning tools bear the promise of increasing competition authorities' efforts and be more accurate than previous econometrics tools. Data is also part of the third pillar of the more DDD approach, as cooperation with private companies and relevant public bodies should occur as a data-driven cooperation, where relevant data should be made accessible for competition authorities.

Finally, risks and concerns need to be taken into consideration in every pillar of the more DDD approach. Merging data protection with competition law could give rise to unwanted outcomes, such as double investigations issue; developing and applying AI and other cutting-edge technologies to real cases could enhance the risk of employing biased and unexplainable systems, weakening procedural rights of defence; dealing with access to personal data could lead to infringe data protection regulations. All of these issues need to be avoided by implementing adequate solutions.

Overall, the more DDD approach may provide competition authorities with tools and methods which can make them better equipped to deal with the new challenges of the digital era. At the same time safeguards are essential to make sure that efficiency would not prevail at the cost of fundamental rights in enforcement proceedings.

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[124] "[…] the Commission established the European Data Innovation Board (EDIB) to facilitate the sharing of best practices, in particular on data intermediation, data altruism and the use of public data that cannot be made available as open data, as well as on the prioritisation of cross-sectoral interoperability standards" Data Governance Act explained <https://digital-strategy.ec.europa.eu/en/policies/data-governance-act-explained> accessed 28 August 2024. On the European Data Innovation Board see recitals 53-54 and articles 29 ss Data Governance Act.

[125] Article 15(1) Interoperable Europe Act provides that "[t]he Interoperable Europe Board […] shall facilitate strategic cooperation and provide advice on the application of this Regulation". For a more in-depth analysis of the Interoperable Europe Board see Felix Pflücke, 'Interoperability in the EU Paving the Way for Digital Public Services' (2023) Indigo Working Papers 14/2023, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4561014> accessed 28 August 2024, "[…] the Interoperable Europe Board […] an essential entity responsible for strategic coordination, decision-making, and information sharing about cross-border interoperability" 32.

[126] International Competition Network (n. 32).

[127] Ariel Ezrachi and Maurice E. Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press 2016).

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