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Christian Rusche

# Data Economy and Antitrust Regulation

Data becomes a more and more important factor in the economy. To fully develop the economic potential of the data economy, antitrust regulation has to prevent the abuse of market power while sustaining the benefits of cooperation. This paper presents the pillars of European antitrust regulation and explains the particular challenges posed by data. Finally, it is shown that current antitrust law is well prepared to meet these requirements.

Data-driven business models are not new. The Yellow Pages or model agencies, for example, rely on a dataset as their core asset. However, as digitalisation affects more sectors of the economy and society, increasing amounts of data are available and technical innovations make the collection, storage, processing, distribution and analysis of data much easier. The utilisation of data increases productivity, efficiency and supports the creation of new technologies, products and services.

Accordingly, data also has implications for competition. There are fears that companies could use unique sets of data to hamper competition or even become undisputed monopolists.<sup>1</sup> The enormous economic success of firms using data-driven business models reinforces these fears.<sup>2</sup>

## Economic characteristics of data

Generally, data is non-rivalrous in consumption, meaning that using it does not impair other agents from using the same set of data for a completely different purpose at the same time. Furthermore, data is cheap to reproduce.<sup>3</sup> These characteristics give firms the opportunity to pursue different objectives at the same time and therefore the opportunity to seize all of the chances that come with data.<sup>4</sup>

Ownership of data and the legal use of data also depend on whether it is personal or non-personal. Personal data, on the one hand, refers to “any information relating to an identified or identifiable natural person”.<sup>5</sup> Note that personal data is eventually supposed to be out of reach of antitrust regulation.<sup>6</sup> In fact, ownership and use of personal data are regulated by data protection laws, i.e. mainly the General Data Protection Regulation (GDPR). However, data protection regulation has been taken into account by the European antitrust authorities in recent lawsuits. Non-personal data, on the other hand, includes all data that is not personal data, e.g. that is collected automatically without human involvement. This kind of data is key to the economic success of the Industry 4.0 and the overall economy.

But for data to be useful, time, and accordingly topicality, also play an important role. Hennemann and Paal argue that the extent of that role depends on the specific objective of the data use.<sup>7</sup> If the research goal is to find historical correlations, for example, topicality is not that important. The importance of topicality also depends on whether the data is personal or non-personal. According to Körber, user data, e.g., loses value exponentially over time.<sup>8</sup>

Barring access to the data is also possible. This may be the case either because of genuine property rights or because data is kept secret. Accordingly, charging a price to access data is possible. It helps to create a market for data and therefore incentivises data owners to share their data. The International Data Corporation (IDC) and Open Evidence analysed the data market volume and its

- 1 BMWi – Bundesministerium für Wirtschaft und Energie: Weissbuch Digitale Plattformen, Digitale Ordnungspolitik für Wachstum, Innovation, Wettbewerb und Teilhabe, Berlin 2017; Bundeskartellamt: Big Data und Wettbewerb, Schriftenreihe „Wettbewerb und Verbraucherschutz in der digitalen Wirtschaft“, No. 1, Bonn, October 2017.
- 2 Ernst & Young: Marktkapitalisierung 2017, Analyse der wertvollsten Unternehmen der Welt.
- 3 C. Shapiro, H. Varian: Information Rules. A Strategic Guide to the Network Economy, Boston 1999, p. 3.
- 4 For an overview of the benefits of data, see OECD: Exploring data-driven innovation as a new source of growth, OECD Digital Economy Papers No. 222, Paris 2013, OECD Publishing, p. 14.

5 Official Journal of the European Union: Regulation (EU) 2016/679 (General Data Protection Regulation), L 119, Vol. 59, 2016, pp. 1–88.

6 M. Hennemann, B.P. Paal: Big Data as an Asset, Daten und Kartellrecht, Gutachten im Rahmen des Projekts abida (Assessing Big Data) gefördert durch das Bundesministerium für Bildung und Forschung, 2018, p. 37.

7 Ibid., p. 20.

8 T. Körber: Analoges Kartellrecht für digitale Märkte, in: Wirtschaft und Wettbewerb, Vol. 65, No. 2, 2015, pp. 120–133.

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induced effects on the European economy.<sup>9</sup> The study shows that the total impact of traded data on GDP for the EU already amounted to 1.85% in 2014 and increased to 1.99% in 2016.

But limiting access to data or raising the price of data collection may create barriers to market entry. This is a problem if a platform has market power and therefore becomes a gatekeeper of access to its customers and their data.

### Antitrust law in the European Union

The basic framework of European antitrust regulation applies also to data. The antitrust law of the European Union has three pillars that guarantee the functioning of competition:

- Merger control (EC Merger Regulation) tries to prevent the impediment of effective competition from mergers or acquisitions.<sup>10</sup>
- Prohibition of abuse of dominance (Art. 102 TFEU)<sup>11</sup> ensures that companies with a dominant market position, i.e. those who are able to function somewhat independently of their customers and competitors,<sup>12</sup> are unable to abuse their market power. Antitrust regulation does not forbid a company from achieving a dominant position or even a monopoly by offering successful products and services as long as it fulfils its legal obligations. Nevertheless, a dominant enterprise has a responsibility to not distort competition.<sup>13</sup>
- Prohibition of anticompetitive practices (Art. 101 TFEU) aims at preventing companies from limiting competition. It prohibits all agreements, decisions and concerted practices that cause or try to prevent, restrict or distort competition. Agreements that restrict competition but still have a predominantly positive effect or are not intended to be anticompetitive may be allowed according to antitrust regulation (Art. 101 (3) TFEU).

In addition to EU antitrust regulation, Member States also impose antitrust laws. The prohibition of anticompetitive practices and of abuses of power are harmonised to a great extent. To settle a conflict of jurisdiction, the EU regulation contains a term that defines when the trade on the internal EU market is affected and therefore EU laws have to be applied.<sup>14</sup> National and European regulations within the field of merger control differ and the latter aim at mergers and acquisitions with a 'community dimension' (Art. 2 2. EC Merger Regulation) and therefore use higher thresholds.

### Data and antitrust regulation

Before the challenges due to data are analysed, competition must be examined in order to define the relevant market. Depending on the market definition, the results of the analysis may differ. The first step of market demarcation in this respect is to evaluate whether a market exists at all. While this seems straightforward, it was a long-discussed issue especially for digital markets without any monetary payment.<sup>15</sup> However, at the EU level, markets are assumed to exist even without payment.<sup>16</sup>

Once a market is assumed, market demarcation is still an issue for determining whether a data-driven business model possesses market power or not. To answer the question of what the market is, the following aspects, among others, have to be considered:

- Digital platforms are characterised by matching at least two market sides. Google Search, for example, has at least three market sides: consumers using Google Search, websites being listed as the result of search queries and advertising firms placing ads. Each market side is needed to offer the respective service of Google Search. Therefore, it is questionable whether all market sides should be analysed individually.<sup>17</sup>
- An overly narrow market definition can lead one to believe that a company has a dominant market position, although this is not the case. The EU Commission's definition is as follows: "A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitut-

9 IDC – International Data Corporation and Open Evidence, European Data Market SMART 2013/0063, Final Report, Brussels 2017.

10 Official Journal of the European Union: Council Regulation (EC) No. 139/2004, L 24, Vol. 47, 2004, pp. 1-22.

11 Official Journal of the European Union: Consolidated version of the Treaty on the Functioning of the European Union, C 326, Vol. 55, 2012, pp. 47-200.

12 European Court: Judgement of the Court in Case 30/87, Corinne Bodson v SA Pompes funèbres des régions libérées, in: European Court Reports 1988, pp. 2507-2519, para 26.

13 European Court: Judgment of the Court in Case C-52/09, Konkurrensverket v TeliaSonera Sverige AB, in: European Court Reports 2011, pp. 564-600, para 24.

14 Official Journal of the European Union: Guidelines on the effect on trade concept contained in Articles 81 and 82 of the Treaty, C 101, Vol. 47, 2004, pp. 81-96.

15 Bundeskartellamt: Arbeitspapier – Marktmacht von Plattformen und Netzwerken, B6-113/15, Bonn, Juni 2016, p. 36.

16 Ibid., p. 37.

17 Ibid., pp. 39-40.

able by the consumer".<sup>18</sup> Regarding the market for online searches, for example, the EU Commission may, therefore, assume that online directories or even offline search formats can be substitutes.<sup>19</sup> That is why a dominant position in the market for general online searches is not necessarily proof of market power.

If no monetary compensation is demanded for a service with a data-driven business model, conventional tests for market power cannot be used, e.g. the SSNIP-Test (Small but Significant Non-Transitory Increase in Price).<sup>20</sup> Accordingly, alternative measurements must be used. Therefore the question becomes how it should be measured and whether different measurements lead to the same conclusion.

In essence, the definition of the relevant market must be considered anew for each individual case in light of the factors mentioned above.

### Abuse of dominance

Once the relevant market has been defined, we need to consider whether a company has market power or a dominant position. As stated above, market power due to one's own merits is not forbidden.

But problems may arise if competition in the relevant market or even other markets can be impeded by market power or by an abuse of a dominant position that was acquired via data. To address the first issue, antitrust authorities may force the relevant company to make the data available to (potential) competitors or firms in other markets. For this to happen, however, two conditions must be fulfilled simultaneously according to the German antitrust authority:

- The access to certain data has to be important for the economic success in a market.
- The other players in the market are unable to buy or collect a set of data that is similar or at least as useful as the one of the leading company.<sup>21</sup>

Online markets in particular are characterised as being very dynamic and, therefore, a dominant position could

very well be temporary. Furthermore, data may dramatically lose value over time. Consequently, the problem of market power due to data may resolve itself.<sup>22</sup> Most customers use different companies or platforms for different purposes and, therefore, provide their data non-exclusively. Amazon is used for shopping, Skype for communication and LinkedIn for networking and job searches, for example. Also traditional establishments like banks, postal services and phone companies collect data. All of these firms may be able to create a high quality dataset. Even non-personal data can be produced by different providers.

As a consequence, the number of cases where both conditions mentioned by the *Bundeskartellamt* are fulfilled may be rather small. Grave and Nyberg have not found a single case in antitrust case law where a market leader was convicted for not providing access to its data.<sup>23</sup> Furthermore, the European GDPR grants users the right to data portability of their own personal data since May 2018 (Art 20 GDPR). This limits the possibility of exclusive sets of data even further.

Even when access to data is granted, a dominant firm can abuse its power. This is the case if the access is only granted to some companies that may, as a result, gain an edge over excluded competitors. Similarly, if certain companies are granted a competitive advantage, overall competition is distorted and it may constitute an abuse of market power.<sup>24</sup>

From a company perspective, collecting and storing data is only the preliminary stage for monetarising it. To be successful, a company either has to structure the data so that it can sell the dataset or it has to extract information from the data using suitable algorithms (or both).<sup>25</sup> In this respect, a good algorithm may be able to extract valuable information even from a poor or small data set, and a high-quality data set can compensate for a weak algorithm.

The sheer size of a set of data, in addition to suitable algorithms, however, does not guarantee success. Even Google admits that the marginal utility of data is declining.<sup>26</sup> The higher the volume of data, especially if the va-

18 Official Journal of the European Communities: Commission notice on the definition of relevant market for the purposes of Community competition law, C 372, Vol. 40, 1997, pp. 5-13.

19 European Commission: Merger procedure article 6(1)(b) decision, Case No COMP/M.5727 – Microsoft/ YAHOO! Search business, Brussels 2010, para 86.

20 Bundeskartellamt: Arbeitspapier... , op. cit., p. 44.

21 Bundeskartellamt: Big Data und Wettbewerb, op. cit., pp. 7-11.

22 T. Körber, op. cit., p. 132.

23 C. Grave, J. Nyberg: Die Rolle von Big Data bei der Anwendung des Kartellrechts, in: *Wirtschaft und Wettbewerb*, Vol. 67, No. 07-08, 2017, pp. 363-368.

24 Bundeskartellamt: Big Data und Wettbewerb, op. cit.

25 S. Aggarwal, C. Feijóo, J-L. Gómez-Barroso: Economics of big data, in: J.M. Bauer, M. Latzer (eds.): *Handbook on the Economics of the Internet*, Cheltenham, Northampton 2016, Edward Elgar Publishing, pp. 510-525.

26 C. Grave, J. Nyberg, op. cit., p. 367.

riety of data is rather low, the higher the cost of storing, processing and analysing the data, and the smaller the possible improvement.

Nevertheless, algorithms can establish market power if they lead to a competitive advantage in the production or service process. From this standpoint, an algorithm could be considered a trade secret that is generally protected.<sup>27</sup> If an algorithm results in market power, European antitrust law applies. For example, it prohibits a dominant firm from unjustifiably favoring its own products or services via the algorithm,<sup>28</sup> e.g. if a search engine ranks its own services in a search query higher than equivalent services of competitors.

Antitrust law can also be applied if personal data is affected. For the most part, processing personal data is only allowed if the data subject has given consent (Article 6 (1) GDPR). Still, getting someone to consent to collecting, processing and analysing their personal data is no big issue, particularly for digital platform companies like Google, Facebook or Twitter, who offer their customers a free or below cost service or good. Normally, the consent provision is a part of the terms and conditions of the respective company that a user has to accept to access the respective good or service. However, these terms and conditions themselves can constitute an abuse of power. This is the case if a company is the only competitor offering a certain service or good and therefore, customers are unable to switch to another provider. Furthermore, this company could take advantage of this situation by offering terms and conditions that are not in line with data protection regulation or it could grant itself unjustifiably comprehensive rights. In such a situation, customers face the choice of accepting these abusive terms and conditions or refraining from being a customer. In a preliminary assessment of Facebook's business model, the Bundeskartellamt found, for instance, that "Facebook's collection and use of data from third-party sources is abusive"<sup>29</sup> and started proceedings.

This especially holds for personal data. But abusive terms and conditions can also be an issue for non-personal data. This may be the case if data is exchanged with other companies, for example, in an industrial data space where the terms and conditions of this exchange grant

one partner unjustifiable and numerous rights or limit research and development.

### Anticompetitive practices

Competition can also be distorted by companies using certain agreements, decisions or concerted practices. The following sections address different possible avenues for cooperation and their antitrust perspective. Antitrust regulation limits the possibilities of cooperation to prevent anticompetitive practices, but still leaves plenty of room for a data economy. Above the respective thresholds mentioned below, an exemption from the prohibition of cooperation is possible under Article 101 (3) TFEU.

Cooperation with respect to research and development is viewed as beneficial by antitrust authorities as it facilitates the importance for research and development. Consequently, antitrust regulation in the EU poses no barriers to this type of cooperation as long as the involved parties are not competing in a relevant market and have full access to the final results.<sup>30</sup>

If the involved companies are indeed competitors, they may have to acquire market power, either because their combined market share is high or they are successful. In such a case, cooperation may solidify their dominant position or paves the way for it. To prevent such an outcome, the European Union introduced a market share threshold for the relevant product or technology markets of 25%.<sup>31</sup> Accordingly, cooperating firms, or firms exchanging data, have to be aware of whom they exchange or share data with.

In fact, antitrust case law requires that competitors have autonomy on the common market. An exchange may be forbidden if the exchanged data could potentially change a competitor's conduct or reveal a company's conduct to competitors. This also holds if the data is exchanged via a third party, e.g. a platform.<sup>32</sup> The party through which the data is exchanged may also be found guilty of a concerted practice. This especially holds if a platform initiated the exchange of strategic information to reveal that conduct. In this respect, the dispatch of problematic data is generally not sufficient to show that the addressee knows the content. Further evidence, like a reaction to the data, is necessary. But once a firm recognises that certain data

27 G. Surblyte: Data-Driven Economy and Artificial Intelligence: Emerging Competition Law Issues?, in: *Wirtschaft und Wettbewerb*, Vol. 67, No. 3, 2017, pp. 113-172.

28 EU Commission: Antitrust: Commission takes further steps in investigations alleging Google's comparison shopping and advertising-related practices breach EU rules, press release, 14.7.2016.

29 Bundeskartellamt: Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive, press release, 19.12.2017.

30 Official Journal of the European Union: Commission Regulation (EU) No. 1217/2010, L 335, Vol. 53, 2010, pp. 36-42.

31 Ibid., p. 41.

32 European Court: Judgment of the Court in Case C-74/14, "Euras" UAB and Others v Lietuvos Respublikos konkurencijos taryba, 2016, p. 27.

is problematic, it must distance itself from the practice or has to inform antitrust authorities.<sup>33</sup>

Anticompetitive practices can also be facilitated by publicly available data. This results from increased transparency, in particular on oligopolistic markets, because competing firms are able to observe the smallest changes in their competitors' prices and offers and, therefore, are able to retaliate nearly immediately. Even without actual contact between competitors, this transparency can lead to an anticompetitive outcome.<sup>34</sup>

However, more transparency due to data can also be beneficial. This is demonstrated by the fact that more transparency in the highly oligopolistic market for gas stations in Germany has led to more competition.<sup>35</sup> In this case, customers can compare the prices easily, e.g. with their smartphone, and react accordingly. Aware of their customers' quick response, companies could generally charge lower prices or offer better quality in order to gain market share.

With respect to algorithms, especially for small firms, it may be useful to buy a license for a technology to process and analyse data. This technology may have different effects: competition can be strengthened if new competitors enter the market or existing competitors remain in the market. This kind of transfer also helps companies to monetarise their data, because they can easily get technologies that help to collect, analyse and convert data.

However, there may also be a competitive advantage for the licensor which affects competition negatively. This is particularly the case if the contracting parties are competitors. Accordingly, the combined market share of licensor and licensee on the relevant market cannot exceed 20%.<sup>36</sup> If the contracting parties are not competing, their market share in the respective markets may not exceed 30%.

In general, companies are not competing if they are active on the same value-added step in different markets or on different value-added steps in the same market. If data is exchanged within a value chain, there is vertical cooperation. This may be the case if a supplier delivers data to an

original equipment manufacturer to improve the production process.

Such cooperation is beneficial because production can be increased if supplies and technical assistance are readily available when needed. But it can also limit competition if, for example, the companies involved develop tailor-made solutions and are very closely interconnected as a result. Consequently, a change of the cooperation partner may be impossible. The competition in the respective markets would be restricted because market entry is difficult. In this context, the German Monopoly Commission also points to the need for standards to strengthen competition and improve interoperability.<sup>37</sup>

If companies achieve success by networking within the value chain, they can develop market power in one of the markets involved. The cooperation of a sufficiently large number of companies can also lead to this result. One threat to competition that may arise is the application of weighted standards tailored to one or a few select companies that can virtually exclude other companies and thus limit competition.<sup>38</sup> However, antitrust authorities can intervene even in the case of vertical cooperation or withdraw the exemption for vertical cooperation.<sup>39</sup> Vertical cooperation is legal, however, if none of the involved companies has a market share of over 30%.

Horizontal cooperation involves cooperation between both competitors and non-competing companies on the same value-step in the same market. The advantage of such a cooperation may be the creation of innovation via the combination of data or technologies from different contexts. Efficiency gains or synergy effects may also occur. In addition, horizontal cooperation can become necessary if a company cannot develop a competitive application on its own.<sup>40</sup> This includes, for instance, the joint creation of an industrial data space.

As a rule, horizontal cooperation is characterised by the fact that it is generally considered harmless below certain thresholds. If this is the case, the market share thresholds listed are relevant. But for any other type of cooperation, the threshold is given at 10% if the companies are competing and 15% otherwise.<sup>41</sup>

33 Ibid., p. 50.

34 J. Haucap, U. Heimeshoff, C. Kehder, J. Odenkirchen, S. Thorwarth: Auswirkungen der Markttransparenzstelle für Kraftstoffe (MTS-K): Änderungen im Anbieter- und Nachfragerverhalten, DICE Ordnungspolitische Perspektiven, No. 91, Düsseldorf 2017.

35 Ibid.

36 Official Journal of the European Union: Commission Regulation (EU) No. 316/2014, L93, Vol. 57, 2014, pp. 17-23.

37 Monopolkommission: Wettbewerbspolitik: Herausforderung digitale Märkte, Sondergutachten 68, Bonn 2015, p. 187.

38 W. Frenz: Industrie 4.0 und Wettbewerbsrecht, in: Wettbewerb in Recht und Praxis, Vol. 62, No. 6, 2016, pp. 671-678.

39 Official Journal of the European Union: Commission Regulation (EU) No. 330/2010, L102, Vol. 53, 2010, pp. 1-7.

40 W. Frenz, op. cit., p. 677.

41 Official Journal of the European Union: De Minimis Notice, C 291, Vol. 57, 2014, p. 2.



One exception to this rule is the so-called specialisation agreement. Companies either agree on joint production or on specialisation on certain goods or services. For example, in the case of industrial robots, one company can produce the hardware, while another company specialises in the software and collects the relevant data that is then shared with the hardware producer. In general, European antitrust law assumes that the positive effects will prevail if the combined market share does not exceed 20%.<sup>42</sup>

## Conclusion

Because data is non-rivalrous in consumption and cheap to reproduce, companies have the chance to take all opportunities data offers. Furthermore, because exclusion is possible, data marketplaces have been created. Data marketplaces and related products or services already contribute noticeably to GDP.<sup>43</sup> The high and increasing economic importance of data indicates that data has implications for current and future competition. This competition is guaranteed by the three pillars of antitrust law in the EU. In merger control, antitrust authorities are already looking at problems that may come about because of data. Forcing a firm with a unique dataset to grant access to the data is possible to prevent one firm from dominating the market, but requirements need to be fulfilled which make this case rather unrealistic. In essence, data's role as the key to success is limited by the need for suitable algorithms, by its loss of value over time, dynamic digital markets and the number of companies collecting data. To promote beneficial cooperation and at the same time limit the danger of anticompetitive practices, different market share thresholds have been introduced by antitrust authorities. These thresholds vary according to the kind of cooperation and companies involved. Below these thresholds, cooperation is unproblematic. But above these thresholds, cooperation must be proven to be predominantly advantageous.

<sup>42</sup> Official Journal of the European Union: Commission Regulation (EU), No. 330/2010, op. cit.

<sup>43</sup> Bundeskartellamt: Big Data und Wettbewerb, op. cit., pp. 7-11; T. Körber, op. cit., p. 132; C. Grave, J. Nyberg: Die Rolle von Big Data bei der Anwendung des Kartellrechts, in: Wirtschaft und Wettbewerb, Vol. 67, No. 07-08, 2017, pp. 363-368.