Contribution to:

Shaping competition policy in the era of digitisation

reflections on the implications of digitisation for competition policy

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1 Who we are and why we contribute

The German Economic Institute (IW) is a private economic research institute in Germany, which is an advocate of a liberal economic and social order. We work to improve understanding of how business and society function and interact.

The IW is especially seeking to understand how digitalization affects companies, economy and society as a whole. Research with this respect takes place with a focus on different aspects of digitalization, for example on labor market or government. But also the structural change that is caused by digitalization and the respective effects on competition are analyzed. For the latter the research unit “Structural Change and Competition” was implemented. Dr Christian Rusche, economist (Diploma), was born in 1984 in Sangerhausen, Germany. He is a member of the “Structural Change and Competition” research unit at the IW. His research focuses on the competition effects of digitalization. With this respects he analyzed the role of digital platforms for the European economy and the problems that may be caused by the so called platform economy (Demary/ Rusche, 2018). Furthermore, for the DEMAND project, launched by the German economics ministry, Christian Rusche is also concerned with the antitrust issues due to data (Rusche, 2018, forthcoming).

Since the European Commission is seeking contributions in particular from those fields that lie within the scope of the “Structural Change and Competition” research unit, the IW tries to contribute to the discussion in Section 2. The contribution is based on Demary and Rusche (2018) and Rusche (2018, forthcoming).

2 Contribution to “Shaping competition policy in the era of digitisation”

2.1 Competition, Data, Privacy, and AI

Data-driven business models are not new. But technical innovations make the collection, storage, processing, distribution and analysis of data much easier - which is a first step in monetarizing it. To create value from the data, a company has either to extract information from the data (Aggarwal et al., 2016), i.e. data are just a raw material and algorithms are needed to make use of it, or it has to bring the data in a form so that is can sell the data set.

Against this background, two questions need to be answered: The first and fundamental one is, who has the data ownership and what are the purposes the data can legally be used for.
Generally, the question of data ownership requires a distinction between personal and non-personal data (e.g. Bundeskartellamt, 2017, 2). When processing (including disclosing) personal data, a digital platform is bound by the corresponding data protection laws. Nevertheless, personal data can be used to create a synthetic set of data that has the same statistic characteristics. The question is, to which extent such a procedure can be used and who is the “owner” of these synthetic data.

But non-personal data, in particular machine-generated data, are also of high importance for many companies. Data ownership in this case is not as clear-cut. In Germany the right to collect and use non-personal data can be clarified in the contracts concluded by the transaction partners (Ensthaler, 2016, 3474). Without a contract, right of ownership of non-personal data could be decided on the basis of the German Civil Code (BGB), in which case it would then be analogous to the handling of raw materials (Enstahler, 2016, 3475 f.).
To the author there may be a lack of an EU-wide regulation. To prevent fragmentation of the single market with respect to data ownership EU-wide guidelines may be appropriate.

The second question addresses the interaction of Artificial Intelligence and pricing. According to Göhsl (2018, 121) "Article 101 TFEU can tackle issues arising as long as human interaction is not fully substituted". But this also means that tacit collusion without human involvement may fall beyond antitrust regulation. Which can be a danger for competition and therefore requires legal action.
In this respect, the antitrust authorities on EU and national level must have the ability to detect collusive behavior even by self-learning algorithms. Accordingly, investments in know-how and equipment can be necessary.

Furthermore, market power due to data may be limited, because:

- Of the importance of algorithms that are used for extracting information,
- the marginal utility of data is declining, as even Google concedes (Grave/Nyberg, 2017, 367) and
- two conditions have to be fulfilled simultaneously for data to be causal in the creation of market power (Bundeskartellamt, 2017, 7):
    - Access to specific data is important for economic success in a market.
    - The other players in the market are not able to buy or collect a set of data that is similar to, or at least as useful as, the initial dataset.

Addressing the latter point, it has to be mentioned, that customers use different services at the same time, which all collect data. For example, Twitter is used for communication, eBay for shopping, Google search for general online searches and Spotify for music streaming. All of these companies collect data. Furthermore, even banks and phone companies can create valuable data sets.
Also machine-data can be collected by different firms, because the respective machines are normally sold to different customers. Accordingly, more than one player may be able to create or buy a suitable data set.

To sum up, it has to be stated that the access of data for innovations is important but competition authorities should only intervene if access to data is essential and there are no other suitable data sets available. Otherwise companies will invest less in collecting and monetarizing data or will shift business away from the single market which hampers innovations.

2.2 Digital Platforms' market power

Defining the relevant market(s) and assess whether a platform has market power on this market can be difficult. This is due to the following three problems:

- Digital platforms facilitate transactions between at least two different market sides. The question is which side(s) to consider when determining the relevant market and market power.
- “A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer” (Official Journal of the European Communities, 1997, 6). A too narrow market definition can therefore lead to the conclusion that a company has a dominant market position, although this is not the case.
- If no monetary compensation is demanded for a service by a company with a data-driven business model, conventional tests for market power cannot be used. An example for such a test is the SSNIP-Test (small but significant non-transitory increase in price) (Bundeskartellamt, 2016, 44). Accordingly, alternative ways of measurement have to be used. The question therefore arises which measure to use and whether different measures lead to the same conclusion.

Once the relevant market is defined and a dominant position is detected, there are six aspects that have to be considered for determining a platform’s ability to abuse market power (Demary/ Rusche, 2018):

- **Network effects**
  Especially positive indirect network effects are crucial for platforms. A positive indirect network effect is present if one user group benefits from a higher participation by another group. For example on a dating platform men benefit from more women using the respective platform (and vice versa). If there are two reinforcing network effects, as in the example, a self-feeding growth process of the platform is possible, which can lead to market power. Still, there may be competition for the market (to reach a sufficient number of users to start the self-reinforcing effect).
- **Scale Economics**
  Developing, establishing and maintaining a platform is associated with high (fixed) costs. The variable costs of adding an additional user to the platform are close to zero, however. This results in decreasing average costs and therefore in economies of scale.
- **Congestion**
  Congestion may arise if the number of users negatively affects the efficiency of the platform’s matching process.
- **Platform differentiation**
  Platforms differentiate themselves horizontally (in order to target different groups of users) or vertically (they choose particular levels of quality).
- **Multi-homing**
  Consumers may use several similar platforms for different or even the same needs (Demary, 2015, 5).
- **Innovations**
  Innovation is of great importance for platforms. Grave/Nyberg (2017, 364) use the term “leapfrog competition”: Digital platforms may have a large or dominant market share. If they abuse it or do not innovate, a new entrant with an even better product or service could drive them out of the market. Consequently, even a monopolist cannot be sure of

its market position and therefore rely on monopoly profits. The monopolist has to adapt their business model in order to remain attractive to users constantly.

Clearly, strong positive (indirect) network effects and economies of scale can promote growth of a platform and therefore lead to a dominant position. But congestion, multi-homing users, a pronounced platform differentiation and a high potential for innovations can set boundaries to the market power of a platform and the ability to abuse a dominant position.

2.3 Preserving digital innovation through competition policy

In essence of the aspects mentioned above, the following can be done to help preserving digital innovation through competition policy:

Enforce existing anti-trust regulation. The existing anti-trust policy at EU level and at the level of the member states covers many of the challenges to competition that digitalization causes, like market power due to data, abusive terms and conditions or unjustifiably favoring one's own services. Still it has to be ensured that "traditional" and new digital companies are treated equally with respect to anti-trust regulation.

Keep a watchful eye on the resources of competition authorities. Digital markets are very dynamic, furthermore, the use of data and the importance of self-learning algorithms increases. In this respect, the resources of anti-trust authorities should be monitored to ensure that they are able to detect a breach of anti-trust laws and capable of dealing with it in a swift and successful manner

Enforce the GDPR. The GDPR creates a level playing field for the whole single market. Furthermore, aspects like data portability can reduce lock-in effects and change costs in consumer markets. It is therefore vital to ensure enforcement of this regulation. Because of the importance of personal-data for the economy and society as a whole, best practices and guidelines for the use and exchange of this kind of data are useful for fostering innovation while still protecting personality right of users.

Clarify the use of non-personal data. Especially digital platforms often possess massive amounts of non-personal data but these data also play an increasing role for the whole economy. The use and ownership of such data, however, is not always clear-cut. To foster the exploitation of these data and for enabling a proper single market for data within the European Economic Area, policy-makers need to focus on creating greater legal certainty in this area.

Promote growth of SMEs. Policy-makers should reduce the bureaucratic barriers for start-ups and generally work to improve venture capital availability so that it becomes easier to found a company. This fosters innovations and therefore helps to limit the market power of incumbent firms.

Improve user awareness. Even though digital platforms often offer their service free-of-charge to one side, users need to be aware that they "pay" with their data or attention in such a case. With this respect, handling of one's own data responsibly needs to be taught from an early age to strengthen digital awareness.

References

Aggarwal, Shivom / Feijóo, Claudio / Gómez-Barroso, José-Luis, 2016, Economics of big data, in: Handbook on the Economics of the Internet, edited by Bauer, Johannes M. / Latzer, Michael, Edward Elgar Publishing, pp. 510-525

Bundeskartellamt, 2015, Jahresrückblick 2015, https://www.bundeskartellamt.de/SharedDocs/Meldung/DE/Pressemitteilungen/2015/21_12_2015_Jahresrueckblick.html [2018-02-09]

Bundeskartellamt, 2016, Marktmacht von Plattformen und Netzwerken, Arbeitspapier, Az. B6-113/15, June 2016, Bonn

Bundeskartellamt, 2017, Big Data und Wettbewerb, Schriftenreihe „Wettbewerb und Verbraucherschutz in der digitalen Wirtschaft“, No. 1, Oktober 2017, Bonn

Demary, Vera, 2015, The Platformization of Digital Markets. Comments on the Public Consultation of the European Commission on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy, IW policy papers, No. 39/2015, Köln

Demary, Vera / Engels, Barbara / Röhl, Klaus-Heiner / Rusche, Christian, 2016, Digitalisierung im Mittelstand. Eine Metastudie, IW-Analyse, Nr. 109, Köln

Demary, Vera / Rusche, Christian, 2018, Economics of platforms, IW-Analyse, Nr. 123, Köln

Ensthaler, Jürgen, 2016, Industrie 4.0 und die Berechtigung an Daten, in: Neue Juristische Wochenschrift, No. 48, pp. 3473–3478

EY – Ernst & Young, 2017, Marktkapitalisierung 2017, Analyse der wertvollsten Unternehmen der Welt, http://www.ey.com/Publication/vwLUAssets/EY_Analyse_zur_Marktkapitalisierung_Dezember_2017/$FILE/EY%20Analyse%20Marktkapitalisierung%20Dezember%202017.pdf [2018-07-23]

Göhsl, Jan-Frederick, 2018, Algorithm Pricing and Article 101 TFEU, in: Wirtschaft und Wettbewerb, Vol. 68, No. 3, pp. 121–125

Grave, Carsten / Nyberg, Jenny, 2017, Die Rolle von Big Data bei der Anwendung des Kartellrechts, in: Wirtschaft und Wettbewerb, Vol. 67, No. 7/8, pp. 363–368

Official Journal of the European Communities, 1997, COMMISSION NOTICE on the definition of relevant market for the purposes of Community competition law, C 372, Vol. 40, p. 5-13

Rusche, Christian, 2018 forthcoming, Data economy and antitrust regulation, an European perspective, IW-Report, Köln