

KONZERNMACHT
beschränken

DISCUSSION PAPER

#THE POWER OF CORPORATIONS IN THE DIGITAL WORLD

Deliberations of the German Initiative
“Curbing Corporate Power” concerning
Regulation 4.0 with an emphasis
on market power and competition law.

The Alliance “Curbing Corporate Power” is composed of:

Agrar Koordination, Aktion Agrar, Aktionsgemeinschaft Solidarische Welt, Arbeitsgemeinschaft bäuerliche Landwirtschaft, BUKO Pharma-Kampagne, Bund für Umwelt und Naturschutz, Chaos-Computer-Club, Deutscher Naturschutzring, Deutsche Umwelthilfe, Die Freien Bäcker, Digitalcourage, Entwicklungspolitisches Netzwerk Hessen, Finance Watch, Forum Fairer Handel, Forum Umwelt & Entwicklung, Germanwatch, Global Policy Forum, Goliathwatch, INKOTA-netzwerk, Oxfam, PAN Germany, PROVIEH, Save Our Seeds, Seeds Action Network, Slow Food, Umweltinstitut München, Weltladen-Dachverband, Werkstatt für Ökonomie.

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INTRODUCTION

An ever growing part of the economy is gearing up for digitalization. The internet of things is creating a new virtual world in which people, computers, and devices constantly exchange data. In the future, all aspects of life will be affected: from driving a car to buying food or obtaining health care, as well as work processes in both the manufacturing and service industries. The collection, evaluation, and networking of data entailed by this process threatens to erode yet further fundamental rights such as the right to informational self-determination. Further, it threatens the existence of unmonitored (living) spaces and social justice in the digital world. At the same time, however, socially oriented digital technologies can contribute to the creation of an open, just society characterized by solidarity.

„Whoever controls the data controls not just the future, but the very shaping of life itself.“

Source: Yuval Noah Harari, Israeli historian, at the World Economic Forum 2018

Digital technology is often described as disruptive. Economic and technological revolutions have far-reaching consequences for work and social life, as well as for society and the environment. This is true all the more so in light of the fact that digitalization is closely tied to the globalization and financialization of markets („venture-capital culture“). The latter leads to a situation in which the customer interface is monitored and capitalized. The consequently uninhibited competition for data, power, and growth in turn means that when it comes to economic wrangling, the „free play of market forces“ almost always works to the benefit of the stronger. Values not driven by economics or the considerations of competition law – e.g., protection of data and the environment, fair wages, human rights – have practically no chance of being duly respected under these circumstances.

With the increasing prevalence of digitalization, social disparities are likely to grow. In the absence of any political intervention, a shift in the relationship between wage and capital income is likely to occur – in particular, a shift in favor of those entitled to income from dividends, interest, and capital gains on stock. Because work forces are to be increasingly replaced by machines and algorithms, wage income is likely to shrink while the income from capital grows. In other words, a re-distribution of wealth from the poor to

the rich will take place. In places where real people are still required to provide manual labor (e.g., clickworkers), their working terms and conditions are all too often precarious. It is quite possible that yet more people will effectively be excluded from social life; that the polarization and marginalization of society will increase.

DEMOCRACY

„Democratic decisions are the basis of a just society: digitalization must in itself be shaped in a more democratic fashion; at the same time, it must support democratic processes rather than undermine them. To this end, it must consistently aim to promote opportunities for emancipation, non-centralized participation, free innovation, and the social engagement of all citizens.“

Source: Demand issued by the Conference „Bits & Bäume,“ November 2018

Such negative developments can be observed or are to be expected not only in fully industrialized countries, but also in developing and emerging economies. In particular, Agriculture 4.0 has the potential to endanger the livelihood of many small(er) farmers in both the global South and the global North. A fair distribution of wage-based employment, decent work, and the respect of human rights constitute the essential pre-conditions for reaching such global sustainability goals as, e.g., reducing structural inequalities, ending poverty and hunger, and providing decent work to all. With regard to the international aspects of the problem, the question arises as to whether developing countries are to be reduced to a role in which they act solely as data providers – with all the negative effects on their “Terms of Trade” which this entails.

With this Discussion Paper, the Initiative “Curbing Corporate Power” wishes to make a contribution to the public debate over the necessity of a Regulation 4.0. Our key concern is to consider the significance of data and algorithms, the establishment of monopolies, and policy assumptions in competition law. Our touchstone is whether digitalization supports the social and ecological transformation of the economic system or – what we hope to avoid – hampers it.

IT'S ALL ABOUT THE DATA: POWER, CONCENTRATION AND CONTROL

Data are at the crux of the digital economy. In surfing the internet, all of us are constantly leaving data trails – and with the use of HTTP-Cookies, Log-Files, GPS-Data, etc., detailed user profiles can be produced. In particular, firms that control several services – and thus can measure and track user behavior both online and offline – are in a position to aggregate these information sets and create personalized meta-data. Such data have significant economic value. They can greatly enhance the unique positioning of the company controlling them. Evaluation of such data makes it possible, among other things, to delineate the mindset, health, interests, frequent location, and economic behavior of users, often on an individual basis when used in combination. The Fraunhofer-Institut criticizes “the wild-west attitude today typical” of the manner in which data are being gathered through tracking and then exploited. Consumers are the weakest link in the chain, especially given that many are inadequately informed about what goes on behind their backs while they are surfing the internet.¹

Great significance is ascribed to the right to informational self-determination recognized by the German Constitutional Court (Bundesverfassungsgericht). In the business of data exploitation, however, competitive advantages are in danger of being decided at the expense of fundamental rights, because the political authorities are favoring business models which encroach upon rather than protect data privacy. He who can penetrate the farthest into a person's private life (“commercial surveillance”), connect the most users, and gather data the least transparently gains market power. Data protection officers rightly complain that „effective guarantees against the further erosion of data privacy“ are absent.² The example provided by an assistant professor at Princeton University who attempted to conceal the fact that she was pregnant from Facebook cogently shows that it is impossible, or possible only with an exorbitant effort, to exercise one's right to informational self-determination.³

Gathering and processing data forms the core element of the business model of internet companies. They have access to a great range of previously collected data (“data advantage”). Likewise, they are in a position to gather new data continuously on the basis of networking effects as well as their broad palette of services. Feedback effects mean that data sets increasingly provide the basis for further innovation. In the past, innovation was the only chance



that small companies had to compete against the bigger companies; nowadays, the most innovative company is the one that has access to the most client data. Data thus produce barriers to market entry in the digital economy, especially in the new markets of artificial intelligence. Data power largely defines the (market) power of digital platforms (“gatekeepers”).

HOW DOES THIS HARM THE USER?

“He is no longer in a position to control the use of his own personal data. He is no longer in a position to know what data from what sources are being merged to form a detailed profile and for what purposes. Through the merger of data sets, individual data items take on an unforeseeable significance. And owing to the market power [of the data exploiters], the user has no power to opt out of the merger of his personal data. This also constitutes an impairment of his constitutional right to informational self-determination.”

German Competition Authority (Bundeskartellamt) in its abuse proceeding against Facebook (12/2017)

The platforms can exploit this power to increase, entrench, and abuse their dominant market positions. Such abuse includes the excessive gathering and commercial exploitation of data. These companies have accumulated extensive knowledge (“data mining”). Competition law, however, intervenes only when „data powerful“ companies with a dominant market position abuse that position, and this requires a preliminary administrative investigation. Up to this point in time, cartelizations and concentrations of data and markets cannot be combatted per se, even where they impair competition. Such cartelization of markets is abetted where companies can foreclose markets, systematically drive out small and medium-sized companies, or raise market access barriers.

Competition experts are already developing plausible theories about digital markets. At the same time, competition economists admit that they no longer have an adequate handle on market dominance in the platform economy and need to develop new indicators.⁴ Further, the usefulness of their theories to describe or predict events in the real world may be limited, given that the information required is not publicly available or the relative significance of the available data cannot be assessed. A recent article in the "Yale Law Journal" ends with the question of whether our legal framework captures the realities of how dominant firms acquire and exercise power in the internet economy.⁵

While the investigations conducted by the EU Commission and the German Federal Competition Authority (Bundeskartellamt) have cast some light upon the dark field of digital platforms, much remains unknown. Neither scholars nor parliamentary committees, neither data protection nor competition authorities know which companies gather what data, how much data they possess or have acquired, and just how these data are being exploited.

MONOPOLIZATION AND QUASI-MONOPOLIES

The market power acquired by internet companies during the process of digitalization has been a cause of concern for many. For the digital economy is already dominated by not more than a handful of companies. These include Alphabet (Google), Amazon, Facebook, Apple, and Microsoft. Google, for example, controls 90 percent of the market for search engines⁶ and Facebook has a user share of more than 90 percent.⁷ Citizens, competitors, and politicians thus must be prepared to deal with companies that have a dominant market position and constitute monopolies or quasi-monopolies.⁸ Power in the digital economy, however, is based not just on large market shares, but also on the control of various elements of the online infrastructure, such as the digital distribution channels, and on access to prodigious quantities of data and information ("data monopoly"), which also entails political power.

In a digital society, whoever controls the "digital social infrastructure" sets the standards for information, communication, and publicity, as well as, indirectly – that is, via algorithms based on the criteria of maximizing interaction and revenues – the standards for the dissemination of information. For many people in both industrial and developing nations, Facebook represents an important or even their sole source of news. The phenomenon of "all my friends are on Facebook" leads users

of necessity to meet in a "walled garden." Alternative networks have fewer opportunities, because they lack the critical mass. The nature and effect of digital society could thus be concentrated in the hands of one private company. Precedents from Sri Lanka and Burma have shown that riots and violence can be incited by using a monopoly position in the social media.

MONOPOLIZATION

Digitalization must not lead to monopolization and the sealing off of markets. Consequently, the regulatory framework must be adjusted to altered value added chains and business models."

Source: Whitebook "Digital platforms," German Ministry for Economic Affairs

Under competition law, monopolies are not prohibited per se – that is, they are legal. Competition law intervenes only when a company abuses its market power to hamper competitors or exploit market partners. The investigations conducted by the German Federal Competition Authority into Facebook and Amazon, as well as the EU Commission's investigation of Google, were important first steps towards addressing the abuse of market power. Up to this point in time, however, nothing has been done to counter the establishment of monopolies and weaken those that exist, because monopolies are not viewed as per se problematic from the standpoint of competition law. In light of the enormous market power enjoyed by the internet companies, however, this view can no longer be defended as appropriate for the times. The danger posed to democracy and the risks for society are simply too great. For instance, the power to define algorithms entails a serious risk of manipulation as well as a redistribution of wealth from the poor to the wealthy. This will aggravate social inequalities.⁹

It should moreover be taken into consideration that a monopoly position is highly problematic not only on the supply side ("monopoly"), but also on the demand side ("monopsony"). Internet companies, owing to their market power, have effectively become gatekeepers for every company that wishes to offer digital content, services, or products to consumers. For the internet economy is based increasingly on so-called "bi- or multi-lateral markets" – although there is no academic consensus over the exact definition of the term yet. Google's search engine, for example, makes Google almost unavoidably a contractual partner vis-à-vis individual users, companies that wish to place advertisements, and companies that offer digital content (websites). No business can do without the internet companies in the digital world. As gatekeepers, they determine who can offer products or services and on what

terms (“monopsony”). This may lead to a situation in which the companies using the search engines are compelled to pay higher prices.

It is by no means the case that platforms grow based only on their own strength, that is, in consequence of innovations, network effects, or economies of scale and scope.¹⁰ Rather, external growth based on acquisitions – within a company’s own market but also in other sectors and markets – has played and continues to play a significant role.¹¹ These acquisitions, permitted by the competition authorities, have thus contributed to the high degree of market concentration and to the expansion of platforms both within a single market and in other sectors (“vertical integration”), as the acquisition of the US-based organic supermarket “Whole Foods” by Amazon has shown.¹²

Owing to the great significance of data as an economic driver in many sectors and for many business models in the digital economy, companies have a strategic interest in improving their access to data. When approved by the authorities, mergers can facilitate this.¹³ The number of mergers with a connection to big data grew, according to estimates, from 55 in 2008 to 134 in 2013.¹⁴ By taking over another company, the acquirer can not only merge the data banks of both companies, but also combine the newly acquired data with the data of other affiliated services. The concentration of data and the power of the acquirer grow.

According to information gathered by Bloomberg, Alphabet (Google), Amazon, Apple, Facebook, and Microsoft together acquired 436 businesses with a value of USD 131 billion over the past ten years.¹⁵ Google alone had acquired more than more than 180 other companies through April 2015, according to the data of the German Federal Competition Authority. In the case of Facebook/WhatsApp, there is an ongoing discussion as to whether companies that have large capital reserves (“deep pockets”) can forestall potential competition and solidify their market position by acquiring innovative newcomers.¹⁶ For this very reason, internet companies have long since ceased to remain content with their own market sector and begun to invest their capital in sectors like transportation and agriculture.

In light of the market power enjoyed by the large IT corporations, US competition-law attorney Gary Reback has criticized the merger approval practices of the competition authorities: “What in the world were we thinking when we let Facebook buy WhatsApp? And let Google, which already owned the best map technology, buy Waze?” he asks.¹⁷ In Reback’s opinion, real competition will never be restored. Nonetheless: While ex post facto revocations face a steep uphill battle,

approval of the Facebook/WhatsApp merger could in theory still be revoked, on grounds the parties involved submitted false information – as they obviously did in this case.

Outside the context of the internet companies, there has thus far been little debate over the consequences of digitalization on market concentration in various sectors. This is true in particular of sectors that already display a high degree of market concentration. Including the sector for agriculture and agricultural chemicals. Economists specializing in competition have often assumed that digitalization will trigger a dynamic development and that smaller companies will revitalise the market; but this claim seems awfully far-fetched with regard to highly concentrated markets such as the agriculture sector.

GERMAN MINISTRY OF AGRICULTURE

“ *There is so much potential in digitalization, I want to turn our ministry into a digital reference ministry – we will create the needed infrastructure now,” stated German Minister of Agriculture Klöckner in August 2018. Her Ministry has presented a future-oriented program called “Digital Policy for Agriculture.” Up to this point in time, however, the paper makes no reference to the dangers associated with growing market concentration and the establishment of monopolies.*

WARNING OF DIGITAL OLIGOPOLY

The Initiative “Curbing Corporate Power” warned in March 2018 that the merger of Bayer and Monsanto could lead to a digital oligopoly.¹⁸ Alone, neither Bayer nor Monsanto would have had enough seed varieties or pesticide products to offer a large selection of products over their digital platforms and thus to profit from the digitalization wave. This is the opinion of, among others, competition expert Daniel Oliver, former chairman of the USA Federal Trade Commission.¹⁹ In December 2017 – that is, before the merger – he wrote: “Just imagine what kind of position Bayer-Monsanto will be in once it has saved the billions of data points of agricultural businesses on its digital platform and can offer a sufficiently broad selection of seed and pesticides.” Only the merger made it possible for them to consolidate their market dominance and keep smaller competitors out of the market.²⁰

NON-TRANSPARENT, SELF-LEARNING ALGORITHMS

The strategic gathering and merging of data is made possible by algorithms that are protected by patent, i.e., are owned by the company offering the platform. These patents become public 18 months after they are filed. In the digital world, where computational power and storage space are constantly increasing, this is a relatively long period of time. All the more so insofar as the useful life of algorithms is relatively short. New algorithms and categories are constantly being introduced, updates are carried out regularly, new components are added. In contrast to geographic data, which change fairly slowly, the "data and algorithms sheet" of internet companies changes on a daily basis.

Another decisive factor is the specific nature of the data upon which machine decision-making that affects real people is based. This is particularly true given that the same data, in their totality, are also decisive in determining how and what algorithms learn.²¹ In the case of "artificial intelligence" (AI), the technology of artificial neural networks ("deep learning") is combined with calculation specifications and big data. The causal assumptions upon which the algorithms are based are very difficult if not impossible to review or supervise. No one can predict the consequences of using simplified interpretations of data based on factual or hypothetical causal relationships. This is problematic because self-learning algorithms or AI, owing to statistical distributions, not only reflect and amplify discriminatory practices and prejudices in society ("algorithmic prejudice"),²² but also – according to a report recently published in the US – probably help maintain or even exacerbate existing wage, income, and wealth disparities.²³

In the case of search engine operators, as well, the algorithms responsible for prioritizing what results are particularly relevant for users – that is, for ordering the list of results they see – are held strictly confidential. It is via an algorithm that the search engine operator decides what is important, relevant, or good – and what isn't. In conjunction with a monopolistic market position, this decision-making power entails a significant potential for manipulation.²⁴ With regard to the potential for manipulating political elections, this effect has been proven scientifically as the "search engine manipulation effect."²⁵ Likewise, the algorithms of Facebook and Google-subsidiary YouTube are so designed as to prioritize content that has high emotional intensity – i.e., contains hate, anger, outrage, Schadenfreude or malice. This has the effect of further aggravating the emotional distortions prevalent in political discourse.²⁶

There is shockingly little knowledge concerning the interests that are being pursued with the programming of such algorithms or "calculation specifications." It would appear that awareness and a detailed knowledge about how algorithms are shaped by biases and political or economic interests are simply missing. We also have no information concerning where the data are stored, what algorithmic processes are employed, and how the neural networks work.

PROPOSALS FOR REGULATION IN THE DIGITAL AGE

Digitalization promises great opportunities, but it also entails risks that should not be underestimated. The process has reached what can only be called a new qualitative dimension as a result of the quantity of the data being gathered and processed (big data), the way in which such data are being used to feed increasingly prevalent algorithms, and the networking and merging of personal and non-personal data from very different sources. When we talk about digital transformation, we generally mean the complete integration of digitalization – above and beyond the isolated use of individual digital technologies – into a business model together with all the adjustments to strategy, processes, systems, and capabilities which that integration entails.

“ *To be perfectly honest, the rules by which this form of digital capitalism can be turned into a social market economy have yet to be written.”*

(22.4.2018, Andrea Nahles)

The current discourse in competition law identifies, as those factors distinguishing the digital market from classical markets, *inter alia* its geographic reach (the "death of distance"), the much stronger tailoring of advertisements to individual preferences ("profiling"), the simultaneous use of several digital platforms ("multi-homing"), the costs of switching platforms ("shifting"), and the importance of reputation systems ("scoring"). Commentators frequently emphasize the potential for disruptive innovations, while relatively little attention is paid to the societal risks.

Digital markets are different from classical markets, but there are many similarities, too. Players with great market power dominate the markets and cooperate with one other,

the markets are global ("de-localization"), the demand for mineral raw materials is growing, vertical integration is increasing, the influence of shareholders and in particular of investment firms is high, and tax-avoidance by transnational corporations is rampant.

Self-regulation of internet companies will not work. Companies with great market power should not be allowed to write the rules governing their own behavior. Regulatory intervention is required on many levels, *inter alia* on the level of the laws governing data protection, liability, taxation, regular employment as well as home-working relationships, and competition.

1 CONSIDERATIONS RELATIVE TO COMPETITION LAW

ALTMAYER WANTS TO CURB THE MARKET POWER OF INTERNET GIANTS

“ *Digitalization changes not only the way we live and work; it also poses new challenges to our competition authorities,” said the CDU politician on Tuesday while presenting a study commissioned by his ministry on „Modernizing the law on abuse of market power.”*

Source: Reuters feed from 4.9.2018

With the Ninth Amendment to the Law Against the Restriction of Competition (9. GWB-Novelle, or GWB), the German legislature has already made some adjustments affecting digital platforms. For instance, the fact that a service is being provided for free no longer bars determination that a market exists (§18 Para. 2a GWB). The legislature has thus recognized that companies can acquire a powerful market position even when they are offering services free of charge. German competition law is no longer fixated on prices and remuneration. In evaluating a company's market position, courts and agencies are now to take into consideration, in particular in the case of multi-lateral markets and networks, *inter alia* network effects, economies of scale in conjunction with network effects, and the company's access to competitively relevant data (§18 Para. 3a GWB).

While these amendments show the way forward, they as yet change nothing with regard to the existing market concentration, the entrenchment of quasi-monopolies, the excessive gathering of data, and the agencies' approval practices relative to mergers with a big-data connection. It is

a good sign that the need for further reforms of competition law continues to be discussed, as the Biennial Report of the German Monopolies Commission, the Report on “Modernising the law on abuse of market power” commissioned by the German Federal Ministry for Economic Affairs, or the study “Restricting Market Power in the Data Economy” published by the Foundation Neue Verantwortung show. These studies all emphasize the need to reform competition law in order to meet the challenges posed by digitalization.

The policies shaping regulation of the economy and competition remain firmly anchored in the growth paradigm as well as a belief in the self-correcting mechanisms of the market and its efficient allocation of resources. Over and above the need for specific reforms, therefore, competition law needs a shift in paradigm, as well.

“ *We need new rules wherever the existing law has failed and a restriction or even elimination of competition by actors with a dominant market position is to be feared.”*

White Book on “Digital Platforms,” BMWi

Re-thinking existing economic principles and the objectives of competition law:

The neo-liberal perspective insists that competition law should only seek to protect competition as a process and not to protect specific competitors, even small or medium-sized businesses. The weakest links in the chain of value creation – workers, farmers, free-lance service providers – do not enjoy special protection with regard to merger and abuse control. The goal of competition law is not to achieve any particular market result or any particular market structure, nor is it to balance interests within the chain of value creation. Not even monopolies – such as they exist in the digital economy – are prohibited. The objectives of competition law are narrowly restricted to pursuing the well-being of consumers, and consumers' well-being is defined reductively as an interest in the lowest possible prices (“efficiency”). Which means that citizens are not simply regarded exclusively as consumers – one also assumes implicitly that price is their sole criterion in shopping. This approach encourages the generation of highly concentrated markets and the establishment of monopolies. Competition law could instead act as an effective instrument for curbing excessive market power. To do so, however, we must fundamentally re-think existing economic principles, and include in our consideration the objective of generating positive effects on the distribution of wealth and regeneration of eco-systems.

BREAKING UP MONOPOLIES

“ We have to create the necessary framework for controlling digital monopolies, so that an independent, self-defining digital economy can establish itself both in the North and the global South. Existing monopolies by operators of commercial platforms must be broken up, for instance by introducing a mandatory defined interface for exchange among social media services.”

Source: Demand issued by the Conference „Bits & Bäume,” November 2018

Prohibiting and Breaking up Monopolies:

German competition law has no instrument for unbundling a large corporation without proving that it has abused its market power. Monopolies cannot be „broken up,” even when they hamper effective competition or grow problematic from a socio-political perspective. In the USA, by contrast, competition law (in the „Sherman Antitrust Act,” Section 2) makes it unlawful for any person to „monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize ... trade.”²⁷ This means that US-competition law prohibits – in contrast to the competition laws of Germany and the EU – more generally the „monopolization” or „attempted monopolization” of a market.²⁸ In principle, at least, it is possible for the government to order the unbundling of a corporation simply on grounds of its market dominance.

Such provisions should be adopted in the German and European competition law, too, so that, as a remedy of last resort („Ultima Ratio”), „unbundling” may be ordered independently of any finding of abuse. This provision should extend to monopolies on data, as well. A spin-off of various business segments of Google²⁹ or Facebook could lower the barriers to market entry for newcomers, curb data power, and create fairer conditions for business activities in the digital markets.

BREAK UP GOOGLE?

“ Google may ultimately need to be broken up to stop the tech company securing a monopoly over internet search,” the EU has said.

Source: Independent UK on 26.3.2018

Investigate and prosecute systematic abuses of market power:

The German government coalition agreement states that a „more competent, more active, and systematic supervision of the markets” is necessary, especially with regard to the abuses of platform companies. In particular, there needs to be an investigation into how companies with a dominant market position exploit their data power and their control of online infrastructures – digital channels of distribution for e-commerce (Amazon), advertising offers (Google, Facebook) – at the expense of competitors. Likewise, the government should investigate whether the structure of these companies creates conflicts of interest that are problematic from the perspective of competition law, whether they benefit from a bundling of competitive advantages in several different market segments, and whether the market structure facilitates aggressive market behaviors and thus creates incentives to act accordingly.³⁰ In order for the competent authorities to carry out these investigations with due diligence, it is imperative to increase their funding accordingly.

UNDERSTANDING CORPORATE ECOSYSTEMS BETTER

“ Particularly in the case of multi-lateral platforms, market regulatory authorities need to obtain a solid overview not just of individual products and services, but also of a company’s whole ecosystem.”

Source: Jentzsch, Nicola (2018): Curbing Market Power in the Data Economy

This kind of continuous market supervision could support the development of alternative indicators for determining what constitutes an abuse of market power and make it possible to recognize abuses that are problematic from the perspective of competition law faster, as well as help prosecute them more consistently. It may well be helpful to put together a list of abusive practices that are prohibited per se, in order to create a degree of clarity for all market participants and strengthen the regulation of abusive practices by the German Federal Competition Authority.

PRICE ALGORITHMS AND ABUSE CONTROL

In the discussion over competitive practices, price algorithms play a large role. Increasingly, the disadvantages associated with them are being taken into consideration, as the Monopolies Commission confirmed in its Biennial Report of 2018.³¹ Experts assess the risk of collusion as particularly grave. This practice involves companies coordinating their prices or quantities and thus achieving higher profits than they would under competitive circumstances. Where price algorithms are being used, it is even more difficult to prove collusive conduct. The Monopolies Commission recommends granting consumer protection agencies a right to initiate the conduct of sectoral investigations by the competition authorities. This proposal merits further discussion, and it would be helpful to have the assessment of the consumer protection agencies themselves on this point. Moreover, it might be worth discussing whether there are other situations in which non-governmental organizations could be granted a similar right. Nevertheless, a much more effective means of combatting this problem might well be to create a duty of disclosure relative to how these algorithms define prices. This is all the moreso true in light of the fact that we must assume consumers cannot otherwise be effectively protected from price discrimination and cartels.

Carry out a sectoral investigation into violations of data privacy obligations:

The German Federal Competition Authority emphasized in its proceeding against Facebook that it was required to take data privacy rules into account in assessing abuses.³² On this basis, it investigated the contractual terms which Facebook obtains from its users with regard to data from „third-party sources.“ Such third-party sources include internal or affiliated services like WhatsApp or Instagram as well as non-affiliated websites and apps. It must be assumed that Facebook is not alone in this respect and that abusive practices are prevalent throughout the sector. The German Federal Competition Authority has the power to investigate a particular business sector (so-called sectoral investigation, § 32 e GWB). By means of such a sectoral investigation, the Authority ought to review to what extent companies employ abusive practices that constitute an encroachment upon their users' right to informational self-determination, which is protected under Germany's constitutional law (Grundgesetz). The investigation should also cover the processing of data that occurs in connection with the use of digital platforms.

Prohibition of coupling:

As a result of digitalization, the use of a service over a company's digital platform can increasingly be coupled to the purchase of a product offered by the same company. For instance, the selection available to farmers may be prejudiced where companies offer seed and pesticides, as well as the relevant digital platform („vertical integration“). Coupling transactions are generally forbidden under competition law when they are neither justified from a substantive standpoint nor customary in the trade (violation of §1 GWB).³³ Coupling transactions may be exempted from the prohibition on a vertical level pursuant to the „Vertical Group Exemption Regulation“ (Vertikal-Gruppenfreistellungs-verordnung, GVO), provided the company in question has a market share not in excess of 30 percent. Given that the development of such business models remains in its infancy, there is a danger that these practices will elude regulation as a result of the vertical integration exemption and that lock-in effects will occur. For this reason, law-makers should review possible legislation to promote enforcement of the prohibition on coupling in the digital age.

Prohibition on Self-Prioritizing:

Digital platforms expand into other economic sectors and offer services for their own account. For instance Google. According to information of the EU Commission, Google's search engine systematically gave top listing to Google's own price comparison services and disadvantaged competing price comparison services. They found it was proven that the most favorably placed competitor appeared, on average, not before page four in the search results Google produced and that other service providers were placed even further down on the list.³⁴ The core of the problem here is that digital platforms both act as market proprietors or structures, with the power to shape such structures in accordance with their own discretion, and at the same time offer services in competition with the platform's users. They own the market and conquer it from the inside out. When in doubt, these digital platforms act in their own economic interest. Thus in the case of bi- or multi-lateral markets, this practice, highly problematic from the standpoint of competition law, should be banned per se by a prohibition on self-prioritizing. Should such a ban prove to be ineffective, it may be appropriate to consider a divestment order as an unbundling measure. Likewise, companies with a dominant market position should not be permitted to acquire other companies that are dependent upon them and at the same time offer services in direct competition with them („conflict of interest“).



Give more weight to data power in connection with the evaluation of market dominance:

In the digital economy, there is intense competition for high-quality data. These data help companies personalize the products and services they offer to particular persons as much as possible; i.e., tailor their offers to the characteristics of individuals or the interests of clients. Data power thus increasingly determines the market position of companies in the digital economy. The economies of scale that big data produce can lead to cartelization of the markets and increasing concentration of data, to the point where „data monopolies“ arise. In order to ensure that data generally are given more weight in connection with the evaluation of market dominance, the German Act against restrictions of Competition (GWB) should be amended to include the „access to data“ in §18 GWB, Para. 3. In addition, the legislature should review whether it would be meaningful to add the „excessive gathering of data“ in the same place and the „control of online-infrastructure“ in §18 GWB, Para. 3 or 3a.

Strengthen data protection in the context of merger regulation:

In the business of data, there is a grave danger of competition being decided on the basis of a company's willingness to violate fundamental rights. Whoever is prepared to encroach most aggressively upon the privacy of individuals („commercial surveillance“), access the most users, and gather data as intransparantly as possible gains market power. The excessive gathering of data has increasingly become a pillar of corporate policy. Companies that offer content without advertisements or that protect or respect the privacy of their clients are bought up by more aggressive firms, in order to protect their own, highly data-invasive business models (see Facebook/WhatsApp).³⁵ The competition authorities up to this point in time have not investigated, in approving acquisitions, whether the merger of data may frustrate the protection of data privacy guaranteed in law. By inversion of the argument, this means that the competition authorities, in approving mergers, are in fact abetting the merger of data. Further, the competition authorities are even more lenient in the context of vertical mergers than in the context of horizontal mergers. In order to ensure the protection of data privacy pursuant to §1 of the European General Data Protection Regulation (GDPR), law-makers should consider including data protection as a criterion for assessing the approval of mergers in §36 GWB. In addition, the German Federal Competition Authority should, as a regular practice, obtain and duly take into account a statement of position from the Data Protection Authorities in the case of mergers with a big-data connection (addition to §50c, Para. 1 GWB).

Apply the principle of precautionary action to mergers with a big-data connection:

The principle of precautionary action aims to eliminate potential risks with imperative, preventive measures, even where there can be no scientific certainty concerning the relevant causal relationships (Art. 191 TFEU). Given the uncertainties and risks associated with digitalization, we should consider applying the principle of precautionary action in competition law. Why? First, competition economists concede that they no longer have an adequate handle on market dominance in the platform economy and need to develop new indicators. Secondly, guaranteeing effective data protection has to date not been included among the criteria for regulating merges, i.e., consumers are systematically exposed to a risk of having their right to informational self-determination violated. What remedy do these two facts suggest? It would be conceivable that all such mergers should be placed under reservation and approved only in exceptional cases until such time as these questions have been resolved. At the same time, it seems appropriate to review, from the standpoint of competition law, how the principle of precautionary action could be more generally applied in competition law to combat ecological and social risks. Mergers that create conflicts of interest which are problematic from the standpoint of competition law as well as facilitate the horizontal or vertical bundling of data, possibly including the exploitation of such data for the purpose of sidelining competitors (even in other sectors), should be reviewed more intensively, evaluated more strictly, and where appropriate prohibited.



In the Report "Modernising the law on abuse of market power" commissioned by the German Federal Ministry for Economic Affairs, it is proposed that the German competition law be amended to include a new passage (§ 36 Para. 1 GWB, following Sent. 1) which would enable the Competition Authorities to prohibit a merger where such merger constitutes the expression of an overall strategy by which a company with a dominant market position systematically acquires strongly growing companies at an early stage of their development, and this strategy considerably hampers effective competition. Given that digitalization is taking root in all parts and at all levels of the economy, the question arises as to whether digitally inspired mergers are not almost always the expression of an overall business strategy, and whether it is in fact meaningful to suppress them only in the case of a systematic acquisition of small, innovative start-ups. The merger of Bayer and Monsanto has shown that mega-mergers, too, can have a „recognizable and significant potential“ to dampen competition.

Do not relax the rules on cooperation agreements and review a duty of registration:

Concomitant with the process of digitalization, a closer networking of companies at a similar or even disparate level of the market occurs, *inter alia* with respect to the gathering and analysis of data and the development of algorithms. Because the discourse in competition law over the significance of data, the characteristics of the digital economy and the distinction of markets within the digital economy is still in its early stages, any relaxation of the current rules on cooperation agreements should be avoided. The competition law provides that companies shall review on their own reconnaissance whether their cooperation agreements meet the conditions for an exemption from the prohibition of cartels. There is no longer any general duty of registration relative to cooperation agreements. The legislature, however, ought to review the possibility of re-introducing such an obligation. There is grave danger that collusion among companies in the digital economy will not be recognized or not be recognized in time. Since cooperation agreements can contribute to an „invisible“ cartelization of the markets, a general duty of registration would create more transparency here and moreover improve our understanding of how the digital economy functions.

2 REGULATORY CONSIDERATIONS ABOVE AND BEYOND COMPETITION LAW

The law of competition cannot address all problems, such as data privacy, transparency, and algorithms, that arise in the context of digitalization. The discourse over digitalization has up to now paid little attention to the systemic risks that may be attendant upon a future economy and society fixated on data. As with the deregulation and digitalization of the financial markets, the development of innovative products is praised without making any attempt to understand the complexities involved. There is a real danger that, in the course of digitalization, the banner of innovation or the principle of innovation will be used to carry out a process of deregulation and vitiate our fundamental rights and principles such as the principle of precautionary action. Socially engaged citizens, scholars, and politicians oriented towards the common good would be well-advised to pay close attention here. *A priori* assessments of the possible consequences of innovations should be carried out as a matter of course. Good regulation could create the conditions necessary for ensuring that data, algorithms, speech recognition technology, sensors, drones, and robots are used responsibly for the benefit of society in the digital age.

Data privacy

„The reform of data privacy law lacks ambition; but it protects the essentials.“

European Digital Rights (EDRi)

The comprehensive gathering, linking, and evaluation of personal user data is an infringement of the fundamental right to data privacy. And yet even today, at a time when digitalization remains in its infancy, the instruments for protecting data privacy have only limited efficacy. On the one hand, the European General Data Protection Regulation (GDPR) has brought significant improvements, e.g., in respect of the rights to data portability, deletion of data, and information, as well as sanctions. Further, the use of a service may not be conditioned upon the grant of a consent („prohibition on coupling“) and the principle of data economy or frugality has been codified.

On the other hand, there is a great deficit in enforcement. In particular, it remains unclear how the regulatory authorities are to enforce these rules against companies seated on the other side of the Atlantic.³⁶ It is likewise problematic that the GDPR focusses exclusively on personal data and is constructed as an individual right. It does not provide for class actions to enforce data protection, nor does it cover data protection for agents and employees. Further, the prohibition against internet and media companies' tracking user behavior while they surf the internet, which was in force in Germany until recently, has now been eliminated and the overt video surveillance of offices is largely permissible. Only a right of objection protects consumers from the creation of user profiles.³⁷

No one is any longer in a position to elude, at any reasonable expense, corporate surveillance. Legislatures are thus called upon to adopt rules and ensure their enforcement, in order to effectively protect the fundamental right of informational self-determination and prevent consumers from continuing to be mercilessly exposed to the current corporate practice of data-gathering. Implementing a change like this through legislation may also compel businesses to see that they have an incentive to developing new technologies that respect data privacy. It is well known from behavioral studies that people have a general tendency to hold onto their current situation or technical default settings („status quo bias“).³⁸ For this reason, a statutory provision obligating companies to offer their products with default settings that protect data privacy would entail a significant improvement in data privacy for many people.

Transparency and algorithms

Scandals like the Cambridge Analytica case reveal how extensive the abuse of data is. The German Data Protection Conference³⁹ regards this case, involving a single App, as but the „tip of the iceberg.“ The number of Apps using the Facebook Login System reaches into the tens of thousands. European initiatives, it holds, are needed not only to curb monopoly-like structures in the field of social networks, but also to establish transparency in the use of algorithms.⁴⁰ More transparency is in fact urgently needed. The rapidly growing use and significance of data and algorithms stands completely out of proportion to the stagnancy in our poor understanding of how the data are used and what calculation specifications, assumptions, and interests underlie the definition of algorithms.

At bottom, the problems associated with algorithms and artificial intelligence revolve around big data. „AI equals big data, just in a new costume,“ states the American scholar

Dana Boyd. Algorithms increasingly make decisions that can have far-reaching consequences for individuals, groups, society, and democracy. The responsible authorities and the Federal Government of Germany thus need cogent information to help them understand the decision-making systems of the algorithms.⁴¹ This must include, inter alia, the „basis“ of the algorithm, its provenance, and the nature of the data inputs, including training data. But citizens or consumers, too, should be in a position to evaluate what the algorithms do.⁴²

Further, there may be fields of societal or human interaction in which the use of algorithmic decision-making systems is inappropriate. For instance, it is worthwhile considering whether core responsibilities of state agencies, such as in the fields of criminal justice, health, and education, should not be deemed off-limits for the „black box“ of artificial intelligence and algorithms. State agencies should be held politically accountable for decisions that they make on the basis of algorithmic processes.⁴³ Companies could be required to conduct advance tests on artificial intelligence systems, in order to avoid amplifying prejudices and forestall any errors that might arise in connection with the training data, the algorithm, or other elements of the system design.⁴⁴

Precisely in the context of matters affecting society's course or development and in tackling the resolution of challenges that future generations will face, it is questionable to rely too heavily on automated data processing and the decision-making systems of algorithms, for they may do more harm than good.⁴⁵ A broadly based societal discourse is required to decide in what fields algorithms can play a useful role in and what fields they should not, because delegating decisions to computers may have far-reaching consequences and many questions relative to responsibility and liability remain unanswered.

With regard to the presentation of political content, service providers operating digital platforms should disclose in real time who has paid how much for what content and what the criteria are for personalizing and distributing the content to a targeted audience.⁴⁶ It also appears advisable to adopt the recent recommendation by a panel of experts to the effect that social bots should be subject to mandatory identification as such.⁴⁷ As the danger of manipulating political climates must be regarded as very high, measures such as these in a sensitive area of fundamental importance to our whole political system would appear appropriate.

The use of open-source software – which makes public the programming code and thus, in contrast to closed-source software (proprietary software), allows users to ascertain

how it works – provides a higher degree of transparency. The state legislature of Schleswig-Holstein, for example, resolved in June 2018 to switch to open-source software for carrying out as many procedures as possible, including future calls for bidding on procurement and employment contracts. In their parliamentary bill, the legislators, drawn from the ranks of the CDU, Bündnis'90/Green Party, and the FDP, point out that politicians and administrative agencies must make an effort to become, „from the digital perspective, more in control and independent of those few large internet companies, which often enjoy a dominant market position.“⁴⁸

Because technological development favors proprietary software, viz. closed networks, alternative technologies such as open-source software face an uphill battle. It would doubtless be a good thing for the state to support open-source software development both with financial incentives and an open-data-policy for its own administrative procedures.

SOCIAL AND ECOLOGICAL TRANSFORMATION IN THE DIGITAL AGE?

In the ongoing discussion over digitalization, the most urgent challenges of our time are in danger of falling off the radar screen: the climate crisis, social inequality, human rights abuses, poverty and hunger, water scarcity, destruction of the environment, security crises and conflicts. Instead of focussing on these issues, the discourse often pushes the potential for growth and innovation through digitalization into the foreground. A gold-rush mentality is spreading fast. Venture capital has found in the casino of the digital world its next great playing field. Globalization follows in lock step with digitalization – in the digital age, borders no longer play a role.

Is it possible to imagine a social and ecological transformation of society under these circumstances? Perhaps. It depends on whether digitalization generates positive effects on the distribution of wealth („distributive by design“) and on the regeneration of our ecosystems („regenerative by design“).⁴⁹ It depends on whether a behavioral logic that gets beyond individual proprietary rights and ownership relationships – in the form of the commons – can be introduced and supported, and on whether we can re-think the growth paradigm and mainstream economy on all levels to prepare the soil for a more humane and more open society based on solidarity. It is crucial that we guarantee a basic minimum of protection in terms of employment and social security in the digital economy, in particular in the context of the work connected

to digital platforms. We need to minimize the risks attendant upon placing workers in precarious circumstances. In the new employment model typical of platform work, for example, the connection between competition policy and social policy is made manifest, for it is primarily free-lance service providers that grow dependent on platforms. Co-determination in the digital age could also mean subjecting the private property to a process of democratization.

LONGEVITY OF SOFTWARE AND HARDWARE

„ *Software must be individualizable, fixable, and capable of being maintained over the long term – as open-source software already is. Producers must, for example, provide security updates to ensure the hardware longevity of their devices and, after ending their support, disclose the source code as an open-source variant instead of building in „software locks.“ Electronic devices must be repairable and recyclable – planned obsolescence should not be tolerated. To this end, guarantee periods must be extended to many times their current length; manufacturers must make replacement parts, the tools necessary for repairs, and know-how available to everyone; and keep them available for the long term.”*

Source: Demand issued by the Conference „Bits & Bäume,“ November 2018

The debate over digitalization must not be divorced from the debate over societal and ecological transformation. A new social contract, as called for recently by the WBGU (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, Scholarly Panel of the Federal Government of Germany on Global Environmental Changes), must be anchored in the digital world from the very get-go. In its publication „Digitalization: What we need to be talking about now,“ the WBGU poses important questions oriented towards Global Sustainable Development Goals.⁵⁰ Digitalization should be used to ensure the dignity of man, protect our planet, seek peace, and provide a decent life for all. Let that be the guiding principle for action taken by politicians, businessmen, civil society, and all citizens.



The question arises as to whether, instead of pursuing further deregulation, as the tendency seems to be now, we cannot pursue by means of sensible regulation the goal of embedding economic activity in a socially and ecologically sustainable framework. Above and beyond the demands for legislative and regulatory reform sketched out above, one could also review, for instance, the possibility of subsidizing, in certain areas, digital platforms operated by a public agency. Open-source software and open-source licenses have great potential for making crucial knowledge available to everyone. In the area of agriculture, too, open-source licenses and public digital platforms could make a significant contribution. Public access to big data is no more nor less important than maintaining and ensuring access to a diverse assortment of seed varieties – which is an essential pre-condition for securing our livelihoods. The market for seed is one of the key markets of the future. Good ideas are plentiful; one can only hope that some of these ideas are heard in the political and public discourse and ultimately heeded.

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V.i.S.d.P.: Arndt von Massenbach, INKOTA-netzwerk

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