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COMPETITION & DFS WORKING PAPERS

03 Digital Data and Competition Issues

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1. The importance of digital data

Officially categorized as a “new asset class”¹ by the World Economic Forum in 2011, data has recently been labeled by the Economist as the “new oil of the digital era.”² The European Union (EU) Commissioner for Competition has called it “our new currency”³, given the rise of superplatforms such as Google, Facebook and Amazon.⁴ When amassed in large quantities, digital consumer data such as internet searches, transactional airtime history, and social media posts can be analyzed in conjunction with demographic data using algorithms. These algorithms can be used to identify the interests of specific individuals or groups to better target advertising and products, and influence consumer choices.

Digital data has created both social benefits as well as competition issues. It has been leveraged to create entire industries (such as online search engines, advertising and harvesting) and has rendered others more efficient and cost effective (such as ride-hailing and food delivery). Such innovations have increased competition, and thus lowered consumer prices while improving service quality and expanding consumer choice (e.g., Uber and Airbnb have forced further competition in the taxi and hotel markets, respectively). Other social benefits⁵ include reducing traffic congestion,⁶ lowering CO₂ emissions,⁷ creating health care savings,⁸ and providing affordable and accessible finance for the bottom of the pyramid.⁹

On the other hand, the network effects of digital data can contribute to market power. The economies of scale of digital data and the multi-sided nature of these platforms can promote market concentration, favoring anti-competitive outcomes.

¹ World Economic Forum. 2011. [Personal data: The emergence of a new asset class](#).

² The Economist. 2017. [The world’s most valuable resource is no longer oil, but data...](#)

³ Speech by Margrethe Vestager. 17 January 2016. [Competition in a big data world](#).

⁴ As set out in David Porteous and Olga Morawczynski. 2017. [Inclusive digital ecosystems of the future](#).

⁵ OECD. 2013. [Exploring data-driven innovation as a new source of growth](#).

⁶ Traffic Technology Today. 2012. [Mediamobile’s V-Traffic service to use Orange’s floating mobile data](#).

⁷ According to the Global e-Sustainability Initiative, the use of data-driven smart-grid applications could reduce CO₂ emissions by more than 2 gigatonnes (the equivalent of EUR 79 billion). Global e-Sustainability Initiative. 2008. [SMART 2020: Enabling the low carbon economy in the information age](#).

⁸ It is estimated that the use of big data throughout the US health care system could save more than USD 300 billion by 2020. McKinsey Global Institute. 2011. [Big data: The next frontier for innovation, competition and productivity](#).

⁹ Deloitte. 2017. [Leveraging digital to unlock the bases of the pyramid market in Africa](#).

Box 1. Network Effects in Digital Data Sectors

As articulated by the OECD¹⁰, data-driven activities create two feedback loops: a “user feedback loop”, where companies use their large user base to collect data to improve the quality of the service, and a “monetization feedback loop”, where companies utilize their user data to improve advertising and targeting to monetize their existing services. Both feedback loops create additional funds, which can then be invested to attract more users, creating competition issues.

These feedback loops create high barriers to entry for entrants without large user bases at the outset. Further, due to the quantity and variety of data that can be collected and the infinite number of ways these data can be analyzed and interpreted, big data companies have a longer, accelerated learning phase and very large returns to the data they collect. When these companies reach scale, they may be so big in size and influence as to make it difficult for any small player to effectively exert competitive pressure, creating a potential for market “tipping” and winner-takes-all outcomes.

The indirect network effects created by multi-sided features of such platforms also concentrate users and their data in a few market players. The platforms provide access to multiple products, keeping consumers within their ecosystems and making entry for difficult for new players.

The cost structure of data-centric companies involves high up-front sunk costs (e.g., vast data centers, servers, data analytics software, and human resources), and low marginal costs, as the incremental data can train and improve algorithms at a low cost. The result is high economies of scale and scope, due to the proportionate savings of producing many distinct services concurrently, which supports market concentration.

¹⁰ OECD. 2016. [Big Data: Bringing competition policy to the digital era.](#)

This research brief examines the particular competitive issues that arise in digital data and digital financial services (DFS) and explore how authorities in mature economies have dealt with the competition issues that surround digital data in an effort to distill lessons for developing markets.

The brief starts by considering the suitability of current competition tools to the particularities of digital data. Next, we review the approaches taken in recent abuse of dominance, cartel, and merger control cases concerning digital data. Then, we explore the data issues that have arisen in DFS that may have competition implications (e.g., leveraging data in dominant markets, credit bureau reporting, access to proprietary DFS platforms) and consider how the lessons learned managing digital data in mature economies could be applied to emerging markets. Lastly, we look at potential solutions to the issues raised, including competition tools for digital data and models for data ownership and data sharing.

We argue that the conception and formulation of competition law in emerging markets could take into account the concepts of consumer welfare, “dynamic” competition analysis, and the importance of non-price parameters in digital markets, as well as establish broad market and sector investigation regimes. Such measures would ensure that the economic development of DFS markets, aligning with a country’s goals of social development and financial inclusion.



2. US and EU approaches to digital data competition issues

Competition policy and law can have varying goals depending upon the jurisdiction – economic efficiency, prevention of consumer harm, consumer welfare, or even social redistribution. Although the US approach has vacillated between the neoliberal/structuralist¹¹ and the Chicago schools,¹² today US antitrust authorities are mainly focused on a functional approach to antitrust that emphasizes economic efficiency, while the EU policy centers on harm to competition.

In addition, over time, there have been efforts in the European Commission to refine and narrow the goals of EU competition law and embrace the concept of consumer welfare as the singular guiding principle.¹³ Although rarely referred to by the European Court of Justice in its judgments on competition cases, the European Commission has recognized consumer welfare in its guidelines on enforcement priorities in applying the rules on abuse of dominance, stating that the adverse impact on consumer welfare can take “the form of higher price levels than would have otherwise prevailed or in some other form such as limiting quality or reducing consumer choice.”¹⁴ In addition, concern for the interests of the consumer recurs, at least at a conceptual level, in each major branch of competition law.¹⁵ That said, both jurisdictions are focused mainly on price analysis in their approach to defining relevant markets through the utilization of the Small but Significant and Non-Transient Increase in Price (SSNIP) test¹⁶ and their emphasis on pricing to determine harm.

The peculiarities of digital data have meant, however, that these traditional competition law tools have been unable to identify the potential harm in cases where digital data is at the core of the business model and thus these tools have been rendered ineffective in regulating and sanctioning it.

¹¹ The neoliberal antitrust advocates support government intervention in markets due to the causal link between concentration and market power.

¹² The Chicago school views market concentration as expressing intrinsic and temporary superiority of certain firms, and thus urges a “softening” of antitrust regulation, as markets can self-correct.

¹³ Maria Wasastjerna. 2016. [Big data and privacy in merger review – Competition policy for the 21st century digital economy](#).

¹⁴ Paragraph 19 of Communication from the Commission — [Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings](#). 2009.

¹⁵ Preliminary Opinion of the European Data Protection Supervisor. 2014. [Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the digital economy](#).

¹⁶ The SSNIP test seeks to identify the smallest relevant market within which a hypothetical monopolist or cartel could impose a profitable significant increase in price.

This can be seen specifically in regard to superplatforms that operate two-way markets, where one side is revenue-generating – e.g., targeted advertising or e-commerce – and the other is an exchange of data for a service. Until recently this exchange for a “free” service such as internet searches or social media was considered by authorities to have no effect on the market, given the lack of exchange of value in the traditional sense. This has resulted in competition authorities often focusing solely on the revenue-producing side of these two-way markets, as can be seen in the Google/DoubleClick and Facebook/WhatsApp cases that follow.¹⁷



Further, market power is particularly difficult to assess when companies provide zero-price services to consumers in exchange for data, as authorities may underestimate the degree of market power this data confers. Market power may equally be exerted through non-price dimensions of competition, allowing companies to supply products or services of reduced quality, to impose large amounts of advertising or even to collect, analyze or sell excessive data from consumers. The “winner takes all” propensity of data-centric companies means that companies are competing to take control of the whole market, rather than competing within the market (e.g., Facebook’s displacement of MySpace), which “may require new criteria for a proper assessment of market power” such as focusing on promoting market contestability.¹⁸

Lastly, superplatforms, which derive their power from the large quantities of data they possess about consumers, may have an incentive to collaborate with the independent apps and websites in their ecosystem in collecting data about new customers as “frenemies”, just as “lions cooperate when hunting gazelles (customers), and then

¹⁷ Though query whether this approach will change now after the Ohio vs American Express Company case.

¹⁸ OECD (2016).

compete over which one gets the choice cuts.”¹⁹ This behavior, although not per se anti-competitive, may result in foreclosing other future players in the usage of information as the information remains in the exclusive control of the superplatforms and their “frenemies”.

As the understanding of the value of data continues to evolve, however, the perspectives of authorities and scholars are changing. In addition to the increased importance of consumer and data protection law globally, we can see a marked shift in the EU perspective to merger control that now takes into consideration the market power conferred by data (see the Microsoft/ LinkedIn case below). Further, Germany has been the first jurisdiction to characterize an abuse of privacy as an abuse of dominant position (see the Facebook/ Bundeskartellamt case below), while certain American academics and practitioners (the “antitrust hipsters” or “New Brandeis” movement) go even further, criticizing “the use of the quantitative and financialized ‘consumer welfare’ standard for insufficiently capturing the shape of dominance, particularly in the contemporary digital economy.”²⁰ Lastly, in the recent Ohio vs American Express Company case,²¹ the US Supreme Court championed, for first time, the consideration of both sides of a two-way market in its antitrust analysis of credit card networks due to the existence of indirect network effects; although the ruling was focused on the credit card market, there is no reason why this principle could not be applied in the future to other two-way markets such as digital targeted advertising.

As our review of case law below shows, the data exchanges previously viewed as non-revenue-generating are being reconstrued as assets that generate significant value for platforms in their other markets, with the consumers “paying” for the online service with their data and loss of their privacy. Non-price concerns, in particular quality, are being elevated in importance in competition law analysis, with the sharing of data and resulting loss of privacy being considered as a “lowering in quality” of a service (or an increase in the collection of private data can be compared, to some extent, to a “price increase”).²² Although this is not a new idea (see Robert Pitofsky’s Political Content of Antitrust),²³ it appears that consumer welfare is finally gaining traction in antitrust in regards to digital data.

¹⁹ Maurice E. Stucke and Ariel Ezrachi. 2016. Virtual competition. p. 30.

²⁰ Angela Daly. 2017. [Beyond “hipster antitrust”: A critical perspective on the European Commission’s Google decision.](#)

²¹ [Ohio vs American Express Company](#) 585 U.S. 1 (2018)

²² See Commission’s [decision](#) in Facebook/ WhatsApp merger case.

²³ Robert Pitofsky. 1979. [Political content of antitrust.](#)

3. Digital data and abuse of dominant position

The main case law centering on the usage of data in abuse of dominant position²⁴ cases is European, both on the EU and national level. As the value of data increases in the eyes of the authorities, we see in the case law an evolution from abuse of dominance being centered solely around revenue-generating activities (including the actual data that is being sold) to encompassing the use of “free” data in a two-way market.

Beyond the case law, certain institutions, such as the European Data Protection Supervisor (EDPS), have argued that data “could in theory be considered an essential facility²⁵ in a particular digital market: the dominant undertaking has exclusive control of the information, while competitors lack the technical means to re-create the structure or system upon which the service relies.”²⁶

There has been strong opposition to this idea.²⁷ Some antitrust practitioners and academics argue that data is not a crucial input for the success of any company, as innovative entrants have been able to establish themselves in spite of their initial small share of user data. Others contend that data cannot be easily monopolized, as it is non-rival and non-exclusive, since there are no contracts preventing users from sharing their personal information with multiple companies. Further there are few entry barriers to new platforms, as data is relatively inexpensive to collect, short-lived, and abundant.

The “essential facility” doctrine aside, data in theory can drive all types of exclusionary and predatory behavior by dominant firms. Such behavior includes limiting

²⁴ Classical competition policy imposes special obligations on firms that have dominant market power due to their disproportionate market size or influence. Certain commercial behavior by such firms is deemed as abusive, even though the equivalent behavior would be permitted by non-dominant firms. To determine if a firm is dominant in a particular market, regulators consider the market shares of the entity and its competitors, as well as barriers to entry (e.g., legal barriers such as IP, regulatory monopoly, licensing), economic advantages (e.g., economies of scale), cost and network effects, and countervailing buying power.

²⁵ Defined as “a facility or infrastructure which is necessary for reaching customers and/or enabling competitors to carry on their business. A facility is essential if its duplication is impossible or extremely difficult due to physical, geographical, legal or economic constraints.” Concurrences. [Glossary of Competition Terms](#). Denying access to an essential facility may be considered an abuse of a dominant position by the entity controlling it, in particular where it prevents competition in a downstream market.

²⁶ Preliminary Opinion of the European Data Protection Supervisor (2014).

²⁷ OECD (2016).

competitors' timely access to key data, preventing others from sharing data, inhibiting data portability, or excluding rivals that threaten the data-related competitive advantage of an incumbent.²⁸

a. Cegedim / Autorité de la Concurrence

One of the first abuse of dominance cases dealing with data was Cegedim / Autorité de la Concurrence,²⁹ where the French Competition Authority (FCA) found that Cegedim had abused its dominance in the market of medical databases for the management of medical visits by French laboratories. With an estimated market share of 78%, Cegedim was found to have contravened article 102 of the EU Treaty and article L. 420-2 of the French commercial code³⁰ by refusing to sell access to its medical database One Key to all medical laboratories that were using a customer-relationship management (CRM) software sold by Euris, one of its main competitors in the CRM software market.

There have been prior cases in the EU where a dominant entity has used customer data, obtained from its revenue-generating commercial relationships in the market where it was dominant, to increase its market power in a related revenue-generating market (see, for example, the French cases where dominant gas providers in the regulated gas market used their customer data from that market to their advantage in the complementary, liberalized market of market-based gas contracts).³¹ The Cegedim case was one of the first where the relevant market, in which dominance was found, included the selling of data. This type of harm has also recently been highlighted by the UK's Competition and Markets Authority in its 2015 report entitled *The Commercial Use of Consumer Data*. The report acknowledged that firms may leverage the data obtain in one market to achieve enhanced power in other related markets, by using bundling or tying strategies:

"A large firm with market power gained from the creation of a valuable dataset may seek to enter the market for data analytics by tying the purchase of its dataset with

²⁸ Ibid.

²⁹ [Décision n° 14-D-06 du 8 juillet 2014 relative à des pratiques mises en œuvre par la société Cegedim dans le secteur des bases de données d'informations médicales.](#)

³⁰ These are the specific provisions in EU and French law that render abuse of dominance as illegal.

³¹ In *Engie*, the FCA found that Engie had used its historical data file, as well as other means of leveraging its incumbent operator's status and resources, in order to convert its customers on regulated gas tariffs to market-based contracts for gas and electricity. In *GDF-Suez*, the FCA ordered GDF-Suez to disclose customer data to competing energy suppliers in order to enable them to compete on an even footing as the electricity and gas markets opened up.

the use of its analytics service. We note that in some cases, this bundling or tying may bring efficiency benefits to firms and consumers. However, in other circumstances it could give rise to harm to competition where it has the potential to foreclose rival firms within the more competitive market or where it removes the incentives for new firms to enter the market (as they cannot compete without providing the full range of services provided by the firm with market power)." ³²

b. Google/ EU Commission

Data becomes even more instrumental to competition when we move from the sale of databases and software (and other revenue-generating markets) to the two-way digital markets run by superplatforms. According to the EDPS,³³ the provision of multiple "free" services that collect data coupled with the provision of online behavioral advertising space leads to low marginal costs of supplying online services and a distinct tendency towards tying of services, which dominant undertakings are able to exploit. Further, they can create barriers to entry through their control of huge personal datasets alongside proprietary software.³⁴

The EU Commission's recent decision³⁵ fining Google 2.4 billion euros for abusing its dominant position as a search engine by giving an illegal advantage to its comparison shopping service is the first major case that looks at abuse of dominance in these two-way digital markets.³⁶ Google, which was found to be dominant in the relevant market of general search services in the European Economic Area (EEA), abused this position by more favorably positioning and displaying its own comparison shopping service vis-a-vis competing services. The EU Commission, in specific, found Google's conduct abusive because it: (i) had the potential to foreclose competing comparison-shopping services, which could lead to higher fees for merchants, higher prices for consumers, and less innovation; and (ii) was likely to reduce the ability of consumers to access the most relevant comparison shopping services.

³² Competition and Markets Authority. 2015. [The commercial use of consumer data](#).

³³ Preliminary Opinion of the European Data Protection Supervisor (2014).

³⁴ Ibid.

³⁵ Case AT. 39740 – Google Search (Shopping). See EU Commission's [summary decision](#).

³⁶ and the [decision](#) itself. The Federal Trade Commission in the United States closed its case against Google in 2013 after certain behavioral commitments were provided by Google, but some states (such as Missouri) are now investigating whether Google breached state antitrust rules. See Economist. 2017. [Regulating Google in America – tectonic shifts](#).

According to the EU Commissioner, although the actual comparison shopping service was “free” to the consumer, the welfare of the consumer was central to the Commission’s decision:

“What Google has done is illegal under EU antitrust rules. It denied other companies the chance to compete on the merits and to innovate. And most importantly, it denied European consumers a genuine choice of services and the full benefits of innovation.”

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The decision is significant in that it recognizes certain behavior -- providing preferential treatment to one’s own services within one’s own search ecosystem -- that does not fall squarely into a recognized “head” of abuse under EU competition law as anti-competitive.³⁸ However, consumer welfare is not actually addressed in the decision, nor is there any discussion of Google’s access to user data from its other “free” services and the leveraging of this data in other markets.

It should be noted that Google has also faced two other EU abuse of dominance investigations, though neither focused on the data issue. The Commission fined Google EUR 4.34 billion in July 2018 in regard to onerous requirements attached to Google’s Android operating system, including pre-installment of the Google search app on devices.³⁹ Google was also fined EUR 1.49 billion by the European Commission in March 2019 for exclusivity arrangements relating to Google AdSens.⁴⁰

³⁷ European Commission. 2017. [Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service.](#)

³⁸ Angela Daly (2017).

³⁹ The Commission found that Google had imposed illegal restrictions on Android device manufacturers and mobile network operators to cement its dominant position in general internet search. See European Commission. 2018. [Commission fines €4.43 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google’s search engine.](#)

⁴⁰ The Commission found that Google had abused its market dominance by imposing a number of restrictive clauses in contracts with third-party websites which prevented Google’s rivals from placing their search adverts on these websites. See European Commission. 2019. [Commission fines €1.49 billion for abusive practices in online advertising.](#)

c. Facebook/Bundeskartellamt

The first case to construe the handling of user data as an abuse of dominant position is the recent decision⁴¹ of the German Bundeskartellamt, Germany's antitrust authority, to prohibit Facebook from combining user data from different services.

In its February 2019 decision, the Bundeskartellamt took the view that Facebook is abusing its dominant position in the market for social networks in Germany "due to the extent to which Facebook collects, merges and uses data in user accounts."⁴²

According to Andreas Mundt, President of the Bundeskartellamt, Facebook's dominant position affects a user's ability to provide voluntary consent:

*"As a dominant company Facebook is subject to special obligations under competition law. In the operation of its business model the company must take into account that Facebook users practically cannot switch to other social networks. In view of Facebook's superior market power, an obligatory tick on the box to agree to the company's terms of use is not an adequate basis for such intensive data processing. The only choice the user has is either to accept the comprehensive combination of data or to refrain from using the social network. In such a difficult situation the user's choice cannot be referred to as voluntary consent."*⁴³

As Facebook is dominant in social media, all users are forced to register on Facebook and accept whatever privacy rules Facebook offers if they wish to access this social media. The users' resulting loss of control over their data coupled with Facebook's extensive data collection, usage and merging practices, in particular in regard data obtained from third-party websites, is what constitutes an "exploitative abuse".

Although the Bundeskartellamt is cooperating with the German data protection authorities on the data protection aspects of this case, the Bundeskartellamt did declare in the decision that Facebook's terms of service and the manner and extent to which it collects and uses data were "in violation of the European data protection rules to the detriment of users."⁴⁴

⁴¹ See the Bundeskartellamt's press release: Bundeskartellamt. 2019. [Bundeskartellamt prohibits Facebook from combining user data from different sources](#) and its background paper:

Bundeskartellamt. 2017. [Background information on Facebook Proceedings](#).

⁴² Bundeskartellamt press release (2019).

⁴³ Ibid.

⁴⁴ Ibid.

It is clear that Bundeskartellamt considers that a superplatform's use of data, even if obtained in the context of a "free" service, can raise separate competition issues, especially as the data are "of great economic value" to Facebook:⁴⁵

*"Facebook offers its service for free. Its users therefore do not suffer a direct financial loss from the fact that Facebook uses exploitative business terms. The damage for the users lies in a loss of control: they are no longer able to control how their personal data are used... Because of Facebook's market power users have no option to avoid the merging of their data, either. Facebook's merging of the data thus also constitutes a violation of the users' constitutionally protected right to informational self-determination."*⁴⁶

In addition to the issues raised concerning consumers, the Bundeskartellamt's background paper argues that with the merging of user data from all sources, including third-party sites, the "identity-based network effects" and, consequently, the "locking-in" of users will increase, to the detriment of other providers of social networks. Equally, there is potential for competitive harm on the side of the advertising customers who are faced with a dominant supplier in the social media advertising space.⁴⁷

There have been critics (in Germany and the EU) of the investigation, who feel this is solely a data protection issue and that the Bundeskartellamt has overstepped its jurisdiction. However, §18(3a) of the German Competition Act was amended in 2017 to make access to personal data a criterion for market power, especially in the case of online platforms and networks.⁴⁸ The Bundeskartellamt has taken this as a clear signal that "monitoring the data processing activities of dominant companies is therefore an essential task of the competition authority which cannot be fulfilled by a data protection authority."⁴⁹

⁴⁵ Bundeskartellamt background paper (2017).

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ As well as other criteria such as direct and indirect effects, parallel use of multiple services, economies of scale in connection with network effects, and innovation-driven competition pressure. The amendment also clarified that the provision of free services does not preclude the finding of a market (§18(2a)). See Hogan Lovells. 2017. [Digital is trump! – Market Definition and new dominance criteria for digital markets.](#)

⁴⁹ Bundeskartellamt background paper (2017).

It should be noted this is an administrative proceeding, and Facebook has stated that it will appeal this decision.⁵⁰ Facebook has also recently been found to have violated data protection laws in Belgium, in addition to investigations into its subsidiary WhatsApp by the European data regulator and rulings by a Berlin court and the French data protection authority on the use of user data by WhatsApp.⁵¹

⁵⁰ Out-Law. 2019. [Facebook to appeal German data decision.](#)

⁵¹ The Guardian. 2018. [Facebook ordered to stop collecting user data by Belgian court.](#)

4. Digital data and cartels⁵²

Although the relationship between digital data and cartelistic behavior has not been the subject of much discussion by competition experts, the publishing by Maurice E. Stucke and Ariel Ezrachi of their recent book *Virtual Competition*⁵³ has brought this discussion into the limelight and raises some alarms on how future technological developments may lead to greater market coordination.

In *Virtual Competition*, Stucke and Ezrachi identify five potential ways that digital data can be used to facilitate collusion:

1. Using real-time data to monitor compliance with an explicit cartel agreement (collusion scenario);
2. Using identical pricing algorithms to allow for simultaneous adjustment of prices (messenger scenario);
3. Using a vertically-integrated company to implement identical pricing algorithms (hub-and-spoke scenario);
4. Industry-wide use of independent algorithms, knowing that they will facilitate tacit collusion (tacit collusion scenario); and
5. Using artificial intelligence to create an algorithm designed to maximize profit that results in tacit collusion without any initial intent (digital eye scenario).⁵⁴

Of these scenarios, to date we have seen investigations in regard to the first three. As set out below, the exchange of digital data has facilitated cases of collusion that have been investigated in the United States, but these cases may just be the tip of the iceberg. With the advent of technology and greater transparency brought by the internet, digital cartels are becoming easier to implement and more difficult to identify and sanction with current competition law tools.

a. US digital cartels

In the early 1990s, the US Department of Justice (DoJ) investigated major US airlines for using a database⁵⁵ with detailed airfare information to make repeated fare

⁵² Even if digital cartels will have effects on consumer welfare (resulting in higher prices, lesser choice), this type of anticompetitive conduct does not focus on the use of personal data, as is the case with abuse of dominant position and merger control cases reviewed in this brief.

⁵³ Stucke and Ezrachi. (2016).

⁵⁴ Ibid.

⁵⁵ Provided by the Airline Tariff Publishing Company, it is a central clearinghouse which disseminates price change information to airline and travel agent computer systems.

announcements and rapid price changes that enabled online collusion.⁵⁶ Although the case was eventually settled after three years of investigation and resulted in no legal precedent, this was clearly a case where the DoJ felt that collusive pricing could result even without any sort of explicit communication among the firms. As stated by Severin Borenstein, "it did, however, clarify the DoJ's willingness to pursue cases of coordinated pricing through rapid communication, as well as the types of arguments that are likely to arise in such cases."⁵⁷

The first digital cartel was prosecuted by the DoJ in 2015 in regard to the fixing of prices by poster resellers on the Amazon marketplace.⁵⁸ David Topkins and the other poster resellers adopted specific pricing algorithms that collected competitors' pricing information and applied certain pricing rules, with the goal of coordinating pricing changes for the posters. Similarly, in 2016 individuals in the online wall décor industry were found guilty by the DoJ of online price fixing through algorithm-based pricing software used for items sold on the Amazon marketplace.⁵⁹ Other cases involving the use of computer algorithms for manipulating prices include the manipulation of benchmark interest rates by five major banks⁶⁰ and the use of an IT system within a supermarket franchise network to implement resale price maintenance.⁶¹

Lastly the recent Ohio vs American Express Company case⁶² -- although focused on a potential vertical restriction/cartel between American Express and its merchants, and not on digital cartels per se -- is noteworthy in that it was the first time that the US Supreme Court has overtly championed the consideration of both sides of a two-way market in an antitrust analysis. Although the ruling was focused on the credit card market, there is no reason why this principle could not be applied in the future to other two-way markets such as digital targeted advertising.

⁵⁶ See Severin Borenstein. 1997. [Rapid communication and price fixing: The Airline Tariff Publishing Company case.](#)

⁵⁷ Borenstein. (1997)

⁵⁸ See the following DoJ documents: [here](#) and [here](#).

⁵⁹ See the following DoJ document [here](#).

⁶⁰ U.S. Department of Justice. 2015. [Five major banks agree to parent-level guilty pleas.](#)

⁶¹ Golfopoulos. 2010. [The Hellenic Competition Commission imposes 12,5 million euro fine on Carrefour Marinopoulos SA for competition law infringements in the franchise network of "5 Marinopoulos" retail stores.](#)

⁶² [Ohio vs American Express Company](#) 585 U.S. 1 (2018).

b. Future issues with online platforms

In all of the above cases, the computer algorithm that collects and mines the data is an intermediary enabling human perpetrators to collude, and thus far, competition authorities have investigated and sanctioned only such types of digital cartels. But as Stucke and Ezechia set out in their book, the increasing ability for computers to process high volumes of data in a real-time data analytical capacity to provide a “god-like” view of the marketplace and the increasing sophistication of algorithms through artificial intelligence can expand tacit collusion beyond pricing and detection, possibly without conscious human intent.⁶³

The potential for harm from such scenarios to competitors and consumers is greater than in other scenarios, yet whether these scenarios are illegal is difficult to ascertain, as humans in such scenarios would be far detached from the algorithmic tactical and strategic decisions and may not have intended the collusion.⁶⁴ In certain jurisdictions that require proof of intent in order to support a finding of collusion (such as the United States), such behavior might not be sanctionable.⁶⁵

⁶³ Stucke and Ezechia. (2016) p. 71.

⁶⁴ Ibid. p. 77.

⁶⁵ According to article 101 of the EU Treaty, the agreement or practice needs either to have the intent or the effect of preventing, restricting or distorting competition, and thus proof of intent is not required if resulting harm can be shown.

5. Digital data and merger control

Given the competitive advantages that data possession bestows, firms that use digital data often seek out acquisitions or mergers that will further increase their data advantage. There are, however, significant competition concerns created by such mergers, as set out in a joint study⁶⁶ commissioned by the French and German competition authorities. First, the combined data set could give the merged entity an unfair competitive advantage, if this combined data made it impossible for competitors to replicate the information extracted from it. Secondly, the merged entity could increase the price at which it sells its data after the merger or refuse to supply such data to competing providers of downstream services, which rely on this data as an input. Lastly, a merger of two companies already holding strong market positions in separate upstream or downstream markets, each of whom holds significant data in their given markets, could use the data to foreclose these markets to new competitors.

Although competition authorities have traditionally focused more on the economic aspects and the price effects of a merger transaction and less on other non-price dimensions such as quality and choice, the market power that data confers -- and the corresponding effect on data privacy -- is increasingly becoming an important aspect of EU merger decisions. While the concentration of data was initially looked at as only one element in an overall merger analysis, in the Microsoft/ LinkedIn case the Commission finally acknowledged that data privacy can be a significant parameter of competition and driver of customer choice, on par with pricing.

a. Google/ Double Click

Although the competitive implications of digital data were recognized by the Commission in its decision concerning TomTom's acquisition of TeleAtlas,⁶⁷ the evaluation of data as an "asset"⁶⁸ in a merger is first considered in the Google/ DoubleClick⁶⁹ merger. DoubleClick undertook ad-serving, management and reporting technology, while Google is both an online search platform and a provider of online advertising space. The decision did look at the combination of DoubleClick's data

⁶⁶ Autorité de la Concurrence and Bundeskartellamt. 2016. [Competition law and data](#).

⁶⁷ Although it ultimately approved the merger, the Commission considered the significant competitive advantage of data in digital map markets and noted that confidentiality concerns were similar to product quality concerns. Case M. 4854 – [TomTom/ Tele Atlas](#). 15 May 2008.

⁶⁸ i.e. a competitive advantage enjoyed by the merged entity post transaction, as per Eleonora Ocello. 2015. Lessons from the Facebook/WhatsApp EU merger case. [Competition merger brief No 1/2015](#)

⁶⁹ Case M.4731 – [Google/DoubleClick](#), 11 March 2008

assets (web-browsing behavior) and Google's data assets (search behavior), but it dismissed any effects such merger would have on competition due to contractual prohibitions on DoubleClick's use of web-browsing data and the fact that there was no evidence that DoubleClick possessed sufficient market power to impose far-reaching contractual changes on its customers. Further, even if they were able to merger the data, the Commission held that it was unlikely that the merged entity's competitiveness would be enhanced in a way that would confer upon it a competitive advantage that could not be matched by its competitors. The merger's effect on consumer privacy was dismissed.

Although the merger was similarly cleared by the US Federal Trade Commission (FTC), FTC Commissioner Pamela Jones Harbour noted in her dissenting statement⁷⁰ that the merger combined "vast troves of data about consumer behavior on the internet" creating "a firm with vast knowledge of consumer preferences, subject to very little accountability" that harmed competition and threatened consumer privacy.

b. Facebook/ WhatsApp

This was a merger of well-known technology companies in complementary markets of consumer communications services (messaging), social networking, and online advertising services. Although data concentration issues were analyzed in regard to competition in the online advertising market – in particular, Facebook's use of WhatsApp as a potential source of user data for improving the targeting of Facebook's advertisements -- it was held that this leveraging of data would not raise competition concerns, as a large amount of internet user data that were valuable for advertising purposes were not within Facebook's exclusive control. Further, any privacy-related concerns flowing from the increased concentration of data within the control of Facebook as a result of the transaction were not considered to fall within the scope of EU competition law,⁷¹ even if privacy was one parameter (among many) of competition in the messaging market.⁷²

⁷⁰ [Dissenting Statement of Commissioner Pamela Jones Harbour in the matter of Google/DoubleClick](#), FTC File No. 071-0170. 2007.

⁷¹ This position is consistent with the one articulated by the European Court of Justice on the sensitivity of personal data, as per Case C-238/05 – *Asnef-Equifax v Asociación de Usuarios de Servicios Bancarios* (Ausbanc). 2006 ECR I-11125.

⁷² The FTC similarly did not object to the merger, though it sent a letter to Facebook and WhatsApp urging them to continue to honor the promises made by WhatsApp to its users in terms of privacy, regardless of the merger. Ocello (2015).

This case relied on similar reasoning to DoubleClick,⁷³ in that the data “assets” were assessed as part of a theory of harm that held that combining the merging parties' datasets could provide them with a competitive advantage, by helping them to improve the merged entity's product or service post-merger in a way that competitors would be unable to match.⁷⁴ In both DoubleClick and Facebook/WhatsApp, the Commission concluded that the combination of the merging parties' data would not provide them with a unique, non-replicable advantage, because competitors would be able to obtain large amounts of data from third-party providers such as data brokers, or by collecting and analyzing the data themselves.⁷⁵

As argued by Maria Wasastjerna, this case is

*“illustrative of the challenges of examining a merger’s impact on two- or multisided digital markets, where competition authorities at times consider the merger’s implications only on the advertising side, ignoring the impacts on the free side, which may put consumers worse off. Here, the Commission considered the data concentration only on the advertising side of the market and did not analyze whether consumers might be harmed if Facebook would start collecting and using data from WhatsApp users.”*⁷⁶

This can be contrasted with the Commission’s approach to the Microsoft/Yahoo merger⁷⁷ in 2010. The increase in data assets (i.e., user data) created by the merger was considered pro-competitive, as it would allow the merged entity to be a stronger competitor to Google in the market for search advertising due to the importance of scale in that market and by facilitating more advancements in Microsoft’s technology in that market.

Tellingly, Facebook was fined 110 million euros by the Commission in 2017⁷⁸ for providing misleading information in its merger filing for the WhatsApp takeover. In its 2014 merger notification, Facebook had informed the Commission that it would be unable to establish reliable automated matching between Facebook users' accounts and WhatsApp users' accounts. It was held that this statement was not true, as shown

⁷³ Similar reasoning was also used by the Commission in Cases M.6314 – Telefónica UK/Vodafone UK/Everything Everywhere/JV, 4 September 2012 and M.7023 – Publicis/Omnicom, 9 January 2014.

⁷⁴ Ocello (2015).

⁷⁵ Ibid.

⁷⁶ Maria Wasastjerna. (2016)

⁷⁷ Case M. 5727 – [Microsoft/ Yahoo! Search Business](#). 18 February 2010.

⁷⁸ Case M. 8228 - [Facebook/ WhatsApp](#), 17 May 2017.

by the fact that in August 2016, WhatsApp announced in its legal updates the possibility of linking WhatsApp users' phone numbers with Facebook users' identities. Although the decision had no impact on the merger authorization, it is worth noting that misinformation concerning the use of data in the case was considered harmful enough to require sanctioning, supporting the growing importance of the value of data for the Commission in merger cases.

c. **Microsoft/ LinkedIn**

In the Microsoft/LinkedIn merger,⁷⁹ issues concerning the merged entity's consolidated data led the Commission to impose certain conditions for authorization, including allowing computer manufacturers and distributors to choose whether or not to install LinkedIn on Windows, ensuring competing networks continued to enjoy certain interoperability with Microsoft's products and granting competing networks access to data stored in Microsoft Cloud.

The Commission acknowledged that privacy was an important parameter of competition and driver of customer choice in the professional social network services market. It concluded that the merger could restrict consumer choice in regard to privacy, as it could result in foreclosure effects that "would lead to the marginalization of an existing competitor which offers a greater degree of privacy protection to users than LinkedIn."⁸⁰

This case, combined with the recent fine imposed by the Commission on Facebook for the misleading information concerning the WhatsApp merger, indicates the Commission's growing appreciation for the value of digital data, and the elevation of the importance of non-price concerns such as consumer choice and access to quality (and its corollary, privacy protection) in competition analysis.

⁷⁹ Case M. 8124 – [Microsoft/ LinkedIn](#) 6 December 2016.

⁸⁰ *Ibid.*

6. Digital data issues in DFS

In the context of DFS, our research brief entitled *The Modularization of DFS and Competition Issues* identified three specific competition issues concerning the use of data in DFS:

- (i) Dominant players in one market segment (such as mobile telecommunications) leveraging the customer data they possess in that segment to gain an unfair advantage in another market;
- (ii) Lenders not providing complete data sets to the credit bureaus (i.e., only reporting providing negative credit information, known as “negative reporting”), or selectively providing only certain data to preferred parties; and
- (iii) Dominant players refusing to provide access to their proprietary platforms and their data to third-party service providers for the provision of over-the-top (OTT) services.

The brief looked at the first two issues in more detail in the context of mobile credit, while the third issue was outside of the brief’s scope. In this section, we will look at these competition issues in more depth, with a focus on the data aspects. The leveraging of data obtained from dominant markets has already been raised as an issue in mature competition jurisdictions, as set out above in Section 3. Reporting to credit bureaus, on the other hand, is not considered a classic competition issue, but rather one centering around credit reporting obligations and enforcement. It is, however, included in this brief as the behavior has effects on the competitive landscape for mobile credit. The third scenario, which is unique to DFS, has repercussions on access to both DFS platforms and their data, and thus could have an effect on competition.

a. Leveraging data obtained from dominant markets

A firm can leverage data obtained from a market where it is dominant in another market to procure a competitive advantage in that second market. Such behavior has already been recognized in mature economies as resulting in competitive harm (see, for example, the French gas cases and the CMA’s statement in Section 3). Such harm has, so far, only been theoretically alluded to in the DFS context,⁸¹ and no concrete cases have been brought or investigations undertaken by competition authorities.

⁸¹ GDDFI Discussion Paper. 2016. [Digital financial services: Regulating for financial inclusion. An ICT perspective.](#)

The potential for competitive harm in DFS is significant. For example, a provider dominant in mobile money issuance could use the information obtained from its customers' mobile money transactions to enter the mobile credit market. In markets where the majority of credit customers lack a formal credit history, such a mobile money provider would have a great advantage over other lenders in assessing creditworthiness due to its access to customer data. Although this data-leveraging practice has enabled the creation of a new market, as the mobile credit market matures, such behavior can result in information asymmetries that could create barriers to entry, growth, and innovation in DFS. These barriers reduce competition and increase lending costs,⁸² thereby increasing borrowing, which is reflected in the high interest rates these types of services charge.⁸³

Although there has been no formal complaint, the position of Safaricom and M-Shwari in the digital nano-credit market in Kenya is a case in point. Safaricom has been found dominant in the markets of retail mobile communications (with market shares of 65.2% of mobile subscriptions, 77.8% of national minutes and 86.7% of voice, data, and SMS revenues in 2016) and retail mobile money (with market shares of 65.1% of mobile money subscriptions, 81.9% of transactions by volume, and 84.3% of transactions by value in 2016) in a recent Communication Authority of Kenya market inquiry.⁸⁴

The digital nano-credit market – the provision of extremely small (as low as USD 1) short-term loans – was essentially created by Safaricom in Kenya; until it launched M-Shwari with the Commercial Bank of Africa in November 2012 (with minimum loans of Sh 100 or USD1), the majority of loan products had a minimum loan size of Sh 50,000 (approximately USD 500). Although other banks have since launched nano-credit products (such as Equity Bank's short-term loans and M-Co-op Cash),⁸⁵ Safaricom and its bank providers (now including KCB Bank) have managed to retain the lion's share of the market.⁸⁶ Safaricom has access to M-PESA customer data, and both credit products it provides – M-Shwari and KCB M-PESA – can use this data to their benefit

⁸² For example, the cost for creating and maintaining data analytics platforms and algorithms can be significant, e.g., USD 200,000 – 300,000 per month, which needs to be duplicated by each firm in the market if there is no data-sharing in place. See Graham Wright. 2018. [How can providers make digital credit more profitable?](#)

⁸³ Ibid and Michelle Kaffenberger and Patrick Chege. 2016. [Digital credit in Kenya: Time for celebration or concern?](#)

⁸⁴ Moses Kemibaro. 2017. [Is Safaricom dominant? A concise perspective on Analysys Mason's controversial Kenya telecommunication competition report.](#)

⁸⁵ Business Daily. 2014. [Co-op launches M-Shwari competitor.](#)

⁸⁶ Saruni Maina. 2017. [The world of FinTech that revolves around M-PESA and the threat it poses to banks](#)

in assessing creditworthiness in the nano-credit market. Further there is an effective “tie” between possessing a M-PESA account and having access to these credit products, and both credit products have access to the most widely used mobile money platform in Kenya, M-PESA, for distribution.

The results show some cause for concern. Both services charge high interest rates on the loans (KCB charges an interest rate of 1.16% per month with a one-off “negotiation fee” of 2.5% on a 30-day loan, while M-Shwari charges 7.5% on the amount borrowed per month, calling it a “facilitation fee” to circumvent interest rate caps).⁸⁷ Competitors such as Equity Bank are losing market share of the overall mobile credit market due to a government-imposed cap on interest rates,⁸⁸ which may equally be disincentivizing them from entering the nano-credit space.⁸⁹ Although lack of competition in the nano-credit sector could, in part, be due to the government interest rate cap, it is highly likely that a closer review of the market would show that market asymmetries due to Safaricom’s dominance and access to data may also be at fault. A similar conclusion was drawn in a recent GDDFI Discussion Paper.⁹⁰

b. Credit bureau reporting

Competition barriers in credit reporting can arise from several sources, all of which can restrict access to credit data and thereby weaken competition in credit markets. These include unfair or discriminatory access to credit data of credit providers, partial data sharing (low market coverage rates of credit bureaus and incomplete reporting by credit bureau members), and regulatory barriers.⁹¹

In the context of DFS, the main issue that has come to light regarding credit bureaus concerns the advantage certain lenders obtain in the mobile credit market by not providing complete data sets to the credit bureaus or selectively providing only certain data to preferred parties. Also called “negative reporting”, this practice entails lenders only providing information on defaulting borrowers to the credit bureaus. The result is that any credit bureau search will only generate data concerning defaulting

⁸⁷ Nambuwani Wasike and Mulua Mulanga. 2015. [M-SHWARI vs KCB M-PESA: convergence or divergence](#) and [M-PESA website](#) although there have been announcements that M-SHWARI would reduce the facilitation rate. See Juma Fred. 2017. [M-SHWARI to reduce its rate to below 7.5% to withstand competition.](#)

⁸⁸ The cap limits borrowing costs to four percentage points above the central bank’s benchmark rate.

⁸⁹ Felix Njini. 2017. [Kenya’s largest bank expects cap removal in second half.](#)

⁹⁰ GDDFI Discussion Paper. (2016)

⁹¹ European Commission Directorate-General for Competition. 2007. [Report on the retail banking sector inquiry.](#)

borrowers, and not any positive credit history, which could support certain credit applications. The lack of positive credit history means that rival lenders cannot appropriately price the risk of loans to such persons; interest rates could be much lower if the borrower has a positive repayment history. The entity that possesses the positive credit data can offer cheaper loans than other lenders, giving it a competitive advantage over its rivals and reinforcing its relationship with that borrower.

This behavior, in theory, could be anticompetitive if undertaken by a dominant player (and assuming it is not the result of specific credit regulations). Further, if that positive credit information is coupled with other data that are not available to the other credit providers (such as the unique customer view an MNO obtains from mobile telecommunications data), this can raise further competition issues if the MNO partnering with the lender has market power. The issue may be further reinforced if the entity controlling both the positive credit data and unique additional data is not obliged to provide any credit reporting under the credit bureau regulations, as the institution is not considered a lender to which the regulations apply.⁹²

There are several reasons why positive data may not be reported, including:

- (i) Negative reporting may be the sole requirement of the legislation in place (as is the case in Hong Kong);⁹³
- (ii) The reporting lender may be violating its positive reporting requirements (as is being investigated in Kenya);⁹⁴ or
- (iii) The reporting lender may simply be circumventing the regulation (as is the case in Ghana, where positive credit information can only be provided if the customer consents, and lenders can easily neglect to seek consent).⁹⁵

In Kenya, the Competition Authority has been conducting a market inquiry into the competitive implications of such negative reporting. Launched in 2016, this market inquiry is assessing not only the level of compliance with credit bureau reporting obligations but also “if there exist disparate treatments that gives them [the reporting

⁹² This has been the case in Tanzania, where Jumo, the MFI lender behind Timiza, has no regulatory obligation to share credit information. Source: Confidential document prepared by CCRED and MacMillan Keck in May 2016.

⁹³ According to an IFC report, in 2006 32% of consumer credit bureaus required only negative information, while 68% provided both positive and negative information. See [Credit bureau knowledge guide](#). 2006. IFC.

⁹⁴ Competition Authority of Kenya. 2016. Gazette Notice No. 678, [Proposed market inquiry and sector study on the Kenya banking sector - Phase II](#).

⁹⁵ See [Credit Reporting Act](#), 2007 (Act 726)

lenders an] anti-competitive advantage and inhibits consumers' ability to take advantage of their own data for financial access."⁹⁶

Credit reporting issues are also found in higher-income markets. An EU sector inquiry⁹⁷ in 2007 reported that some EU Member State credit bureaus which held confidential data that lenders used to set loan rates may have been used to exclude new entrants to retail banking markets. Also, a recent study by the Federal Reserve Bank in the United States highlighted the extent of incomplete information reporting in the US banking industry; in 1999, around 70 percent of consumers sampled had missing credit limits on one or more of their revolving accounts, while in 2003, after action was taken by the private and public sector to improve the accuracy and consistency of reporting, 14 percent of consumers still had missing credit limits on one or more of their revolving accounts and omissions continued to affect the records of 46% of consumers.⁹⁸

c. Access to proprietary DFS platforms and their data

Dominant DFS platforms can refuse or be reluctant to provide access to their proprietary platforms (and thus their customer data) to third-party service providers (or their developers) for the provision of OTT services – such as mobile credit, remittances, investment advice, and consumer budgeting applications – to the users of that platform.

Although DFS platforms are under no obligation to provide access to third parties as the platforms are proprietary, it has been argued that this slows the development of a broader “app” ecosystem, to the detriment of consumers.⁹⁹ Competition in mobile credit, in particular, may be hindered by this lack of access to platforms for distribution as well as lack of customer data (as set out above in Section 6.ii.) It has been argued that interventions may be warranted when it can clearly be established that inadequate access to the application program interfaces (APIs) and customer data of a dominant DFS platform has harmed competition in any such adjacent market or has prevented the attainment of other legitimate policy goals.¹⁰⁰

⁹⁶ Competition Authority of Kenya. (2016).

⁹⁷ European Commission Directorate-General for Competition. (2007).

⁹⁸ Avery, B.R., Bostic, R.W, Calem, P.S., Canner, G.B. (2004). [Credit report accuracy and access to credit, Federal Reserve Bulletin](#) (Summer 2004).

⁹⁹ Elisa Sitbon. 2015. [Addressing competition bottlenecks in digital financial ecosystems](#).

¹⁰⁰ Ibid.

However, it is unclear if each such DFS platform actually constitutes an individual relevant market upon which a finding of dominance can be made, as these DFS platforms compete not only between themselves but with other platforms for the delivery of financial services, such as banking switches and credit card networks. Depending upon the dynamics of the market in a specific jurisdiction, there may be sufficient substitutability among these platforms that the market definition for these platforms must be widely defined. In such cases, there may not be a true competition issue, as no platform will be “dominant”.

Further, when a dominant DFS platform provides open access to its platform, this can actually reinforce its market power over other smaller platforms. One example is Kenya, where the size of M-PESA’s distribution network and richness of its customer data set make it far more attractive to third-party providers than other DFS platforms. If M-PESA’s market power also allows it to require exclusive partnerships with these third parties, M-PESA’s competitive advantage would become even more significant and damaging over time, and potentially such exclusivity requirements could be considered an abuse of dominance.

This scenario is one unique to DFS, and although it clearly has repercussions on access to DFS platforms, it is still unclear whether true competition issues arise. Further study of the market dynamics of particular jurisdictions would thus be recommended.

7. Conclusion

The possession and usage of digital data can affect competition, as is evidenced by both the competition case law reviewed above in mature economies and the examples identified in emerging markets in the context of DFS. Encouragingly, as the value of data has increased in the eyes of the authorities (and consumers), the EU and their Member State competition authorities have been increasingly trying to use the current competition policy tools to tackle these issues. But as has been shown in both mature and developing economies, the current regulatory toolbox is deficient, which has prompted calls for new tools and approaches to competition. Below, we explore in greater depth what these new tools could look like, as well as the types of ex ante data ownership and sharing policies that could further support competition in DFS.

a. New competition policy tools

As has been highlighted above, competition authorities in mature economies have traditionally focused solely on the price effects of a merger or dominance behavior. In regard to two-way digital markets, this approach has resulted in a misunderstanding of the market power these data can accord and a disregard for the privacy and other non-price costs that may be imposed on consumers.

Currently, the EU and certain EU Member State competition authorities are trying to rectify this through (i) evolution of their competitive and legal analysis in merger and abuse of dominance cases (by focusing more on consumer welfare and the importance of non-price parameters to competition, e.g., Microsoft/LinkedIn); and (ii) insertion of non-price parameters such as personal data into the actual competition legislation, as was done recently in Germany.

This “dynamic” approach to competition analysis has been formally articulated by Johannes Laitenberger, head of the EU’s competition directorate, who in a recent speech¹⁰¹ stated that “a merely static, short-term, price-centric perspective will fail to deliver the benefits of competition. The consumer welfare standard to which we are bound also includes a dynamic perspective, looking also at longer-term effects, potential effects, and counterfactual effects.” He thus urged for a stronger focus on quality, choice, and innovation as parameters of competition, arguing that the current EU competition law framework and reasoning were still relevant for regulating digital

¹⁰¹ Johannes Laitenberger. (2017) [EU competition law in innovation and digital markets: fairness and the consumer welfare perspective](#). Speech at MLex/ Hogan Lovells event.

data and innovation. Former EU Competition Commissioner Mario Monti has equally stated that the current competition tools “can be adapted, with appropriate reflection, to the new phenomena.”¹⁰²

Reform seems to be in the air, at least in regard to the merger control aspect of competition policy.¹⁰³ In October 2016, the EU Commission launched a public consultation¹⁰⁴ on the evaluation of EU merger control. As part of the consultation, the Commission sought feedback on introducing a size-of-transaction threshold, in addition to the current purely turnover-based thresholds. Such thresholds could capture, for notification, transactions with high market potential yet low revenue targets, as is often the case for mergers in digital markets. This type of reform has already been implemented in Germany, where a size-of-transaction value threshold came into force in 2017.¹⁰⁵

There are, however, other areas where further research will be undertaken before concrete action is proposed. A joint report by the French Autorité de la Concurrence and the German Bundeskartellamt in 2016 looked at competition issues related to big data. It noted that although the risk of foreclosure associated with the concentration of data in digital industries had mostly been considered in the context of merger control, several possible forms of “data-based” conduct, whether exclusionary or exploitative, could lead to enforcement action under certain circumstances. However, as the theories of harm underlying the prohibition of such conduct are premised on the capacity of a firm to derive its market power from its ability to sustain a data trove unmatched by its competitors, it recommended that a “case-specific assessment of the reality and extent of the ‘data advantage’ needs to be undertaken to bear out or reject this premise.”¹⁰⁶

Although the competition authorities are now recognizing the challenges of digital data and trying to adapt their current tools, some argue that they do not have the right tools and analytical schemes in the first place. According to Maria Wasastjerna,¹⁰⁷

¹⁰² Ibid.

¹⁰³ Merger control refers traditionally to competition rules that require companies that are merging or being acquired to notify this potential merger/acquisition to the relevant competition authorities for clearance, if the turnover/assets of the merged entity exceeds a certain threshold.

¹⁰⁴ EU Competition Commission. 2017. [Consultation on evaluation of procedural and jurisdictional aspects of EU merger control](#).

¹⁰⁵ Hogan Lovells. 2017. [Mind the gap – New size of transaction test in German merger control](#).

¹⁰⁶ Autorité de la Concurrence and Bundeskartellamt (2016).

¹⁰⁷ Maria Wasastjerna (2016).

“characterizing a single unifying economic theory of privacy has proven hard” as there is an element of subjectivity to privacy that makes it much harder to define and measure than price. This becomes even more challenging in situations in the digital economy where the protection of privacy can both enhance and detract from individual and societal welfare. This has resulted, according to Wasastjerna, in the absence of a commonly accepted analytical framework and has led to superficial treatment by the competition authorities.

Equally, competition authorities seem ill-prepared for the rise of online platforms that use artificial intelligence and real-time data analytics to set profit-maximizing strategies that may result in collusion without human interference or intention. As Stucke and Ezechri argue, although “smart” pricing regulation (i.e., data-driven dynamic pricing imposed by the government) could be an answer for simple homogeneous services and products (such as San Francisco’s SF park program), the variables are too complex for many differentiated goods and services, and they may not estimate demand correctly for innovative products based on new technologies.¹⁰⁸

The real issue in mergers, abuse of dominance and cartel enforcement in digital markets is “designing new tools to address new problems.”¹⁰⁹ Stucke and Ezechri identify the use of a “broad market and sector investigation regime”¹¹⁰ to investigate and better understand market dynamics as well as the provision of behavioral and structural remedies (such as forced divestiture of certain business activities or imposition of certain trading prohibitions as is the case in the UK) and the creation of a framework to consider new enforcement tools as possible options.¹¹¹

Emerging markets whose competition policy framework and institutions are not yet established (or as still in institution-building mode) can learn from the EU and US experience with regard to digital data. In particular, their conception and formulation of competition law could incorporate the lessons learned so far by building into their legislation the concepts of consumer welfare, “dynamic” competition analysis, and the importance of non-price parameters in digital markets. They could also establish from the outset a broad market and sector investigation regime, rather than implement traditional investigation regimes that focus on specific violations. These measures could help to ensure that economic development in these markets aligns with the

¹⁰⁸ Stucke and Ezechri. (2016) p. 214.

¹⁰⁹ Ibid. p. 218.

¹¹⁰ Rather than traditional investigation regimes that focus on specific violations.

¹¹¹ Stucke and Ezechri. (2016). p.225.

country's social development goals, including financial inclusion, by keeping competitive threats at bay.

b. New models for data ownership and data sharing

If we look beyond the current enforcement of competition policy, which is mainly ex post regulation, there are also proactive ex ante tools that regulators can use to ensure healthy competition in digital markets, especially in DFS. At the center of these rules are the concepts of data ownership and sharing.

Rules governing data ownership have a profound effect on how companies can handle and manipulate data. The question of whether data should be owned by the data subject or the company that has collected and analyzed the data remains a subject of debate in mature economies. Although the EU General Data Protection Regulation¹¹² (the "GDPR") does not take an explicit position on the matter, it gives data subjects several rights over the data, including the right to privacy and the right to control how their data are processed.

In the US, in contrast, data privacy is addressed on a sectoral basis, i.e., there are data privacy protections and safeguards only in certain situations, such as in the healthcare sector (governed by the Health Insurance Portability and Accountability Act of 1996¹¹³) and the financial sector (see the Gramm-Leach-Bliley Act¹¹⁴ and the Fair Credit Reporting Act).^{115, 116} In developing countries, where data protection laws exist, there is a general trend in principle to consider the data subject as the owner. Nevertheless, consumers' actual control over their data, once consent is given to a third party to use that data, remains limited, as individuals lack power vis-a-vis the superplatforms and other data controllers requesting consent.

Current market dynamics for data also disadvantage new entrants in markets where access to data is key, including DFS. Several superplatforms, such as social media and online marketplaces, control some types of this data, while other service providers, such as banks and telecommunication companies, possess and control their own

¹¹² [REGULATION \(EU\) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016](#) on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.

¹¹³ For a summary of the HIPAA privacy rule see [here](#).

¹¹⁴ For more information see [here](#).

¹¹⁵ For a summary see [here](#).

¹¹⁶ Hyperion Research. 2018. [Who owns personal data? GDPR vs US](#).

customer data. New entrants who do not have access to these data are clearly at a disadvantage.

With this in mind, there are various approaches that regulators could take to equilibrate access to data through regulatory intervention. These approaches could facilitate competition in DFS by allowing new entrants fair access to data, thereby increasing the number of viable players in the market:¹¹⁷

Data ownership: The regulator mandates that customer data ultimately remains the property of the data subject. Data subjects would then provide consent to store their information in a shared market infrastructure (i.e., credit bureaus, digital lockers in India), which would provide access to these data to providers upon customer consent. The information stored in this infrastructure could include both transactional records created by banks, MNOs, and other service providers as well as official documents issued by government agencies.

Alternatively, if there is no centralized market infrastructure, “data labor unions”¹¹⁸ could be established that could take collective action on the part of data subjects, negotiating with the data controllers the rights and benefits (including payment) for sharing these data for specific uses.

Data sharing: The regulator could mandate limited data sharing between data controllers (e.g., banks, MNOs, social media platforms) and other appropriate data stakeholders, such as FinTech firms, subject to the provision of explicit user consent, privacy by design architecture, and strong customer security requirements. The data accessed under such a regulation would be strictly limited to what is required for the service the user has requested, and the data provider might receive a small fee as compensation. Such regulation would set out technical standards and security requirements for APIs as well as requirements for meaningful customer consent (including tiered consent,¹¹⁹ the use of a standardized consent format, and awareness campaigns). Models for such a scheme would include the EU’s Second Payment

¹¹⁷ These approaches are not mutually exclusive.

¹¹⁸ The Economist. 2018. [The digital proletariat - Should internet firms pay for the data users currently give away?](#)

¹¹⁹ Tiered consent is when data subjects are given a set of options, allowing them to select how they wish to consent to data sharing.

Services Directive,¹²⁰ also known as PSD2, and Australia's soon-to-be implemented Open Banking¹²¹ regime under a new Consumer Data Right Bill.¹²²

Data portability: The regulator could champion a data portability regulation between data controllers and data subjects that would allow the data subjects to make an active choice in who holds their financial data. This would mean that data controllers may be required to transfer data they have created on a particular data subject to another data controller of the data subject's choice. This could be modeled on article 20 of the EU's GDPR.

In regard to all three approaches, there should be clear mechanisms established for data subjects to verify the accuracy of the data shared and raise complaints if necessary.

¹²⁰ [DIRECTIVE \(EU\) 2015/2366 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL](#) of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC

¹²¹ Australian Government. 2017. [Review into Open Banking: giving customers choice, convenience and confidence.](#)

¹²² Baker McKenzie. 2018. [Australia – New Consumer Data Right announced for banking, utilities and telecommunications sectors.](#)

