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Big Data: Bringing Competition Policy to the Digital Era

Executive Summary

29-30 November 2016

This executive summary by the OECD Secretariat contains the key findings from the discussion held under Item 3 of the 126th meeting of the Competition Committee on 29 November 2016.

More documents related to this discussion can be found at

www.oecd.org/daf/competition/big-data-bringing-competition-policy-to-the-digital-era.htm

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EXECUTIVE SUMMARY

By the Secretariat[*]

The 126th meeting of the Competition Committee held a Hearing on 29 November 2016 to discuss Big Data and the challenges of adapting competition policy to the digital economy. Considering the background note prepared by the OECD Secretariat with the support of Professor Maurice Stucke, two written contributions, as well as the discussion by delegates and expert panellists at the Competition Committee, the following key points emerged:

(1)   Big Data is commonly understood as the use of large scale computing power and technologically advanced software in order to collect, process and analyse data characterised by a large volume, velocity, variety and value. These interdependent characteristics drive both the benefits and potential risks of Big Data from a competition policy perspective.

Although it is difficult to precisely measure the total volume of data generated and stored at any given time, the development of online platforms, digital technologies and unprecedented data storage capacity has enabled the creation of very large databases of information as it was never possible before. Technology has dramatically expanded the sources of available data and the variety of information that can be collected, allowing firms to know customers' age, gender, location, household composition, demographic profile, dietary habits, biometrics, sartorial leanings and preferences, among countless other characteristics.

As the size and scope of data collected has increased, so has the speed at which firms can access and process this data. Some firms can process data in real time to accurately forecast events occurring in the present, near-present or very recent past (e.g., traffic conditions, virus outbreaks, home/auto sales and restaurant crowds) to the point that the term 'forecast' is being replaced with 'now-cast'. This predictive ability can enable firms to deliver more timely and relevant information to consumers and avoid staleness and lag.

(2)   Big data generates substantial innovations and efficiency gains, some of which pass on to consumers. In addition, controlling large datasets does not necessarily lead to market power, as some digital markets are characterised by vigorous dynamic competition.

The increasing use of consumer data for commercial purposes has generated substantial gains, allowing businesses to come up with product innovations, improve the efficiency of productive processes, forecast market trends, improve decision making and enhance consumer segmentation. Many of these gains are passed on to consumers, who are offered new products and services and realise a wide range of benefits such as innovative, customised and continually enhanced services often provided free of monetary charge.

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[*]   This executive summary does not necessarily represent the consensus view of the Competition Committee. It does, however, identify key points from the discussion at the Hearing on Big Data, including the views of a panel of experts, the delegates' oral and written contributions, and the background note prepared by the OECD Secretariat.

The control over a large volume of data is a not sufficient factor to establish market power, as nowadays a variety of data can be easily and cheaply collected by small companies - for instance, through point of sale terminals, web logs and sensors - or acquired from the broker industry. In addition, data faces decreasing returns to the number of observations and is most valuable when combined with data analytics and good predictive algorithms, which may require high investments in complementary assets, including hardware, software and expertise.

Even in digital markets where data plays a fundamental role in business strategies, incumbents may compete vigorously across multiple products. At the same time, there is frequently a dynamic competitive pressure exerted by potential entrants that come up with innovative ideas.

(3)   *The ability to generate and process large datasets can nevertheless be associated to market power, as a result of economies of scale, economies of scope and network effects, as well as real-time data feedback loops. Even if these effects do not necessarily lead to dominance or market tipping, they should be considered as part of the competitive analysis.*

The complementary assets required to process large volumes of data and to cross-reference multiple datasets (for instance using data mining and machine learning) are subject to economies of scale and scope. Although these effects are neither new nor specific to Big Data, as they were already observed in traditional platforms that served as interfaces between multiple products, they should still be incorporated into competitive analysis.

Likewise, data is often collected in multi-sided markets, where the presence of direct and indirect network effects allows companies to subsidise the service to high price elasticity groups of consumers and collect data that is monetised in other sides of the market. Again, multi-sided markets are not new, pre-dating the digital revolution, and network effects do not necessarily lead to winner-takes-all outcomes, but they should still be considered by competition law enforcers.

A new competition concern relates to the fact that Big Data fades the distinguishing line between agents operating on the demand side and on the supply side of markets, allowing online users to behave simultaneously as consumers of online services and producers of data. In turn, that data can be instantaneously consumed by online companies to improve the quality of the services, leading to a real-time feedback loop that may empower incumbents over potential entrants.

(4)   *Big Data should give rise to competition law enforcement when anti-competitive conducts are observed. While traditional antitrust tools can already address many data-related anti-competitive practices, the question of whether competition authorities should develop new standards or new theories of harm will require further research and investigation.*

The Hearing identified two main ways in which competition law enforcement could potentially address some of the risks of Big Data, especially when analysing mergers and abuse of dominance cases. Firstly, competition authorities may consider new theories of harm involving the use of covert tracking and data collection to exclude competitors. Secondly, they may incorporate into their analysis the impact of data on alternative dimensions of competition, such as quality and innovation.

However, as there is still a degree of uncertainty and lack of knowledge in this area, competition authorities should act with caution in reacting to the challenges posed by Big Data. In particular, because Big Data does not systematically cause harm and can actually result in significant gains for consumers, any actions by competition agencies should be supported with evidence of harm to the competitive process. Over enforcement could impose unnecessary costs on market competition and on the process of innovation.

(5)   *A first approach to incorporate Big Data into competition law enforcement is to treat data as an input or asset that companies may use to enhance their market power and engage in exclusionary practices. There is an open question as to whether competition authorities should use and adapt their enforcement tools in order to address the risks of Big Data as an input.*

In markets where Big Data is an important asset or input for business success, a concern may arise that the massive accumulation of personal information and intensive use of data analytics may enhance market power, lock-in consumers and raise barriers to entry. This may create incentives for companies to engage in anti-competitive practices, such as pre-emptive mergers, exclusionary conduct and even to collude in novel ways.

Traditional antitrust tools can be adapted and applied to tackle such data-related anti-competitive practices, by treating data as any other input. For instance, in merger control and exclusionary abuse cases, competition authorities may consider the risks of foreclosure and design remedies accordingly. Extreme remedies such as requirements to share inputs (in this case data) should be carefully weighed and used only when there are no less intrusive alternatives.

Before any intervention, competition authorities should examine on a case-by-case basis to what extent business performance depends on data control and data analytics. In particular, they should consider the following questions: In the relevant market, is data replicable? Can it be collected from other sources? What is the degree of substitutability between different datasets? How quickly does data become outdated? How much data needs a potential entrant to compete?

(6)   *A second approach for competition authorities is to consider the impacts of Big Data on quality dimensions of competition. Due to the inherent difficulties of measuring quality, there is no clear consensus about whether non-traditional dimensions of competition should be addressed by competition authorities or exclusively addressed by other public agencies.*

Data analytics may have implications for several dimensions of quality competition. On the one hand, the knowledge extracted from data allows companies to offer innovative and customised products. On the other hand, excessive collection of data and misuse of personal information may harm consumer interests, including privacy, data protection, freedom of speech, consumer choice and non-discrimination rights.

While quality may be an important aspect of competition policy, not all product characteristics are necessarily relevant for consumers or directly affected by the process of competition. Therefore, the potential effects of Big Data on a product characteristic such as the level of privacy protection should only trigger antitrust actions if there is evidence that (1) consumers value privacy rights and (2) competition actually takes place on privacy dimensions.

There are important challenges to consider when introducing a quality dimension in competitive analysis, as most competition tools are currently based on price effects and

there is a lack of good quality measures. There are also concerns that incorporating quality elements has the risk of increasing the level of subjectivity of competition law enforcement. As a result, there is an ongoing debate on whether new competitive tools should be developed or whether non-traditional dimensions of competition should be left to other public bodies.

> *(7)   Failures in digital markets may require some form of regulatory response in order to promote market trust. Due to the commons goals of competition law enforcement, data protection and consumer policy, effective responses to such failures may benefit from a closer dialogue and cooperation among different agencies.*

The development of the digital economy and of Big Data has raised concerns that users of online services may lose control over the way that their data is collected and used. In the absence of a regulatory framework that promotes transparency and consumer's control over their own data, there is a risk of undermining the good functioning of the digital markets.

In the design of a regulatory framework, competition law enforcers and regulatory agencies for consumer protection and data protection should share some common goals, such as the promotion of market trust, consumer choice and consumer welfare. The intersections between competition, data protection and consumer policy seem to be particularly significant in the digital economy, where transactions involving the transference of personal data play an important role. Hence, in order to better achieve the common goals and avoid inconsistent approaches, it is recommended a strong cooperation and close dialogue between regulatory agencies.

The discussion identified a few regulatory areas worth discussing in the future, such as the current rules governing online cookies and the eventual creation of "do not track" standards. In addition, the rules on data portability were given as an example of regulations whose design and implementation may have significant implications for market competition, privacy protection and consumer rights.