

Competition policy in the digital economy: towards a new theory of harm?

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Rapporteur: Romain Bosc

The digital economy is a major driver of economic growth in the 21st century and lies at the heart of innovation. Fueled by a gigantic amount of various type of data, these innovations are challenging the traditional organizational structures of our societies from radically reshaping the business landscapes and the nature of work to redefining the boundaries of production and consumption, and also sometimes, the responsibilities of business leaders. There is also a growing concern that competition is undermined by the asymmetric concentration of data. This concern is pushing regulators and scholars to look at refining EU competition policy in the context of today's digital sector, where the increasing collection, processing and commercial use of data increase complexity for competition authorities to distinguish anti-competitive motives from day-to-day business strategies.

Against this backdrop, CEPS organised this seminar chaired by Colin Blackman on June 1st 2016, with the support of the Friends of e-Economics, to explore the characteristics of digital markets and businesses, and how these are challenging EU competition policy.

Background

On the one hand, digital services and their network effects promote concentration of markets. On the other, end users may receive digital services through multiple channels (multihoming). These two features seem to make markets contestable and mean that entrants can challenge market power. This combination of network effects and contestability gives the digital economy a dynamic that is fundamentally different from other, more traditional sectors, and have fundamentally changed the implications, and perhaps, the nature of competition.

Traditionally, the theory of harm focuses more exclusively on anti-competitive behaviour in B2B relations and less on B2C (e.g. excessive prices vis-à-vis consumers). A new theory of harm may need to focus more both sides and more particularly on the control over data as a source of market power and anti-competitive behaviour. For instance, while a



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The rapporteur, Romain Bosc, is Research Assistant in the Regulatory Policy Unit at CEPS.

Facebook subscription may have become a must-have for end-users, could the take-it-or-leave-it nature of the subscription with respect to providing personal data be regarded as an abusive practice? On the one hand it is similar to excessive pricing vis-à-vis consumers (end-users pay with data); on the other hand it is similar to excessive pricing vis-à-vis suppliers of inputs (end-users sell data). The dominance in the control over data strengthens the position of the platform with regard to advertisers, content providers and retailers.

In this context, the European Commission launched a comprehensive assessment of the role of platforms as part of the Digital Single Market Strategy, and is conducting numerous antitrust investigations into digital giants. Meanwhile, the French and German competition authorities have published a [joint paper](#) intending to explore the role of data in the behaviour of market operators. It notably recommends enhanced scrutiny over data accessibility and processing, intending to analyse how 'data-based conducts' should be assessed, in particular in the relevance of ex-post antitrust remedies. However, wrongly labelling behaviour as being anti-competitive may have adverse effects on the dynamics in the market that could seriously hamper innovation.

From the question of market relevance to the need for a new theory of harm

As Nicolai van Gorp (e-Conomics) pointed out, the digital economy is an ecosystem where various platforms are stacked and interconnected altogether, where end-users can navigate through many routes. Hence, companies often build and combine their assets based on other companies' assets and services all along the value chain. Although this interconnectedness makes it difficult to exclude competitors, direct and indirect network effects create a high concentration and a tendency to tip into a 'winner-take-all' outcome drifting competition for audience (end-user base). In this matrix, companies are no longer competing within but rather for specific markets. They should first compete for attracting a large user base before monetizing their services. This peculiar feature challenges competition authorities when applying the analytical steps and instruments used for assessing the relevant market and dominance, starting with market definition, followed by an analysis of market power and establishing anti-competitive behaviour. Since digital firms constantly redefine the boundaries of the market by competing largely on the basis of innovation, it seems the traditional step-by-step analytical approach failed because of strong dynamic feedback effects running from firm behaviour to market structure. For the same reasons, market shares or profit margins appear to be less useful for determining market power. In fact, what appears as anti-competitive behaviour may in fact be a normal business strategy in a context where "only paranoid can survive".

What makes the digital economy particularly unique is, as Simon Hampton (Technology Policy Advocates) recalled, the combination of strong network effects in multisided markets and the absence of marginal costs. Simon exposed his take on what he referred to as 'paradigm competition'. He notably explained how digital platforms challenge each other in 'core retail markets' as their business models evolve, therefore creating new markets or remodeling existing ones. Examples include the way in which WhatsApp developed the potential to become a platform for advertisers and become a threat to Facebook, or how Google's click-based advertising model evolved from pay-per-click, to pay-per-duration-of-stay, to pay-per-buy, so that Google became a competitor to Amazon.

With data playing a crucial role in corporate strategy, we observe a race to acquire, merge and control various datasets, from search data (preferences), to third party cookies (views) or shopping data, etc. Hampton also explained how in this dynamic competition for datasets and disruption, the main risk for companies is the failure to continually innovate and become a 'lazy monopolist'. The Microsoft case was, in his view, symptomatic. At the time, the predominance of Internet Explorer 6 between 2001 and 2006 and the fact the browser was tied to its operating system was conceived as a harmful practice, but is now taken for granted by consumers. In fact, when taking over the browser market, he explained that Microsoft dismantled the team that had developed IE6, which has had serious consequences in the long term. Microsoft was supplanted by rivals and by a looming paradigm change to come: the uptake of the mobile Internet. Later on, when Google took over a leading position in search, commentators claimed that Google's core search business would be pushed out by the apps industry becoming part of the new web landscape, and with Apple taking the lead in this segment. While Google adapted rather well to integrate search with other functionalities, and transformed traditional brand advertising into performance advertising, a social paradigm shift was however operating. Facebook placed enhanced personalised services at the core of social networking, and outpaced Google in terms of visits for the first time March 2010. Hence, these examples raise questions about the difficulty in identifying the relevant market and in assessing dominance. Hampton finally saw the current rise of the so-called 'sharing economy' as the next powerful paradigm shift putting lazy monopolists in jeopardy, where the spread of artificial intelligence (AI) enables a smarter intermediation. In such cases, a more business model oriented approach might be more appropriate to rethink the theory of harm in light of this dynamic paradigm competition triggering important technological leaps.

In his effort to reconceptualise the theory of harm, Alexandre de Streel (University of Namur) warned about the risk of fallacy in applying one-sided logic to two or multi sided markets. Instead, a holistic approach should be privileged. Because the sides' size and intensity across platforms may vary, having a dominant position in one side does not mean the company holds a dominant position in the other. Therefore, the focus should be on both sides in order to assess discrimination (favouring its own products/services) and leverage (entering more easily new market segments). De Streel thus pointed out that size did not equal market power. As the value chain of big data includes collection, storage and processing of data, these three phases should be carefully assessed. He saw little concern regarding the phase of collection because data is non-exclusive, non-rivalrous, short-lived, ubiquitous, inexpensive and easy to collect. Some problems may however arise from contractual restrictions (e.g. exclusive contracts) or stem from the sensitivity of data (e.g. health data). The second phase (storage) was not seen as a potential source of discrimination, as opposed to the phase of processing, seen as the most probable source of anticompetitive behaviour. He pointed out the development of machine learning and algorithmic processing as a way to potentially abuse consumers, through higher prices but also quality. By quality, he referred to whether or not privacy protection should be considered as being part of a quality standard.

If so, low privacy standards could be deemed as exploitative abuses, especially in 'free' markets (eg German Facebook case). Other forms of abuse that are relevant in the context of big data, are for instance a refusal to give access to an essential facility (e.g. a dataset),

or a case of cross-subsidization with data (eg French energy case). In de Streel's view, discrimination is likely to become the most increasing type of harm arising from the increased use of data as an essential facility.

Another challenge pertaining to the digital economy is that disruptive innovation happens outside the value network, making the market boundaries very unstable. Consequently, the traditional 'Structure-Conduct-Performance' standard used in competition assessment is, in his opinion, outdated as the value network is being constantly displaced.

Finally, de Streel thought that antitrust tools were sufficiently flexible to incorporate the most recent trends in technology, market and business model innovations. He nonetheless called for more evidence to be brought for a better understanding of the interplay between these three dimensions. He notably argued that market definition should better be abandoned for greater focus on theory of harm, and called for a shift from price evolution to innovation incentives, as well as a move from the concept of static efficiency to dynamic efficiency.

Assessing big data and market power in the digital economy

The logic and role of data have tremendously transformed the media landscape, in particular advertising services. Daniel Knapp (IHS) offered the audience a deep dive into the world of data-driven advertising and targeting strategies. The increased use of data and personalization of services have highly fragmented the advertising market. The traditional linear model of advertising has become hyper-fragmented and far more dynamic, with programmatic mechanisms such as 'real-time bidding' (RTB) becoming a major model for online advertising revenues. In this 'data-centric' model, the value has shifted towards a number of intermediaries (ad network, data and analytics providers, etc.). More than 60 percent of the value flow of spend in the digital ad ecosystem now goes to the market operators that are collecting, managing and processing data. What is interesting, though, as underlined by Knapp, is the evolution towards a more dynamic competition across different type of actors, for instance an ISP can become more easily an advertiser. An advert is no longer the end point in the value chain but has become a market entry point. Automated processing tools, such as algorithms, are the fundamental strategic advantages that actors want to build in-house to compete with Google or Facebook. First party datasets have competitive advantages in the sense they develop their own 'proprietary truth'. In the same trend, TV audience measurement is evolving and changing entirely from the completion of forms by viewers to monitoring directly videos viewed in real time.

The volume of data troves does not necessarily correlate with market power, which seems to indicate that it is not the amount of data that makes a company particularly powerful, but rather its capacity to process and make sense of it. Multi-sidedness entails that corporate strategies should take into account demands from different user-bases. User information helps companies move into other markets by leveraging the volume of data and creating virtuous loops between the market structure and the service they offer. This dynamism is at odds with the competition authorities' tendency to be path dependent to prior market analysis and former legal decisions. Hence, according to Lapo Filistrucchi (University of Florence & TILEC, Tilburg University) competition authorities should consider all interrelated sides of the business, and account for the predictable

developments in the market. Competition policy should provide a framework to allow enhanced predictability upon the evolution of markets, their interrelation, and the market operators.

Jens Prüfer (Tilburg University) looked precisely at this key relation between corporate strategies and market dynamics, in order to analyse when a company is taking a dominant position and how competitors can or cannot compete with data and non-data related innovations to revert tipping effects. What Prüfer referred to as “market tipping” was the precise moment where a company leverages its data-leadership to take over the market with no place left for a second actor. He argued that tipping markets are generally detrimental for consumers as it removes the incentive to further innovate. Based on this assumption, he envisaged that mandatory data-sharing policies could mitigate market tipping. Following this new theory of harm according to which even without any abusive behaviour, data-driven market are meant to tip, Prüfer proposed (Argenton, Prüfer (2012)) that search engines should be required to share search log data between each other. He also called for more empirical research on the implementation of anonymised data sharing requirements in all data-driven markets, in particular for user preferences.

The subsequent discussion with the audience focused on market power and whether sustainable competitive advantage was conferred by the volume of data or rather by the algorithm processing information. Enforcing data sharing suggests that the real power lies in the dataset itself, whereas the literature seems to give more credit to the algorithms, provided that criteria which are required for a resource to constitute a sustainable competitive advantage are not met. Prüfer replied that since algorithms belong to intellectual property, therefore advocating the sharing of algorithm would mean taking away a key corporate IP asset, which is much more sensitive from a legal and ethical perspective. Since data can be seen as byproducts of the underlying sell transaction, the problem of IP ownership is less legitimate, particularly as regards users’ personal data. With the growing collection of data creating positive loops that reinforce the network effects, participants thought that it might be more justified to base market power on the processing rather than on collection of data. While ‘open data’ policies may seem appealing, some participants expressed concerns regarding legitimacy in depriving companies from further monetization. How from the policy side can we incentivise companies to share their datasets or their technology? Is a heavy-handed regulation advisable?

Some interesting ‘open AI initiatives’ have been envisaged as a way to mitigate dominance from the data processing phase, by building free-to-use learning machines that can be further developed and enhanced. When competition is not well placed to assert abusive behaviour, privacy may come to complement and offset distortion of competition. Analysing the dynamics of competition require more counterfactual analysis that would help better capture the role of data in a given situation. The real challenge is to distinguish dominance from an abuse of dominance, whether and when it becomes an abuse of dominance that is detrimental for economics and consumers. It is also important to assess whether the issue should be tackled through competition policy or rather through privacy laws. It is particularly interesting to see how the new General Data Protection Regulation (GDPR) could affect these dynamics in better empowering citizens over the use of their data.