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# Restoring competition in “winner-took-all” digital platform markets

## Abstract

Digital platforms provide a variety of services such as marketplaces, social networking, search engines and payment systems. Their business model relies on data and data monetization for growth. These are multi-sided, oligopolistic or monopolistic markets characterized by network effects, high economies of scale and scope, and increasing returns to scale, which together raise barriers for new entry. In digital markets, platforms compete for the market and not in the market. These features together with control over user data confer significant market power to incumbent platforms in their respective markets. This has raised concerns about competition and led the competition lawyers and economists reflect on ways to restore the lost competition in digital markets.

This paper suggests adapting competition law tools and analysis to the realities of this new business model; reforming merger control regimes; focusing not only on free but also fair competition in digital markets; adopting regulatory measures such data openness and portability, interoperability between online platforms. The paper also questions the relevance of consumer welfare standard based on price effects and efficiency to the new business model of online platforms. It suggests adopting a broader framework including choice, quality, privacy, innovation, future competition and effective competition structure and competitive process in competition law enforcement.

**Key words:** Competition, Digital platforms, Online platforms, Market power



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## Introduction

Technological developments have provided consumers with new products and services provided in exchange for their personal data. Digital platforms are at the center of such developments and have had disruptive effects in many economic sectors. The platforms provide a digital infrastructure for a variety of services, including marketplaces (Amazon), application stores (Apple), social networking sites (Facebook) and search engines (Google). Platformization has implications not only for the nature of transactions in certain economic sectors but also for the ability of firms to scale rapidly, thereby affecting the structure of sectors.<sup>1</sup>

Digital platforms are essential elements of the digital economy. Seven of the world's top ten companies by market capitalization use platform-based business models. Out of these seven digital platforms, five are American and two are Chinese companies. United States and China account for 90 per cent of the market capitalization value of the world's 70 largest digital platforms.

The growing market power of these platforms raise concerns for consumers, citizens, as well as consumer and competition law enforcers and policymakers. There has been many recent reports<sup>2</sup> analyzing the business model of digital platforms, their specific nature and its implications for competition in these markets, abusive practices of dominant digital platforms, the concerns arising from their market power, and most importantly, possible solutions on how to deal effectively with platform power.

This paper provides an overview of the digital platform business model; concerns arising from their market power; reviews some of the proposals introduced in the recent reports in this area; and presents policy options for restoring competition in digital platform markets. The paper is structured in three parts. Part 1 provides an overview of the specific features of digital platforms and their business models, highlighting the importance of data in this new business model and the role of data in conferring online platforms a significant degree of market power. Part 2 discusses the implications of market power of major platforms for competition and the role of competition law and policy in tackling such power and its potential abuse. This part focuses first on how competition law enforcement can be adapted to the realities of digital platforms and can be made effective in restoring competition in these markets. Secondly, it looks into the role of regulation in promoting competition and consumer protection in online platform markets. Finally, it questions whether the consumer welfare standard is still relevant in competition law enforcement and provides an overview of the current debate on this matter as well as the alternative approaches provided so far. Part 3 presents policy considerations and recommendations for national governments and competition authorities.

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<sup>1</sup> UNCTAD, 2019, Digital Economy Report (United Nations publication, Geneva) (Hereinafter “UNCTAD DER 2019”), [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf).

<sup>2</sup> See section 3 of the paper for more information and references to these reports.

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# 1. Specific Features of Digital Platforms

Online platforms are defined as “digital services that facilitate interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet”.<sup>3</sup> Platforms involve services and activities such as marketplaces, social networking, search engines, payment systems, news media, transportation, accommodation and video sharing.

Digital platforms' current business model relies on data value chains and data monetization to grow. The data value chain includes a process from data collection, storage and analysis to the transformation of data into digital intelligence, or so-called “big data”. Thereafter data monetization to generate revenue. Some of the ways in which data is monetized include direct sale of data, online advertising (ex: Google, Facebook); operating e-commerce platforms (Amazon, Alibaba, Uber, Airbnb); transforming traditional goods into rentable services (Mobike); and renting out cloud services (Amazon Web Services, Tencent, MyJohnDeere).<sup>4</sup> For instance, advertising accounts for over 80 per cent of the total revenues of Twitter and Google, and close to 100 per cent of those of Facebook and Snapchat.<sup>5</sup>

Data plays a crucial role in the business model of advertiser-funded digital platforms and therefore is a competitive factor. Control over user data, together with network effects, enables platforms to capture more and more data. Facebook and Google have many ways of connecting with consumers, which enable them to capture a significant amount of data, creating a feedback loop that helps them improve their services and attract more users and advertisers. For example, Google distributed its Android operating system free of charge to mobile telephone manufacturers, thereby enabling it to collect more data from mobile phone users.<sup>6</sup> Facebook acquired WhatsApp and Instagram to reach more users and more data. This process has conferred significant market power to big digital platforms, leading to the tipping of markets, at which point the monopoly platform, “the winner”, has taken most, if not all, of the market.

Online platforms have multisided business models. This often allows platforms to offer digital services at zero-price on one side of the platform, while subsidizing this service by using the revenues on the other side of the platform. The data collected on the ‘free’ services side of the platform, for instance search engines, social networking or social media, is analysed and transformed into digital intelligence, and subsequently monetized to subsidize the zero-price services of the business.

Digital platforms are characterized by direct and indirect network effects. A direct network effect “refers to the effect that one user of a good or service has on the value of that product to other existing or potential users”.<sup>7</sup> In other words, the value of using digital platforms increases in correlation with the number of its users. Direct network effects are most evident in social media (e.g. Facebook, Twitter, Instagram) and instant messaging (e.g. WeChat and WhatsApp) platforms.

Indirect network effects occur when the rise in the number of users on one side of a platform, possibly due to better services or direct network effects, increases the demand for its services on the other side. As more users join one side, the platform becomes more attractive to users, such as advertisers, on the other side, thereby increasing the number of users on that side. This in turn increases the appeal of the platform on the first side.<sup>8</sup> Facebook and Google are the dominant digital advertising companies and have a combined share of 65 per cent of the total digital advertising spending in 2017.<sup>9</sup> These figures highlight the key linkages

<sup>3</sup> Organisation for Economic Cooperation and Development (OECD), 2019, *An Introduction to Online Platforms and their Role in the Digital Transformation*, OECD Publishing, Paris, <https://doi.org/10.1787/53e5f593-en>.

<sup>4</sup> For details on types of digital platforms, see UNCTAD DER 2019, Chapter II. *Value in the Digital Economy*, p. 29-32.

<sup>5</sup> UNCTAD DER 2019, p.30.

<sup>6</sup> See <https://www.businessinsider.com/chart-why-google-gives-away-android-2013-12?r=US&IR=T>.

<sup>7</sup> Economic Commission for Latin America and the Caribbean, 2018, *Data, Algorithms and Policies: Redefining the Digital World* (United Nations publication, Santiago).

<sup>8</sup> OECD 2019, p. 22-23.

<sup>9</sup> UNCTAD DER 2019, p.82.

between control of data and market power in digital platform markets. One concern with indirect effects generated by the platform business model is the risk of higher mark-ups for advertisers by a dominant platform as it leverages its market power on the user side to strengthen its bargaining power vis-à-vis advertisers on the other side of the platform. This may imply higher prices to final consumers of advertised products or services.

Digital platforms involve high up-front costs and extremely low marginal costs. The technologies and the initial investment in computer hardware and software development required to establish an online platform can be costly. However, once the system is operational, the marginal cost of processing, storing, replicating and transmitting data is very low. This gives platforms the possibility to grow extensively, and to do so quickly and inexpensively compared to scaling up in physical goods markets. This cost structure means that once online platforms absorb fixed costs, they can serve many additional users at extremely low or negligible marginal costs. That enables the platforms to grow without increasing investments in tangible assets or taking on a significant number of new employees.<sup>10</sup>

Platforms may benefit from economies of scope because of complementarities between two or more of the services they provide on a given platform, or across platforms. Platforms can share development costs and data across business lines. For example, Google provides many services in addition to its internet search engine, including email, video sharing, price comparison, cloud computing and online payment system services. The diversity of services within the same platform eco-system may allow users to gain familiarity with each of these services more quickly. This can help a company's newer platforms to gain users faster, giving them a competitive advantage, which new "solo" platform companies would not have. Moreover, offering more services may keep users connected to the platform's services, which in turn benefit the platform in improving its services or algorithms.<sup>11</sup> These factors may create lock-in effects for both consumers and business users; and facilitate market concentration of big data in the hands of a few players.<sup>12</sup>

The vertically integrated and conglomerate nature of platforms across products and services allow for the leverage of power from one market to another. Vertically integrated platforms have dual roles as platform operators and users of their own platforms. This gives an advantage of self-preferencing their own products or services vis-à-vis competitors on their platforms. For example, Google operates an internet search engine, whereby it can self-preference its comparison shopping services over that of rivals by ranking its own comparison-shopping website on the first page of its search results while demoting rivals' websites. Likewise, Amazon operates a marketplace and sells products in competition with independent traders on its platform. The European Commission fined Google 2.42 billion euros for abusing dominance as a search engine by giving illegal advantage to its own comparison shopping service, which would come in the highest rankings in its search results (the decision is currently under appeal).<sup>13</sup> Likewise, the European Commission opened a formal antitrust investigation in July 2019 to look into the standard agreements between Amazon and marketplace sellers, which allow Amazon's retail business to analyse and use third party seller data, and whether and how the use of accumulated marketplace seller data by Amazon as a retailer affects competition. Self-preferencing practices put third party traders or service providers in a disadvantage vis-à-vis the platform operator. The role of these dominant businesses as platform operators also give them access to sensitive data of independent retailers, which can be used to strengthen their dominant position. Khan (2017) demonstrates how Amazon used sales data from independent retailers in certain product markets to understand consumer preferences and demand, to which it responds with its own brand products. Because of their dual role as platform operators and retailers, these platforms have been compared to essential facilities, which traders depend on to be able to maintain and grow their businesses.<sup>14</sup>

<sup>10</sup> (OECD), 2019, p.23.

<sup>11</sup> OECD 2019, p. 23-24.

<sup>12</sup> Organization for Economic Cooperation and Development (OECD), 2016, Big data: Bringing competition policy to the digital era, DAF/COMP(2016)14, Paris, 27 October.

<sup>13</sup> [https://europa.eu/rapid/press-release\\_IP-17-1784\\_en.htm](https://europa.eu/rapid/press-release_IP-17-1784_en.htm).

<sup>14</sup> L Khan, 2017, Amazon's antitrust paradox, *The Yale Law Journal*, 126(3):564–907.

In connection to the above, the concept of “gatekeeper” platforms has been developed to refer to those platforms that set the rules of the game for market access or the interaction between consumers, business users and service providers.<sup>15</sup> Amazon may be the first one that comes to mind in this regard, as a marketplace that sets the rules for traders who sell on its platforms and provides a channel for consumers to reach the products they are looking for. It has become indispensable for many small and medium sized traders if they would like to remain in e-commerce activity. Examples for other such gatekeeper platforms include application stores on mobile phones. Being the gatekeeper platform confers market power, also referred to as intermediation or bottleneck power, to these platforms. The European Commission’s 2019 investigation into Amazon, as mentioned in the previous paragraph, is exactly to assess whether the platform is abusing this power of being the “gatekeeper” vis-à-vis its business users, and implications of such conduct for competition on its marketplace.

The current platform business model prioritizes growth over profits in the short to medium terms, that is, the maximization of the number of users rather than profits at initial stages of their businesses. This has resulted in competition for the market rather than in the market. Dominant platforms can afford such a business strategy given leeway to incur losses by investors. For example, Amazon was permitted by investors to grow without pressure to show profits, and thereby expanded its business and entrenched its dominance as an electronic commerce (e-commerce) marketplace.<sup>16</sup>

Research on behavioural tendencies shows that there is a cognitive cost in switching platforms, in terms of time, effort, energy and the concentration and sustained thought required; competition is therefore not “one click away”.<sup>17</sup> It is not easy to switch. Consumers need to understand default settings and how to change them and be willing to do so. What is more, consumer biases and inertia prevent consumers from trying platforms other than dominant ones, further reinforcing dominant platforms’ market power.

High economies of scale and scope, data-driven network effects, control over data together with switching costs, and consumer inertia create high barriers to entry in digital platform markets. Establishing a successful platform that can attract sufficient online traffic is a significant challenge for newcomers. Even if start-ups enter the market, they soon face competitive pressure and may eventually be acquired by dominant platforms. As of 10 December 2019, Google has acquired 214 business entities since its foundation in 1998 and the value of these acquisitions exceeds US\$17 billion.<sup>18</sup>

This helps understand the persistent dominance of some online platforms in certain markets. For example, over 75 per cent of online consumers in the United States of America mostly shop on Amazon.<sup>19</sup> With regard to specific sectors, Amazon held an over 90 per cent share in five different product markets in the first quarter of 2018, Facebook is the leading social networking site, with a 68.95 per cent share as at February 2019, and Google dominates the search engine market, with an 89.95 per cent share as at January 2019.<sup>20</sup>

<sup>15</sup> <https://www.slaughterandmay.com/media/2537538/competition-law-in-the-digital-age-july-2019.pdf>

<sup>16</sup> L Khan, 2017, Amazon’s antitrust paradox, *The Yale Law Journal*, 126(3):564–907.

<sup>17</sup> A Candeub, 2014, Behavioural economics, Internet search and antitrust, *IS: A Journal of Law and Policy for the Information Society*, 9(3):407–434; see <https://www.wired.com/2012/10/google-gets-closer-to-a-court-date/>.

<sup>18</sup> See <https://acquiredby.co/google-acquisitions/> (last accessed on 10 December 2019).

<sup>19</sup> See <https://www.cnn.com/2017/12/19/more-than-75-percent-of-us-online-consumers-shop-on-amazon-most-of-the-time.html>.

<sup>20</sup> UNCTAD, 2019, Competition issues in the digital economy, TD/B/C.I/CLP/54, 1 May.



## 2. Competition Policy, Online Platforms and Market Power

Large technology companies have changed the global business landscape. The top 10 global companies by market capitalization in 2009 included only one technology company, namely, Microsoft ranking sixth, and three oil and gas companies; in 2019, the list included five technology companies, of which Microsoft now the number one, and two consumer services companies that are both large online marketplaces (tables 1<sup>21</sup> and 2). The combined value of the digital platforms with a market capitalization of more than US\$100 million has increased from US\$4.7 trillion in 2015 to US\$7 trillion in 2017.<sup>22</sup> The top seven online platforms in terms of market capitalization include Alibaba Group, Alphabet, Amazon, Apple, Facebook, Microsoft and Tencent (in alphabetical order).<sup>23</sup>

**Table 1. Top 10 global companies, 31 March 2009**

(Billions of dollars)

<i>Rank</i>	<i>Company</i>	<i>Industry</i>	<i>Market capitalization</i>
1	Exxon Mobil	Oil and gas	337
2	Petro China	Oil and gas	287
3	Walmart	Consumer services	204
4	Industrial and Commercial Bank of China	Financials	188
5	China Mobile	Telecommunications	175
6	Microsoft	Technology	163
7	AT&T	Telecommunications	149
8	Johnson and Johnson	Health care	145
9	Royal Dutch Shell	Oil and gas	139
10	Procter and Gamble	Consumer goods	138

Source: PricewaterhouseCoopers, 2018, *Global Top 100 Companies by Market Capitalization: 31 March 2018 Update* (London).

**Table 2. Top 10 global companies, 31 March 2019**

(Billions of dollars)

<i>Rank</i>	<i>Company</i>	<i>Industry</i>	<i>Market capitalization</i>
1	Microsoft	Technology	905
2	Apple	Technology	896
3	Amazon.com	Consumer services	875
4	Alphabet*	Technology	817
5	Berkshire Hathaway	Financials	494
6	Facebook	Technology	476
7	Alibaba	Consumer services	472
8	Tencent	Technology	438
9	Johnson and Johnson	Health care	372
10	Exxon Mobil	Oil & Gas	342

Source: PricewaterhouseCoopers, July 2019, *Global Top 100 Companies by Market Capitalization*.

\*Alphabet has been the parent company of Google since 2015.

<sup>21</sup> UNCTAD, 2019, Competition issues in the digital economy, TD/B/C.I/CLP/54, 1 May, at [https://unctad.org/meetings/en/SessionalDocuments/ciclpd54\\_en.pdf](https://unctad.org/meetings/en/SessionalDocuments/ciclpd54_en.pdf).

<sup>22</sup> UNCTAD DER 2019.

<sup>23</sup> UNCTAD DER 2019.

Digital platforms have started to draw the attention of many competition agencies and have become the centre of debates on competition law and policy during the last few years. This is due to the significant increase in market power of the largest digital platforms.

According to the UNCTAD Digital Economy Report 2019, market dominance of certain global digital platforms is a result of several factors. First, monopolistic trends related to the nature of data-driven business models and markets: network effects, the ability of platforms to extract, control and analyze data; switching costs of changing platforms for consumers. Secondly, the strategies employed by global platforms such as acquisition of promising innovative startups; and large amounts of capital expenditure and investment in R&D. Amazon and Google have become the top two global spenders on R&D.<sup>24</sup> Thirdly, global platforms expand into other sectors, including through vertical integration, to protect from competition. Google started to produce its own services, such as review sites. Amazon expanded its initial business of book sales online to supplying its own brands on its marketplace as well as providing its own logistics services. Fourthly, information asymmetry and control over data facilitate then maintenance of market power by major global platforms. Platforms unilaterally control huge amounts of information about producers and consumers/users. However, the two sides, that is producers and consumers/users, do not have such information neither about each other nor about themselves. As a result, platform owners can influence the success of producers that use their marketplace by “creating” consumer “demand” based on their analysis of consumer data and behaviour. This can create significant information asymmetries between the platforms on the one hand, and the actors using the platforms on the other, thereby affecting the functioning of the market.<sup>25</sup> The fifth factor, which ensures and maintains platforms’ market dominance is their engagement in global policymaking. They do this by lobbying for international rules and regulations that allow and enable them to leverage their business models. This would create an environment where platforms can maintain and further enhance their market power and operate smoothly in global markets continuing with business-as-usual without facing obstacles. Global platforms have spent significant amount of resources to lobbying. Technology companies have replaced the financial sector as the biggest lobbyists in the past few years. In 2018, Google, Amazon, Facebook, Microsoft and Apple spent more than US\$60 million on lobbying in the United States.<sup>26</sup>

Distortions to competition in the digital economy can also be a result of tax avoidance or tax optimization practices. While recognizing that tax avoidance is not exclusive to digital platforms, the UNCTAD Digital Economy Report 2019 draws attention to the fact that some of the inherent features of platforms facilitate their use of such practices. First, online platforms depend significantly on intangible assets, which are not easy to value and measure, but easy to move around the world. This facilitates aggressive tax planning. Secondly, there is a lack of clarity about where value is generated. A significant proportion of the value created in the digital economy results from users who provide data. The current international corporate tax system is not adapted to the digital economy. There is not yet a common understanding of “value creation” for taxation purposes in the digital economy. This leads to a disconnect between where value is generated and where taxes are paid. Likewise, the OECD identified three aspects of digitalized businesses, which have significant implications for taxation: (i) the possibility to scale across borders without mass, (ii) heavy reliance on intangible assets (such as software, algorithms or data), and (iii) user contribution to economic value creation through supply of data.<sup>27</sup> These features allow global platforms to easily move profits from high-tax-rate jurisdictions to

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