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Competition in the digital Economy

An analysis of Gatekeepers and Regulations

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JEL Codes:
G34 – Mergers, Acquisitions, Restructuring, Corporate Governance
K21 – Anti-trust Law
L12 – Monopoly, Monopolisation Strategies

Abstract

The Digital Age saw the rise of several rapidly growing digital platforms with substantial market shares. Europe is a large target market for these globally operating platforms, although the majority of the most successful platforms come from the USA or Asia. In general, platform ecosystems differ from regular market environments: platforms extend to several markets and user groups at the same time and there is an increased degree of dynamics in the allocation of market shares in platform ecosystems, which leads to a pressure to constantly innovate.

Platform ecosystems vary among themselves, not least due to the different types of platform business models or their varying impact on the whole sector. Recent developments have included the emergence of particularly overwhelming platforms, known as “gatekeepers”, that control entire platform ecosystems. A gatekeeper obtains durable and stable significant market power in the market for intermediation services, it has a large impact on the underlying market(s) and it is vital for users from all sides of the platform. In contrast to conventional platforms, for gatekeepers the ability to contest any of the markets is significantly reduced from the perspective of competing platforms, not least due to significant lock-in effects for consumers.

But too tight regulation and pre-emptive intervention without any occasion is not preferable. Rash and untailored action negatively affects the development and growth opportunities for online platforms that do not intend to breach existing competition rules. Indirectly, that harms consumers, by restricting innovation and the availability of products and services. Tailored procedures for individual large online platforms with gatekeeper power on a case-by-case basis are more expedient. Thereby the current regulatory framework is capable of acting and builds on established legal pillars. However, tailored modernisation and adaption, for example in merger control, is helpful for ensuring fair competition. Merger control can be empowered by including data and other synergies between involved enterprises into assessments in order to prevent the formation of gatekeepers.

1 Introduction

In the literature regarding competition there is an ongoing discussion about whether competition is an aim by itself or just a means to reach other goals. Based on the work of Kantzenbach (1967), Schmidt (1999) identified five aims that can be achieved by competition: performance-based income distribution, consumer sovereignty, ideal allocation of production factors, flexibility and technological progress. In fact, if there is a monopolist in the market that is not confronted by the possibility of market entry, consumers only have the choice to buy or not to buy the goods or services offered by the monopolist, typically at a high price, and thus there is no sovereignty. Because of monopoly profit, the monopolist gets a monopoly rent and hence performance-based income distribution is not achieved. Thanks to that profit the monopolist can further suppress market entry and hence technical progress, which leads to an inefficient factor allocation.

Restoring competition to such a market to some extent can help to achieve the five goals addressed by Schmidt. Nevertheless, full-scale competition, defined as atomistic players without impact on the market outcome acting on a given market, is not always a good choice (for an overview of the discussion see Schmidt, 1999, 32 et seq.). That means having some big players in a market can yield a better outcome for the whole economy and can result in higher incomes for consumers than having many small firms. Market failures, for example due to high fixed costs or external effects in production, are possible explanations why competition can and should be limited in some cases: once there are negative external effects in production, the production of one firm has negative effects on the cost structure of another firm. The first firm does not consider the negative effect when deciding how much to produce. One way to internalise these effects is to merge both firms, because when both firms are subsidiaries of one bigger firm external effects are considered. This also holds for positive external effects, for example due to research and development. But high fixed costs can also make having one big firm worthwhile, because then the fixed costs only have to be paid once, which reduces the per unit cost and therefore prices for consumers.

The discussion about whether a few big players in a market is sometimes preferable to many small competitors is also important for the recent discussions about the regulation of digital platforms by the Digital Services Act package (the European Commission, 2020a) and the introduction of a New Competition Tool (the European Commission, 2020b). On the one hand, there is discussion at governmental level, for example in Germany, about allowing dominant firms in Germany or the European Union in order to have competitive firms on a wider scale (BMWi, 2019, 10); accordingly, competition at the national level is limited to ensure competition on a global scale. On the other hand, platforms are successful because there are large economies of scale due to high costs of starting the business and positive network effects (Demary / Rusche, 2018). Both economies of scale and positive network effects promote the emergence of only a few firms or even just one firm. If just one platform dominates the market and manages to obtain a durable and stable position in the market, that platform can be termed a gatekeeper, because it is vital for users to be active on that platform in order to get in contact with other users. The importance of such platforms is shown by Fong et al. (2019), who estimate that within

10 years 30 percent of gross economic output will be from platforms such as Amazon, Alibaba and Facebook.

The rise of platforms also leads to more initiatives at the European (Demary / Rusche, 2020) and national levels (Rusche / Scheufen, 2020) to strengthen regulation. Furthermore, as can be seen from the consultations on the Digital Services Act package and a New Competition Tool, more regulation of platforms is yet to come. Against that backdrop, this policy paper attempts to analyse the factors that determine gatekeeper status and under which circumstances a platform can become a gatekeeper. This policy paper also tries to identify regulatory options in order to protect competition in the digital economy as requested by the European Commission in the aforementioned consultations. To this end chapter 2 summarises the definitions, the regulations and the status quo of the digital economy to date, in order to lay the ground for a sound analysis. In chapter 3 the Digital Services Act package is analysed in detail, while chapter 4 deals with the Consultation on a New Competition Tool. Chapter 5 summarises the results and derives policy recommendations based on them.

2 Definition of platforms and the status quo in the digital economy

This policy paper attempts to evaluate current regulations covering digital platforms and whether there is a need for improvement.

2.1 Definition of digital platforms

To date, the term "platform" has not been given an uncontradicted definition in the literature. This paper uses the definition given by Demary and Rusche (2018, 8) in order to create a common understanding:

> A **digital platform** is an enterprise that uses the internet to facilitate economically beneficial interactions between two or more independent groups.

Therefore the task of a digital platform is to act as an intermediary between different users of the platform. The crucial factor is that a platform business model is asset light (ibid., 9), because the different users provide the goods or services. A pure platform only matches demand and supply. Note that this means that the platform itself is not active as a transaction partner on its own platform. However, if a platform uses its own platform in order to find transaction partners, it is vertically integrated, which also means that the platform is also a competitor in the combined markets.

The asset-light business model of a pure platform enables platforms to quickly scale up their businesses, because adding additional users comes at virtually no cost. However, the establishing of a platform itself is associated with high fixed costs, due to, for instance, the need to set up server capacity and carry out advertising campaigns in the media (Büchel / Rusche, 2020). Therefore any platform's business model is designed to exceed the critical mass frontier of consumers in order to exploit its full profitability potential. Furthermore, the more users already use a given platform, i.e. the higher the demand is from the viewpoint of suppliers, and the supply from the viewpoint of buyers, the more attractive the platform is for new users. This is termed in the literature as positive network effects (direct and indirect).

2.2 Competition on digital markets

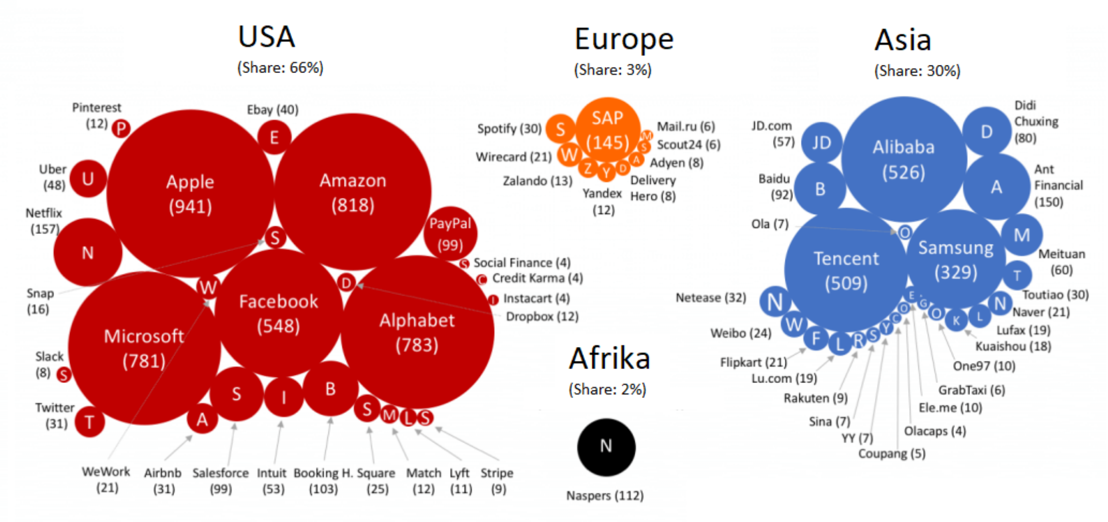
Both economies of scale and positive network effects favour the trend towards dominant platforms, which is termed as a winner-takes-all market (Demary / Rusche, 2018) or a winner-takes-most market by the European Commission. This, however, can also be beneficial for users, both business users and consumers. The economies of scale allow a dominant platform to charge low or even no fees (at least for one user group) for its intermediation service.
Furthermore, a dominant platform is an effective venue for users from all user groups to make transactions. The positive networks effects, indirect and direct, make a platform more attractive for users the more other users already use the platform. Therefore a platform is most valuable if all possible trading partners are on that platform. For example, a typical consumer does not have to search on different web shops and marketplaces for good offers when there is a central marketplace which all relevant suppliers are active on.

Platforms are therefore an important co-ordination device for different user groups. This not only holds true for one country but also for the Internet worldwide. In fact, Europe has the largest international bandwidth between metropolitan areas (OECD, 2019, 42) and thus there is sufficient infrastructure and demand to enable platform growth. Nevertheless, this potential is mostly made use of by companies from the USA and Asia (Figure 2-1). When stock valuation is used as a proxy for profitability and growth expectations, investors mostly invest in the USA and Asia. Of the 60 most valuable firms worldwide in 2018, most of which are digital platforms, around 66 percent of the combined valuation is accounted for by US firms and 30 percent Asian firms. Europe only accounts for around three percent. Furthermore, consumers in Europe mostly use the services offered by US or Asian firms, which is exemplified by the dominance of US platforms on the European market for apps and in e-commerce (Demary et al., 2020) and advertising-supported video-on-demand (AVoD) (Büchel / Rusche, 2020). Thus the platform markets in the European Union are to a large extent controlled by enterprises from outside the European Economic Area.

However, in the digital economy there are rapid innovation cycles, which is known as "leapfrog competition" (Grave / Nyberg, 2017), i.e. although one firm has significant market power, it can be quickly driven out of the market by a firm offering a more innovative product. In such way the new entrant makes use of the same upwards spiral effect facilitated by strong reinforcing indirect network effects that was initially the key enabler of the incumbent's dominant market position. One recent example is the rise of TikTok, which offers a combination of social network and video-on-demand where the videos come from the users. TikTok gained more than 1 billion users with new features that could be added to uploaded videos within a short period of time (Büchel / Ruche, 2020) and entered markets where YouTube and Facebook have significant market power. Other examples are Google, which drove Yahoo! out of the market for online search engines, and Facebook, which became more successful than Myspace (Demary / Rusche, 2018).

Figure 2-1: The Platform Economy

The 60 most valuable platforms worldwide, in billion US Dollars (USD), June 2018



Source: Netzoekonom.de (2018) based on idea by Peter Evans

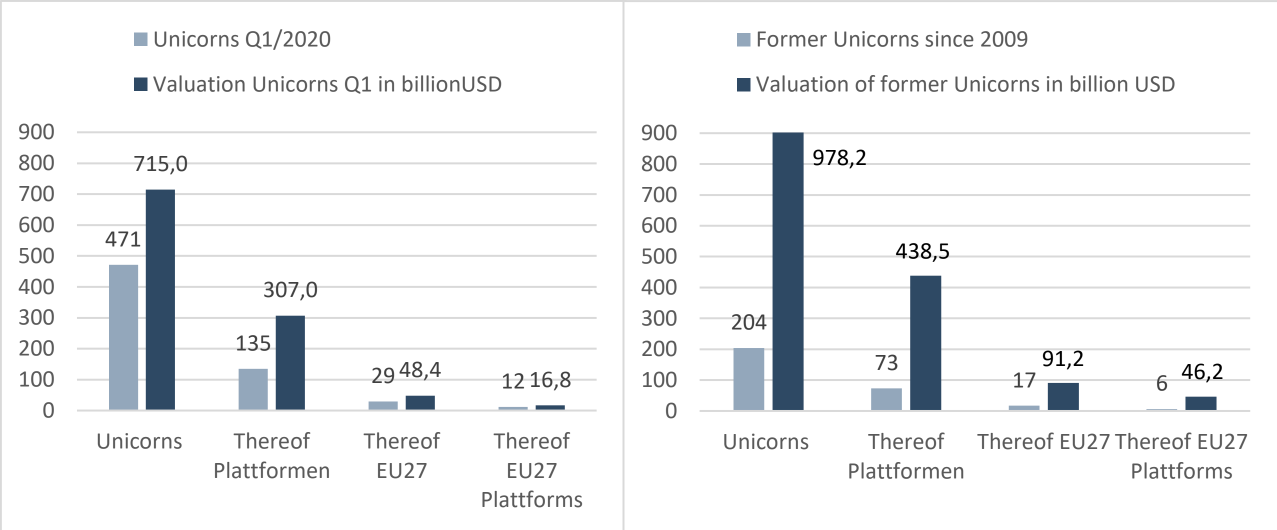
Therefore it is also important to look at platforms that can potentially challenge the dominant incumbent platforms in order to gauge the market power of a platform. To this end, unicorn companies were analysed (Figure 2-2). A unicorn company has a valuation of at least one billion US dollars (USD) and is not publicly listed. In the first quarter of 2020 there were 471 unicorns worldwide, with a combined valuation of USD 715 billion. From the 471 unicorns, 135 (with a total valuation of USD 307 billion) could be classified as platforms. Accordingly, the mean valuation of a unicorn is USD 1.52 billion, while a platform unicorn has a mean valuation of around USD 2.3 billion. Thus, one can say that platforms tend to have a higher valuation than other unicorns. Investors seem to more likely invest in platforms, because they are expected to be successful, as incumbent platforms such as Amazon, Facebook, etc are.
Nevertheless, with regard to regional distribution only 29 of all 471 unicorns and 12 of the 135 platform-unicorns come from the EU27. So the dominance of Asian and US firms in the European digital economy is likely to continue.

A company can also lose its status as a unicorn. That can be due to a successful IPO, acquisition by another company or insolvency. A closer look at former unicorns in Figure 2-2 reveals that insolvency or a drop in valuation was in most of the cases not the reason. There were 204 former unicorns in the CBInsights dataset in the first quarter of 2020, 73 of which are platforms, with examples including Facebook and the Alibaba group. The combined valuation of the 204 unicorns at the time of their change in unicorn status was USD 978.2 billion. The mean valuation all such firms was USD 4.8 billion; the mean valuation of the platforms was USD 6 billion. Many of the unicorns had had successful IPOs or been acquired, which is reflected in the higher mean valuation. Europe, however, only has 17 former unicorns, and only six of those could be classified as platforms. The music streaming company Spotify was the most successful one, with a valuation of USD 29.5 billion when it ceased to be a unicorn (Zeit.de, 2018).

Spotify accounts for the majority of the combined valuation of the aforementioned six European platforms, USD 46.2 billion.

Figure 2-2: Total number and valuation of unicorns (left-hand side) and former unicorns (right-hand side) worldwide and in the EU27

Valuation in billion USD



Source: CBInsights (2020a; 2020b); own depiction

2.3 Anti-trust regulation and platforms

Section 2.2 showed that Europe is an attractive market with many digital links between its metropolitan areas, which reflects a sizeable market potential. Nevertheless, this market potential in the digital economy is mostly monetarised by digital platforms from the US and, to an increasing extent, China, as the example of TikTok illustrates. However, the dominant position of these digital platforms in some markets has caused concerns from authorities that platforms abuse their market power (for example, the United States House of Representatives, 2020; Bundeskartellamt, 2016). The recent Consultations of the European Commission concerning Digital Services and a New Competition Tool reveal that EU authorities see further need for action. Before the Consultations and the questions raised are discussed in detail, the pillars of anti-trust regulation and the steps already taken by the European Union will be recapitulated here.

Leaving aside state aid investigations, anti-trust authorities in the EU can use means from three pillars to protect functioning competition (for an overview, see Schmidt, 1999; Demary / Rusche, 2017):

- **Merger Control (Council Regulation (EC) No. 139/2004 – the EC Merger Regulation)**
  Merger control aims at preventing a reduction of competition in a market due to mergers or acquisitions. At the European level, the Commission can investigate a merger or acquisition pursuant to Art. 1 (2) of the EC Merger Regulation if the turnover of all the firms concerned is at least five billion euro worldwide and 250 million euro within

the European Union. There are lower thresholds for national anti-trust authorities. Merger control is an essential factor for protecting competition. Particularly in the digital economy, acquisitions are used by platforms to enter new markets or to improve market position in home markets, with examples including the acquisitions of Android and YouTube by Google, those of Instagram and WhatsApp by Facebook, and those of AbeBooks and streaming service Twitch by Amazon. A 2020 report by the United States House of Representatives listed 566 completed acquisitions by Apple, Amazon, Google and Facebook. A report of the British Treasury (HM Treasury, 2019, 12) found 400 acquisitions by Amazon, Apple, Facebook, Google, and Microsoft within the last 10 years. No acquisition was forbidden by authorities.

- **Abuse of dominance (Art. 102 of the Treaty on the Functioning of the European Union – the TFEU)**
  Article 102 of the TFEU forbids abuse of a dominant position in a market. Against this backdrop, the Court of Justice of the European Union (CJEU, 2011, para. 24) clarified that it is not prohibited for an undertaking to acquire a dominant position in a market on its own merits. Nevertheless, it is prohibited for such dominant position to result in a distortion of competition in the internal market. Accordingly, although a platform is allowed to acquire a dominant position by offering successful services and products, especially because it is the matching device between its user groups, it must be careful to not distort competition – since a dominant platform is the place where economic agents meet, it can potentially affect competition because it controls that environment, for example by favouring its own services or by unjustifiably favouring products of a specific business users in the search results.

  The lawsuits filed against digital platforms, and the fines imposed and changes demanded by authorities, show that there has been abusive behaviour and anti-trust authorities have already taken steps. Examples include the German anti-trust authority (Bundeskartellamt, 2020a) making Amazon change its terms and conditions for business users and Facebook internally separate data from different sources. Other examples are the fines in three cases for a total of 8.25 billion euro imposed on Google by the European Commission (2019a).

- **Cartels (Art. 101 of the TFEU):**
  Article 101 of the TFEU prohibits all agreements between competitors or any other party that can distort competition on a market. Once there is a dominant platform on a market, it seems hard to imagine there could be agreements which further limit competition. Nevertheless, that is still possible, especially if a platform is vertically integrated, i.e. it is a (potential) transaction partner in the transactions it facilitates, for example if a platform sells goods using its own marketplace. In such a case it is a transaction partner and offers a place where transactions can take place. A vertically integrated platform with sufficient market power could co-ordinate price setting in order to maximise its profits from selling and transaction fees. The *Eturas* case heard by the Court of Justice of the European Union (CJEU, 2016) deals with such a situation. Accordingly, the preventing of cartels and other forms of co-ordinated behaviour is also

an important topic for digital markets. This is especially true once automatic price setting devices or algorithms are used, as they could cause anti-competitive market outcomes.

Therefore competition is protected by keeping markets open, for example by way of merger control, and by setting rules in order to keep competition fair, for example by preventing the forming of cartels. However, the relevant laws were written before the coming of digital platforms. A question arises: are the rules also fit for the increasing dynamics of platforms or is there a need for new rules?

2.4 Current regulatory reactions to protect competition

The new challenges posed by digital platforms with significant market power can be addressed by using the rules already in place analogously, or new rules can be laid down. The proceedings against Google, the *Eturas* case and the proceedings of the Bundeskartellamt against Amazon and Facebook, as well as the investigations of Amazon by the European Commission (European Commission, 2019b) and Apple (European Commission, 2020c), show that anti-trust authorities can makes use of rules that are already in place to prevent abuse of dominance and to combat illegal agreements. The only field where deficiencies are visible is the field of merger control, which is shown by the 566 and 400 acquisitions permitted in the digital economy and identified by US and British authorities, respectively.
Acquisitions are particularly often used by digital platforms to enter new markets. For example, the dominant position of Amazon would not be as strong without its acquisitions of other e-commerce platforms, streaming providers, cloud-services providers and Internet-of-Things suppliers. Leapfrog competition in the digital economy puts pressure on the incumbent firms to constantly innovate. Acquiring promising start-ups, and even using what is known as "killer acquisition" (the United States House of Representatives, 2020) is a way to protect a firm's own markets and to leverage its market power to new markets. Although steps have been taken by national authorities, for example in Germany (Bundesregierung, 2016), to improve merger control as a reaction to the WhatsApp/Facebook merger, no results of such adjustment, i.e. forbidden mergers, are yet visible. Furthermore, if restrictions are imposed with regard to an acquisition, these restrictions must be enforced. For example, when acquiring DoubleClick Google announced that there would be no combination of data from announced with data from other Google sources, but Google subsequently went back on that commitment (the United States House of Representatives, 2020, pp. 209–210). This acquisition was an important building block for the strong position that Google has in the market for Internet advertising.

Recent changes in the field of prevention of abuse of dominance can be put into two groups. The first group is built by the General Data Protection Regulation (the GDPR), which came into force in May 2018 and aims at building a level playing-field in the European Economic Area. It specifies what kind of data analysis is allowed while still protecting the citizens of Europe. For example, the proceedings of the Bundeskartellamt in 2020 against Facebook show that the GDPR also limits data analysis by dominant digital platforms.

The other group of regulations aims at limiting the power of platforms and enabling fair competition on platforms, especially with regard to small and medium size business users. This group is based on the P2B Regulation (Official Journal of the European Union, 2019b), which came into force in July 2020 and aims at ensuring more fairness, especially in competition with vertically integrated platforms (Demary / Rusche, 2020). This regulation contains an evaluation clause, in order to review the new rules; thus there is also room for adapting this regulation to new scenarios in the future. However, the Coronavirus pandemic has meant that the learnings from this regulation since July are quite limited.

The European Union has also set up the EU Observatory on the Online Platform Economy (European Commission, 2020d), which monitors the platform economy and helps detect regulatory gaps, new challenges and possible changes to regulations which may be needed. Additionally, the position of anti-trust authorities in the European Union has been improved by a new regulation that is going to be introduced in each Member State by February 2021 (Official Journal of the European Union, 2019a). This new regulation aims to ensure that competition authorities can act independently of governments and companies, have sufficient resources and powers to protect competition, and are able to pursue infringements.
A question thus arises: why must new regulation be discussed while "old" regulations did not even come into force or could lead to any changes?

However, any new regulation proposed has to consider all of the three pillars of anti-trust regulations to deal with the challenges caused by dominant digital platforms. In the following sections both consultations and the proposed new regulations are discussed accordingly.

3 The role of gatekeepers

Digital platforms act as an important link between several user groups that enables efficiencies to be benefitted from: consumers benefit from improved market transparency, increased variety and more innovative goods which digital platforms can make available by their role as a transaction intermediary. Contemporaneously, B2C platforms provide an effective channel for, for example, small business users to extend their coverage. However, recent developments reflect the emergence of several large platforms with gatekeeper roles that control increasingly important online platform ecosystems.

3.1 The Digital Services Act package

A digital service is defined by the European Union as "any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services" (the Official Journal of the European Communities, 1998, Art. 1(2a)). Platforms and dominant digital enterprises play an important role regarding these digital services, because they facilitate transactions between users from the entire European Union and are, therefore, a central matching device with large growth potential. This potentially also challenges fair competition.
First of all, the dichotomy between setting fair rules for digital services for all enterprises in the entire European Union and improving the situation of enterprises that have to use platforms can also be found in the Consultation for the Digital Services Act package. According to the

Consultation's questionnaire (the European Commission, 2020a) the Digital Services Act package has two pillars:

- A **deepening of the digital single market** is intended. To this end the package aims at "increasing and harmonising the responsibilities of online platforms and information service providers and reinforce the oversight over platforms' content policies in the EU".
- **Markets** with dominant platforms that act as gatekeepers should "**remain fair and contestable for innovators, businesses, and new market entrants**".

Platforms facilitate interactions between different user groups and thus they have a central role when transactions are initiated. This, however, does not necessarily make a platform a gatekeeper. Since one central aspect in the consultation is the gatekeeper role of platforms, we will first discuss what a gatekeeper role actually is (3.2), next we will look at which driving forces are characteristic for gatekeepers (3.3) and finally assess, based on these insights, whether gatekeepers should be regulated more strictly or not (3.4). The economic motives of gatekeepers are illuminated at such a detailed level because a comparable analysis does not yet exist in the literature.

3.2 Digital platforms with a gatekeeper role

Currently, the European Commission (2020a) ascribes a gatekeeper role to several digital platforms in at least one of the markets they are active on. Whether a large digital platform acts as a gatekeeper depends on several characteristics of the platform itself, as well as on the underlying market conditions. Nevertheless, in the first place there is a need to define what is meant by a "gatekeeper role", in order to evaluate whether a platform fits the identified criteria. The European Commission considers platforms with a gatekeeper role to be primarily active in B2C markets: "**Online platforms exert a gatekeeper role if business users are increasingly dependent on one online platform with market power, for example due to strong indirect network effects and data-driven-advantages, to get in contact with their customer**" (the European Commission, 2018). The asymmetry in market strength is exacerbated by the very nature of the supply side consisting of thousands of small business users (ibid., 1). Whilst platforms acting as gatekeepers primarily adversely affect business users, this could even have a negative indirect effect on consumers, by, for example, reducing the choice of competitive goods and services (ibid., 2).

While this characterisation of the gatekeeper role captures the asymmetry in market strength between the platform and its users, it leaves the platform's own competitive situation in the market for intermediating transactions with regard to potential competing platforms untouched. For our analysis we therefore extend the definition of platforms acting as gatekeepers as follows:

> **A digital platform acts as a gatekeeper** in the underlying platform ecosystem if there are very few, if any, alternative intermediation services available, and it has a large impact on the market(s) due to its durable and stable market power, while still being highly relevant for users from all sides of the platform.

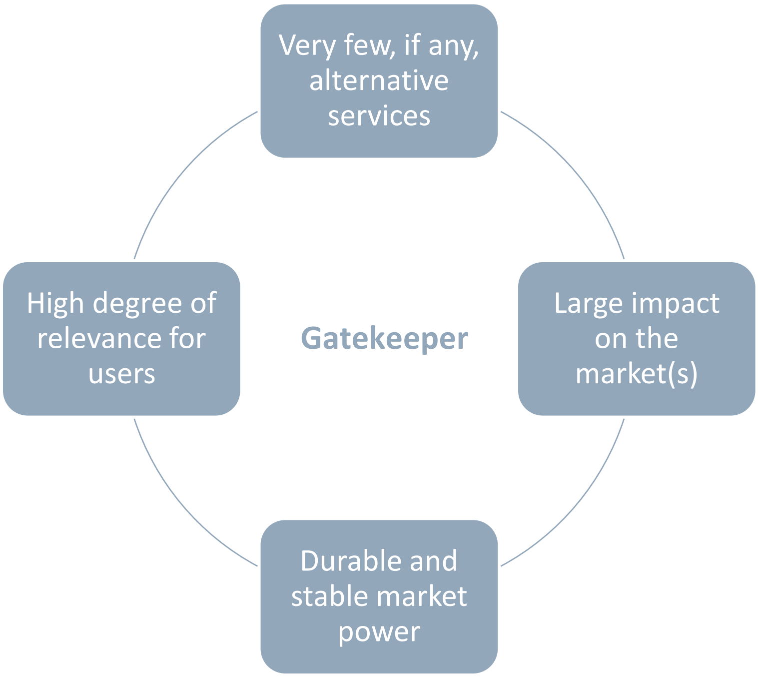
In markets where a platform acts as a gatekeeper (according to this definition), it is characteristic for there to be an at least temporary reduced degree of dynamics in the evolution of market shares. In principle, no new competitor has managed to effectively challenge the incumbent gatekeeper's substantial market power within the scope of the past few years. That, however, does not mean that such a challenge is impossible. Although regular platform ecosystems are characterised as dynamic, for ecosystems with a platform acting as a gatekeeper the ability to contest one of the markets is significantly reduced from the perspective of competing platforms. Amazon (in the field of e-commerce) and Apple's App Store have held dominant market shares for considerable periods of time, for instance (the European Commission, 2020c; the European Commission, 2020e). Theoretically, it is possible for a new app store to contest the incumbents' market position, at least for the Android operating system, by offering a more innovative service. Nevertheless, the probability of success is significantly reduced, not at least by the incumbents' practices of tying customers in. High lock-in effects and a broad choice of apps for consumers prevent them from switching to a new entrant. Therefore the degree of lock-in effects is crucial for determining the gatekeeper role of a dominant platform. For instance, an app store binds its users if its interoperability and compatibility are limited to a specific device or at most to a limited number of specific devices. Switching app store in such a case necessarily entails switching one's device, which might be very costly for the consumer and thus creates incentives not to switch.

In addition, a high degree of relevance for a platform's users, i.e. the offering of the platform satisfies the needs of customers, can likewise favour the emergence of the gatekeeper role. Platform users always have the choice of not using any platform, which is, in the context of gatekeeper platforms, comparable to not using the platform with a gatekeeper role, because the latter dominates the entire platform ecosystem. But with an increasing degree of relevance it becomes more likely that a user cannot afford to refrain from using the platform with a gatekeeper role, even if the conditions are unfavourable.

The characteristic features of gatekeepers are not to be regarded as independent of each other: they are actually interdependent (Figure 3-1). For example, a high degree of relevance or a large impact on the whole sector amplifies a gatekeeper's ability to maintain its market position on a permanent basis. Furthermore, the absence of competing services strengthens the gatekeeper's relevance for users, as well as its impact.

Often a platform acting as a gatekeeper captures a large share of total revenue in one of the underlying markets. However, using this as a reference may still be misleading. In B2C markets, multi-sided platforms with a gatekeeper role may offer products relatively inexpensively or even free of charge to consumers while the platform generates substantial income in the corresponding advertising market.

Figure 3-1: Characterisation of the gatekeeper role



Source: own depiction

Thereby the platform uses the consumer market as what is known as a "subsidy side", because charging a relatively low price to attract many customers to a group with a positive indirect network effect enables the platform to make a more valuable offer and therefore to increase the price to the advertisers on the money side of the platform, while still achieving a higher volume of transactions (Demary / Rusche, 2018, 39). Platforms such as YouTube and Facebook use this strategy by offering their services to consumers free of charge. This enables them to offer valuable advertising spaces to business users in the sense of a broad range of consumer attention or even the ability to address certain customer groups via tailored, customer-specific advertisements. The latter is possible due to the user-specific data the platform collects.

The effective market position of a platform may be underestimated if one looks solely at the revenue that is generated in the consumer market. More important is the gatekeeper's actual impact on the underlying sector as measured in different dimensions, such as, for example, its bargaining power vis-à-vis the business users of the platform. The recent Progress Report of the Expert Group for the Observatory on the Online Platform Economy (2020) sets out alternative methods to measure a platform's actual impact on the market, such as the share of consumer attention, by quantifying the number of users or the amount of time users spend on the platform. Even the number of acquisitions undertaken by the platform as a competition strategy can serve as an adequate measure.

A platform acting as a gatekeeper can exert its gatekeeper role with regard to consumers just as well as to business users. That results from the platform's large impact on the entire sector, which extends not only to the business-user side of the platform but also to consumers and to potential further platform user groups, such as, for instance, advertisers. Furthermore, the gatekeeper definition set forth here is not limited to the B2C market environment, it can also apply equally to B2B or C2C market environments with a dominant platform acting as the gatekeeper between two, or more, user groups.

Still, this characterisation of the gatekeeper role does not focus on explicit criteria and market circumstances that favour the constitution of a platform acting as a gatekeeper. Because of that, a more detailed definition of the driving forces for and practices of platforms with a gatekeeper role will be developed.

3.3 Driving forces for and practices of gatekeepers

There are several factors that are key enablers for the growth of any platform rather than solely for platforms with a gatekeeper role. However, the same driving forces constitute the decisive growth factors that could put a platform in a gatekeeper role. Those factors are as follows:

- Sometimes platforms acting as gatekeepers are **vertically integrated** and compete directly with the business users of the platform by offering their own products in the same market. Together with the sector-specific data the platform acting as a gatekeeper collects and analyses due to its role as transaction intermediary this boils down to a vital competitive advantage for the considered platform compared to its business users (Demary et al., 2020).

- Winner-takes-all/most dynamics facilitated by strong **positive network effects** illustrate that reaching gatekeeper status is somehow entrenched in the platform business model's very nature: to win the market and hold significant market power on a permanent basis. In general, any undertaking aims at becoming the market leader by being most attractive option for customers. This holds true for both digital platforms and traditional enterprises. Nevertheless, it is particular for platforms to intermediate between different user groups and therefore interact in multiple markets at the same time. This adds a second component to the ultimate goal of platforms: becoming the market leader in the market for intermediating between different user groups combined with the vertical integration in the market that the business users are active on. A platform with a gatekeeper role can not only set the rules on the marketplace: it can further directly influence the competition among business users (Demary et al., 2020). Thereby the platform with a gatekeeper role makes use of its exclusive access to valuable sector-specific data generated through its role as marketplace monitor.

- Strong network effects and the large user bases of already existing platforms result in high fixed costs for market entry from the perspective of new competitors. In combination with **economies of scale** this creates **high barriers to entry** for any (potential) competitor, due to the necessary investment to exceed the critical mass frontier in order to challenge the incumbent platform. Generally, the interaction of strong network effects, economies of scale and large user bases identify the key enabler for growth of any platform. Simultaneously, it facilitates the gatekeeper role of the platform due to its shielding effect.

- It is possible for a platform to be active only on a national scope or only on a specific sub-market or product market while still acting as a gatekeeper in the underlying platform ecosystem. One reason for that could be country-specific demand configurations or products which are simply not intended to be marketed in other geographic regions, because such marketing is too costly and thus not profitable. Therefore a platform acting as a gatekeeper does not necessarily have to cover the entire EU, although international coverage is characteristic for most large platforms with a gatekeeper role. However, **coverage** itself does not automatically indicate whether a platform acts as a gatekeeper or not.

- In addition, platforms acting as gatekeepers often possess **huge financial resources**, while they are simultaneously able to collect, analyse and adequately utilise **sector-specific data**. The combination of the two facilitates the ability of a platform with a gatekeeper role to defend its dominant market position. It is possible for a platform to hold excessive rights over data that is generated through the transactions between non-integrated business users and consumers via the platform. It is likewise possible for a platform to even retain the data exclusively and refrain from sharing the data with the platform users who originally created the data by carrying out their transactions (Demary et al., 2020). Nevertheless, business users might not be able to extract the added value from the data to the same extent that platforms are able to, for example due to lacking comparable analytical tools, knowledge or missing access to personal data. Apart from that, business users do not intend to use data in the same manner as platforms, for example if data insights are used to propose related products (potentially from other users) to the customer in real time in order to initialise impulse purchases. In general, analysing sector-specific data through the platform can be beneficial for customers: offers are better tailored to customer needs or logistics processes can be enhanced based on region-specific demand characteristics. However, the platform's exclusive data can become problematic if it puts business users at a competitive disadvantage. For instance, the platform can identify particularly successful products in certain regions, copy those ideas or products and market them under the platform's own brand. In contrast to the latter aspects, multi-market contact and the leveraging of the assets for entering new areas of activity are rather common for all platforms.

- Often a platform with a gatekeeper role even **shapes and consolidates consumer expectations or practices of interacting with business users** in the platform's own favour. For instance, a promise of delivery within 24 hours enshrines a consumer's expectations and thus facilitates lock-in effects for the platform acting as a gatekeeper as well as forming further barriers to entry for (potential) competitors if the latter cannot provide the more encompassing service.

- A platform with a gatekeeper role can control large parts of the intermediation between the user groups on the market. This includes the opportunity to **differentially treat** or even to exclude business users or consumers from market interactions (Demary et al., 2020). It may likewise be profitable for a vertical integrated platform with a gatekeeper role to exclude competing business users or to favour the platform's own products or services to gain a competitive edge in the market that the business users are active on. Nevertheless, this adversely affects the non-integrated business users. A recent EU regulation (the Official Journal of the European Union, 2019b) already addressed exactly these concerns of disadvantaged business users and aims to promote fairness and transparency by way of, for instance, more comprehensible terms and conditions or the establishing of compliant systems. But even consumers can benefit from exclusive practices when a platform rejects business users which offer products or services that fail to meet certain quality standards. The quality mechanism can also work the other way around: for example, only consumers that meet certain requirements regarding their financial solvency should be allowed to use a platform.

Against this backdrop, it should be analysed whether the existing regulatory framework is sufficient to take effective action against anti-competitive behaviour of platforms acting as gatekeepers or whether weaknesses exist that end in the regulatory framework being powerless.

3.4 On a regulation of platforms with a gatekeeper role

The emergence of gatekeepers raises the question of when stricter regulation becomes imperative and inevitable. In general, a regulation should only be strengthened or adapted if the current competitive framework is insufficient to address issues raised in digital markets. The latter is closely connected to the question of whether the authorities' opportunities are sufficient to proceed effectively against platforms that abuse their market power and break existing competition rules. Against this backdrop, recent proceedings show that the existing regulatory framework is indeed sufficient for relevant authorities to intervene effectively if undertakings, including large online platforms acting as gatekeepers, break existing competition rules. For instance, Art. 102 of the TFEU clarifies the competitive framework and is also applicable if a platform with a gatekeeper role abuses its market power to the disadvantage of other market participants (see Section 2.2). Nevertheless, it is crucial to proceed on a case-by-case basis and to take into account the specific features of each platform ecosystem, or more precisely of each platform business model, as well as the specific nature of the market failure and the problematic actions of the platform. The platform economy is unambiguously characterised by a variety of different platform ecosystems, not at least due to the different types of platform business models. Therefore it can be hard to cushion each platform ecosystem via a general regulatory framework. Tailored interventions on individual large online platforms with gatekeeper power on a case-by-case basis are better suited in this case, because they are targeted and build on an established competition framework.

This approach can currently be seen when competition authorities proceed against large online platforms such as Google, Facebook, Amazon and Apple by taking the specific features of the platform business models into account (not saying that all of these online platforms inevitably count as platforms with gatekeeper power). In addition, the Observatory on the Online Platform Economy monitors developments in the platform economy, therefore it can give substantiated advice on how to address certain concerns regarding abuses of market power by platforms acting as gatekeepers. But even national competition authorities carry out specific sector investigations that can support the transmission of justified existing competition rules on the particularities of the platform economy, for instance the Bundeskartellamt (2020b) recently initiated a sector investigation in the field of messenger services.

In contrast, the rash establishing of a new and stricter competitive framework which is not necessary can have negative consequences on several platform user groups. A strong restriction of the opportunities of all online platforms runs the risk of equally shrinking the innovative potential of the platform ecosystem as a whole, including platforms that do not intend to violate existing competition rules. Therefore no regulatory action should be taken before there is an overwhelming platform with a gatekeeper role or any anti-competitive infringement. Generally, the platform ecosystem is beneficial for consumers and businesses in many different ways. A new regulation framework that goes beyond the relevant scope may limit not only the growth potential of today's existing platforms: it also makes investment incentives vanish for start-ups with innovative platform businesses model ideas that aim at succeeding in the same way as today's large online platforms. As an indirect negative effect, consumers suffer, for instance by having a reduced choice of competitive goods and services or less innovative products.

In addition to effective measures which are available against existing large online platforms, there are also opportunities to address the preventing of the formation of gatekeepers in advance without weakening or damaging the entire platform economy by burdening it with unnecessary regulation. Tailored modernisation and adaption, for example in merger control, can be effective levers to ensure fair competition. Merger control can be empowered by including data and other synergies between involved enterprises into the assessment. Even variables used as a basis for decision-making should be reconsidered and adapted more specifically to the particularities of the platform economy and the business model at hand. For example, turnover as a reference point in a market that the platform under investigation uses as a subsidy side underestimates the platform's true market position substantially; however, by contrast, turnover can be an appropriate reference point on the money side.

4 Structural competition problems

In addition to tightening existing regulations, introducing new regulations or new regulatory tools are also possible ways to react to new challenges. This chapter analyses whether platforms with a gatekeeper role and other challenges to functioning competition require a new competition tool. The questionnaire of the European Commission on a New Competition Tool (European Commission, 2020b) is used as a foundation.

4.1 New Competition Tool

The consultation regarding a New Competition Tool aims to collect views on the need for a new tool as a response to new challenges to functioning competition (European Commission, 2020b). These challenges arise due to structural competition problems. According to the questionnaire, these structural competition problems can be grouped in two categories:

- **Structural risk for competition**
  This summarises situations where market characteristics or the behaviour of companies in the market raise challenges to functioning competition. Examples include what are known as tipping markets, i.e. where economies of scale and positive network effects foster monopolistic markets (for example in platform markets).

- **Structural lack of competition**
  This summarises markets where competitive outcomes are not delivered due to the structure of the market. Examples include entry barriers, lack of access to important inputs for possible competitors and risk of tacit collusion.

Regarding gatekeepers (see Section 3), it holds that in any market with a gatekeeper there is also a structural competition problem, because the intermediation service of the gatekeeper has to be used in order to perform transactions with other users. But it also holds that a market with a structural competition problem is not always a market dominated by a gatekeeping platform. Markets where a specific infrastructure (natural gases, railways, electricity transmission networks) must be used are examples, as are markets where the number of active firms is small. Therefore the New Competition Tool not only focuses powerful platforms but also potentially applies to other markets.

However, the Consultation completely leaves merger control out of its considerations. As mentioned in Section 2, shortcomings in merger control were what allowed digital platforms to leverage their market power to new markets and helped them obtain the dominant position they have now. Therefore the new competition tool aims, to some extent, to solve problems caused in the past. Any new tool that does not consider restrictions to mergers will therefore not be successful in keeping markets open in the digital economy.

4.2 Sources of structural competition problems

Although merger control is left out, a question arises: is a new competition tool needed to meet structural competition problems that competition authorities identified? As a preliminary step the consultation asks which market features or elements of a market can foster or cause structural competition problems.
From an analytical viewpoint, there are structural problems if

- there are high entry or start-up costs, which includes high switching costs for consumers,

  and

- if there is a high level of concentration in the market.

High entry or start-up costs may be due to positive network effects (attracting a critical mass of consumers in order to be attractive for more consumers), regulatory barriers, lack of relevant data or other inputs and users that are hard to attract (for example, due to high switching cost or single-homing consumers).

From an economist's perspective high entry costs are no problem for competition if multiple enterprises are active in a market. The competition between these enterprises limits the market power of any incumbent firm directly. This is done by, for example, the introduction of standards which reduces switching cost, the setting of low prices or investments in innovations.

If the market is concentrated, there is no problem for competition if start-up or entry costs are low. In the case of monopolistic behaviour and monopoly profits, new competitors are attracted, and customers are also prone to switch to these new competitors due to high prices and the tendency for less innovation and lower quality in monopolistic markets. For example, although Alphabet (Google) dominated the market for advertisement-supported video-on-demand of videos uploaded by private users with YouTube, TikTok was able to successfully enter the market with new features (Büchel / Rusche, 2020).

Thus high concentration and high entry costs reinforce each other and can cause structural competition problems. In the platform economy this can manifest itself in the emergence of increasingly vertically integrated platforms and the formation of proprietary markets. In a proprietary market a platform is also a competitor to its business users on the platform and it shapes a business environment in its own favour to maximise its profits.
However, innovations and changes in demand can still lead to functioning competition. If a dominant firm does not constantly adapt to changing consumer interests or constantly invests in new or the improvement of existing products, that creates an opportunity for new competitors to enter the market. Accordingly, a case-by-case assessment is needed to take into account all features of the market and possible substitutes so as to judge whether there are indeed structural competition problems that have to be addressed by state intervention.

4.3 Where structural competition problems are problematic

Nevertheless, if there are only a small number of competitors **and** switching for customers as well as market entry for new competitors is hard, scenarios can arise that can be qualified as structural competition problems. Once there are only a small number of competitors and customers cannot easily switch, an enterprise has market power and can distort competition. Furthermore, an enterprise with significant market power can use its capabilities to enter new markets or add new services.
There is, however, a difference between entering new markets by way of acquisitions or by introducing goods or services based on own research and development. Expanding by way of the acquisition of successful firms in targeted markets is more problematic for competition than entering a market as a new player, because an established enterprise is bought, and, therefore, the success of the entering firm is more likely. Furthermore, the role of data in the digital economy has to be considered. According to Krotova et al. (2019, 9) the value of data increases with its combination with other datasets and its use by other players. The acquisition of incumbent firms with valuable datasets by powerful digital platforms is particularly problematic for

competition. The reason for that is that data is most valuable to firms that already have many valuable datasets and, therefore, these powerful firms offer the highest prices in order to create valuable information and new products or services. Such a situation is exemplified by the online advertising market. A platform that helps consumers find transaction partners has large amounts of information about the preferences, residence and even willingness to pay of the consumers. If such a platform enters the advertising market and sells advertising space directly and, therefore, has data about the advertising market and the groups that advertising partners want to reach, it can combine both datasets to produce valuable information and offer valuable new services.

The other case, where services are based on own research or development, is less problematic for competition, at least if this is done outside the proprietary environment created by a vertically integrated platform, because the entering firm must compete with established competitors, attract a critical mass of users and collect data on its own. While acquiring successful firms makes the successful entry into new markets probable, entering a market on own merits can also fail, for example Google with Google+ in the social network market and Microsoft in the market for operating systems for mobile devices. A platform entering a new market with a new product is, from the perspective of competition, a preferable solution to a platform taking the place of an established player and combining the resources of a big player with the market specific resources of this established firm.

Once a platform has become the stable dominant player in a market, while, for whatever reason, the entry of new players is unlikely and there are high switching costs and no alternatives for consumers, that platform can be regarded as a gatekeeper (Section 3.1). In such a situation the dominant platform, because being an important link between the user groups, has significant market power and can cause challenges for competition. However, in the consultation to the New Competition Tool (European Commission, 2020b, question 7) the term "gatekeeper scenario" is used. This term should be avoided, because based on this term a supermarket or web shop that decides whether to list a product or not is also in a gatekeeper scenario, without having significant market power or being a gatekeeper. The European Commission must, therefore, specify criteria that qualify a platform as a gatekeeper in a market with structural competition problems. Only in such a situation might a new competition tool be useful. A new tool without clear criteria for an intervention opens the door for a political design of markets, as well as arbitrary or erratic interventions.

The Apple App Store, for example, might be termed a platform with a gatekeeping role for iOS Apps according to the definition in section 3.1, because there is no alternative way to download apps. Not in all markets where a dominant digital platform exists can a gatekeeper be unambiguously be identified, because there are alternatives or switching is easy for consumers. For example, there are alternative app stores, such as Aptoide and the Samsung or Huawei app stores on Google's Android operating system; Viber, Skype, or Telegram are alternatives to WhatsApp and Facebook messenger. With regard to YouTube switching is easy and even before TikTok there were alternatives, such as Dailymotion or Vimeo.

4.4 No need for a general New Competition Tool

To sum up, if there is indeed only one platform that customers and business users must use, and entering the market is close to impossible, there can indeed be structural competition problems. The question arises of whether in such a case a new competition tool is needed.
Furthermore, one has to take into account that in the platform economy there was fierce competition before one player became dominant and there still may be pressure from potential competitors. Against this backdrop, the dominant position in the market was an incentive for the competitors to enter the fierce competition and to invest in research and development. Once the dominant position is limited or prevented by regulation, that limits investment incentives, and therefore innovation.
Thus tipping can be problematic for competition; however, keeping markets open by using merger control and setting and enforcing pro-competitive rules can prevent most negative effects on competition, and also prevent the leveraging of dominant positions to new markets.

The use of algorithms for collusion, abuse of market power or unfair rules set by platforms are not structural problems for competition that should be tackled with a new tool, because those topics are already covered by existing regulation (Art. 101 and Art. 102 of the TFEU, the P2B regulation (the Official Journal of the European Union, 2019b)). This is exemplified by the EU's investigations of the Apple App Store (the European Commission, 2020c) and the proceedings of the Bundeskartellamt (2020a) against Facebook and Amazon. Nevertheless, the P2B regulation should be supported by sanctions that are uniform in the entire EU in order to make full use of this new instrument (Kremer / Schneider, 2020). Furthermore, since the P2B regulation only came into force in July 2020, its effects should be considered before any new tool is introduced. Additionally, the effects of the regulation published in December 2018 (the Official Journal of the European Union, 2020b) that should empower anti-trust authorities and are to be introduced by February 2021 should also be considered before new tools are discussed.

Against the backdrop of the discussion in the literature about allowing some big players instead of many very small enterprises (Section 1), it must be stated that a platform is more valuable to users the more users it already has. Accordingly, having many small platforms means, broadly speaking, there is no useful platform at all. One or a few platforms can be focal points for users to carry out transactions and, therefore, work as a co-ordination device. However, there is a fierce competition between platforms for a market. An intervention to create a winner that would not otherwise have won, or to prevent some firm from winning, although market forces are this way, is not beneficial, because that focal point is not created and the internal market can be fragmented, for example if different platforms dominate different parts of it.

Nevertheless, it must be ensured that the rules on platforms are fair for all users, even if the platform is vertically integrated. The regulations already in place and that are going to be introduced within the next months should be sufficient to address structural competition problems and to keep markets open for new competitors.

5 Conclusion and policy recommendations

The question of whether the current competitive framework is sufficient to address issues raised in digital markets is closely connected to the question of whether the authorities' abilities are sufficient to proceed effectively against platforms that abuse their market power and breach existing competition rules. Generally, the current regulatory framework is also capable of acting in the Digital Age and builds on established legal pillars. Nevertheless, tailored modernisation and adaption, for example in merger control, is helpful for ensuring fair competition. In addition, there is a need for tailored procedures on individual large online platforms with gatekeeper power, on a case-by-case basis, by using the existing regulatory instruments.

Only if the ability of competition authorities to act is limited, i.e. they become powerless against certain infringements, is there a need for a combination of the current competition rules and an additional regulatory framework allowing for the possibility of imposing tailored remedies on individual large online platforms with gatekeeper power, on a case by-case basis. Broadly speaking, if current competition authorities are capable of acting in the sense of effectively withdrawing gatekeeper power from a platform when it comes to abuse of market power, there should be no further need for new competition instruments. On the contrary, if further restrictions are established rashly, that may negatively affect the opportunities for development and growth for online platforms that do not intend to breach existing competition rules.

The analysis above leads to the following policy recommendations, which can be divided into: (1) how to deal with dominant digital platforms in the market, now; and (2) how to keep markets open and promote future innovations.

(1) The Coronavirus pandemic and the measures taken by the governments to combat it have improved the positions of most digital platforms. In the short run, this dominant position and their market power cannot be limited by, for example, new competitors or merger control. But the following policy recommendations can be useful for dealing with dominant positions.

- It is beneficial to have one platform or a few platforms in a market instead of having many small ones. This, however, makes setting and enforcing rules more important. Constantly changing regulations, the introducing of undefined legal concepts or different regulations that can apply for one firm only fosters legal uncertainty, limits growth opportunities and solves no problems. Therefore **legal uncertainty must be avoided**, because it limits investments and makes agents avoid reasonable transactions.

- In order to create a business and innovation friendly environment **clear and distinct rules for platforms and fair terms of use must be developed**. The outcomes of the regulations that were recently introduced can give hints.

- **Pre-emptive state intervention in the economy must be avoided.** Governmental interventions in markets can ultimately result in markets being designed according to political aims, limit competition and therefore harm consumers by reducing the availability of goods and services. This especially includes interventions without there being a dominant firm or (likely) infringements in the market. This increases uncertainty for economic agents, damages competition and limits incentives for investments and innovations.

- **Pay attention to the role of state-owned enterprises**. State-owned enterprises and enterprises with back-up from their home country are also left out of the discussion of the New Competition Tool and Digital Services Act package. State-owned enterprises, including platforms, may be formed or supported by governments outside the European Union and can raise challenges to competition in the EU. This factor has to be considered in the discussion on how to adapt competition rules.

(2) In the long run, there are more means available in order to react to identified problems for competition on digital markets. The following steps can be useful:

- As the proceedings of the Bundeskartellamt against Facebook show, **internal separation of data**, as a reaction to an acquisition or to infringements, can be a way to keep markets open and to prevent leveraging of market power to new markets.

- **Too tight and too many detailed regulations should be avoided**. Generally, anti-trust regulation is a channel for new firms and hence innovations. The regulation keeps markets open and creates a level playing-field where fair competition can take place. Anti-trust regulations prevent that dominant firms can seal their markets off from competition. Nevertheless, too tight regulation limits the opportunities and incentives for new firms and can, therefore, harm consumers by restricting innovation and the availability of products and services.

- **New regulations or new competition tools should take into consideration merger control**. Merger control can be empowered by including data and other synergies between involved enterprises into assessments. This can, as an extreme measure, include a moratorium on mergers and acquisition involving big digital players.

- **Promote the Single Market in the EU**. One reason for the low number of competitive digital platforms from the EU is the incomplete Single Market. The fragmentation into many small markets limits growth opportunities and the scaling up of business models. Therefore less money is invested in the EU and investment is allocated to different projects in different member states. This fragmentation is exemplified by huge price differences for pampers diapers on Amazon in different member states (the Economist, 2020). Accordingly, promoting the Single Market can support competition by laying the ground for start-ups that challenge the position of currently dominant digital platforms.

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