COMPETITION AND MARKET STRUCTURES OF DIGITAL PLATFORMS

Pierre Bentata

Nicolas Bouzou

SUMMARY

Over the last several months, a number of reports have focused on the economics of digital platforms. This paper aims to contribute to the current debate by providing a strictly economic analysis of the state of competition and the structure of markets in which the platforms operate.

Studying the digital economy's particularities and networks reveals the inadequacy of the criteria commonly used to judge platforms' market power. In particular, neither the size of the platforms nor their market shares in a given sector make it possible to assess the state of competition in their market honestly. This impossibility is primarily due to the fact that the current debate overlooks the consumer's role in the process of platform development.

It is necessary and inevitable to resort to more refined consumer satisfaction analyses using these platforms to address this shortcoming. This implies reintegrating the notions of relevant markets and welfare that these reports have neglected. Without an analysis of the relevant market, no monopoly or dominant position can be observed. Without an analysis of consumer welfare, there is no way to determine whether market power has been acquired by an annuity, to the consumer's detriment, or by merit, through consumer choice.

Furthermore, economic analysis of the platforms' strategies and the markets they operate reveals intense competition between platforms that are supposed to be monopolies. In this respect, investments in R&D, as well as acquisitions, reflect a desire to innovate that is characteristic of markets with a high level of competition.

For these reasons, specific regulation of so-called "structuring" platforms is not practical and would be imposed to the detriment of consumers. More specifically, ex-ante regulation and the introduction of monopolization abuse would reinforce the current situation and slow down innovation. Indeed, by introducing particular rules for a specific group of platforms, including the obligation to inform the authorities in advance of any acquisition or buy-out decision, such regulation would prohibit any competing platform from developing and would reduce the existing intensity of competition.

The existing proposals would thus exacerbate Europe's technological deficit and penalize European consumers.

CONTENTS

1. PLATFORM SIZE: AN INSUFFICIENT CRITERION FOR ASSESSING THE COMPETITIVE INTENSITY OF THE MARKET

1.1 Competitive intensity is a process that cannot be reduced to observing market shares at a given time

A monopoly can only be evaluated through a dynamic analysis of the market

A monopoly can be defined as a single company in a given market, enabling it to charge a price above its marginal cost and thus to earn a monopoly "rent." It is because of this effect that monopolies are considered unfavorable to society, i.e., to consumers.

But to know whether this effect is genuinely unfavorable, it is first necessary to determine the origin of its monopoly. A monopoly may emerge because of legal barriers or economic barriers; the latter may result from the market structure - the presence of economies of scale[1] - or from commercial strategies, such as product differentiation.[2] It is essential to review the causes of a monopoly to determine its positive or negative impact on consumers. If the barriers are legal or structural - like the existence of a non-duplicable technical infrastructure such as a telecommunications or energy distribution network - monopoly is said to be "natural." On the other hand, if it results from a correspondence between the services provided and consumers' needs, then the monopoly is said to be "by merit," which means that consumers massively choose a particular service. In the first case, the monopoly appears despite the consumers; in the second, it is the consequence of the consumers' decisions.[3]

Consequently, observing a market in a purely static way leads to interpreting a situation without knowing whether it is the cause of a market failure or the result of an efficient market process. For this reason, many economists criticize this approach, considering that a static analysis of the state of competition amounts to denying the reality of competitive processes. Indeed, the static analysis of competition implies that any strategy of price differentiation, advertising, marketing, packaging, any action aimed at attracting and satisfying consumers by offering a service that better meets their expectations is by definition "monopolistic."[4]

Entry barriers: an obstacle to competition or the result of a competitive process?

The same is true of entry barriers. The two main economic barriers are economies of scale and product differentiation. A recurring example among economists defending the static definition of monopoly is the car industry: car designs change every year to allow incumbent manufacturers to limit potential competitors' entry to the market. Similarly, economies of

[1] Pitelis CN and Tomlinson PR, "Industrial organization, the degree of monopoly and macroeconomic performance – a perspective on the contribution of Keith Cowling (1936-2016),"INTERNATIONAL JOURNAL OF INDUSTRIAL ORGANISATION, 55: 182-189, 2017

[2] Armentano DT, A Critique of Neoclassical and Austrian Monopoly Theory, in Spadaro (ed) NEW DIRECTIONS IN AUSTRIAN ECONOMICS, Sheed Andrews and McMeel, 1978, p. 94-110.

[3] Kirzner IM, COMPETITION AND ENTREPRENEURSHIP, University of Chicago Press, 1973.

[4] Armentano DT, THE MYTHS OF ANTITRUST: ECONOMIC THEORY AND LEGAL CASES, Arlington House, 1972.

scale provide market power to firms by reducing their unit price as their output increases, preventing new competitors' entry.

This interpretation once again reverses the causal links[5]: if car manufacturers can set higher prices by differentiating their products, it is because consumers pay more for new models, not the other way around. Product differentiation is a barrier if and only if consumers prefer this differentiation. If consumers preferred to buy fewer differentiating products, differentiation would not be profitable. The same argument applies to economies of scale: economies of scale can only act as a barrier if consumers want to pay less for mass-produced products. Otherwise, they would always have the means to differentiate themselves by paying more for a competitor's product.

Moreover, it should be noted that these two barriers cannot exist simultaneously since differentiation implies charging more for a scarcer product. In contrast, economies of scale imply reducing competition by massively supplying a standardized product. **The reversal of the causal link, which stems from a static interpretation of competition, leads to the imposition of rules aimed at strengthening competition to the detriment of consumers:** to prevent differentiation, it is necessary to prohibit firms from differentiating themselves from competitors. To counteract economies of scale, it is sufficient to increase the firms' costs benefiting from these economies through a tax. In both cases, public action aimed at restoring competition will limit consumer welfare.

That a monopoly exists does not legitimize regulation if it is contestable

Based on a dynamic approach to competition, it appears that a monopoly is only problematic if it harms consumers. However, this is only possible if demand is inelastic - consumers must be captive and with no alternative to the service provided[6]. This does not imply that there is only one company at a given moment, but that the resources needed to produce a similar service are no longer available, for legal reasons - prohibition of exploitation, prohibitive taxation - or economic reasons - non-renewable resources whose stock has been depleted or are too distant to be used at an acceptable cost.

In other words, only the inability to enter a market can define a monopolistic structure.[7] It is, therefore, the inability to "contest" the situation of a market that matters. However, **the market's contestability depends on one thing only: the entry costs, i.e., the unrecoverable costs that a competitor will have to incur to enter the market and provide an attractive service to consumers.**

[5] Mises L von, HUMAN ACTION, Yale University Press, 1963, p. 358 ff.
[6] *Ibid.*
[7] Baumol WJ, Panzar JC and Willig RD, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE, Harcourt Brace Jovanovich, 1982.

1.2 Platforms are inevitably in competition with each other

Static analysis of platform economics

Regarding platforms' economics, the ability to provide a service that competes with existing platforms primarily depends on creating a platform, i.e., to benefit from the direct and indirect network effects enjoyed by existing platforms. These effects depend mainly on the ability to capitalize on consumer data and define a financing model that simultaneously satisfies the different parties involved[8]: producers and consumers in the case of a two-sided model, and different groups of producers, consumers, and third-party financers in the case of a multi-sided model.[9]

On this point, the static analysis of the markets on which platforms operate often portrays them as uncontestable markets since they are characterized by a high degree of concentration. Due to strong network effects, a small number of operators would attract the majority of consumers and benefit from a dominant position.[10] This "monopolistic" structure is an inevitable consequence of the way the digital economy operates. As the amount of personal data collected and processed increases, the platform can develop better and more personalized services; but in so doing, it attracts more consumers, which makes the platform more attractive to businesses and advertisers. And the increase in the number of advertising companies and businesses on the platform provides it with more means to develop its algorithms and refine its data collection and processing methods, thus creating a virtuous circle that translates into a mechanical increase in the size of the platform and increasingly intense consumer captivity.[11] For this reason, platform markets should be regulated to restore consumer sovereignty by allowing competitors to enter the market.

Specifically, proponents of such an approach consider that platforms are in a monopoly position and pose a danger to consumers if they benefit from economies of scale, economies of scope, are able to control or lock down access to personal data and can merge with other platforms to increase the amount of data under their control.[12]

No platform has a monopoly on its own sector

Despite its apparent logic, such an analysis does not correspond to the reality of the digital economy. While it is true that two-sided and multi-sided markets are highly concentrated,

---

[8] Rochet JC and Tirole J, "Platform Competition in Two-Sided Markets," JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION, 1: 990–1029, 2003.

[9] Two-sided and multi-sided markets can be defined as markets that bring together several categories of agents - each category bringing together agents whose expectations are homogeneous - and in which the attractiveness and market value for one category depends on the number of agents in the other categories. Thus, the specificity of these markets lies in the fact that they are characterized by "cross-network effects." For a justification of this definition, see Wauthy X, *"Concurrence et régulation sur les marchés de plateforme : une introduction*," REFLETS ET PRESPECTIVES DE LA VIE ECONOMIQUE, 1(47): 39-54, 2008.

[10] Brousseau E and Pénard T, "The economics of digital business models: A framework for analyzing the economics of platforms," REVIEW OF NETWORK ECONOMICS, 6(2), 2007. Smith MD and Telang R, STREAMING SHARING STEALING, Cambridge: The MIT press, 2016.

[11] Haucap J and Heimeshoff U, "Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization?" INTERNATIONAL ECONOMICS AND ECONOMIC POLICY, 11(1-2): 49-61, 2014.

[12] Rubinfeld DL and Gal MS, "Access barriers to Big Data," ARIZONA LAW REVIEW, 59(2): 339-381, 2017.

there is no evidence that they are uncontested.[13] On a purely empirical note, none of the existing platforms holds a monopolistic position: while Google's search engine hosts 90% of online searches in most developed countries, there are a large number of competing search engines, whether generalist - Bing, DuckDuckGo, Qwant, Ecosia, Exalead, Yahoo, Yandex; or specialized in a particular field - law, health, employment, information, genealogy, events, business, education, academic research.

This diversity demonstrates the absence of monopolistic power since it guarantees consumers the possibility of choosing another search engine at any time, forcing the different platforms to provide a quality service.[14] This implies that the importance of Google's share in the online search market does not constitute a loss of consumer welfare, but rather is consumer choice. Indeed, the efficiency of Google Search is based on its ability to provide Internet users with the results best suited to their searches; this ability results from the processing efficiency of Internet users' data, which allows better targeting of their expectations and thus reinforces the attractiveness of the platform. Thus, following Metcalfe's law's logic, the increase in searches on the platform increases its attractiveness, which provides the platform with exponential value.

Nonetheless, the existence of this network effect does not mean that Google Search has an absolute position. Indeed, suppose other search engines exist and are expanding. In that case, all network effects are accompanied by two factors limiting their expansion: consumer preference for diversity provides opportunities for potential competitors and creates a form of monopolistic competition between different providers of the same service.[15] Consumers wanting to go against the grain or those looking for specific services, such as royalty-free content, a guarantee that their data will not be used, or completely confidential searches will always prefer specialized search engines, therefore making the existence of alternative platforms - such as Search Encrypt, Swisscows or CC Search - possible. However, as a network develops, it is less able to compete with these alternative platforms because to attract consumers from other platforms, it would then have to offer similar services and therefore reorganize its financing and development model, at the risk of reducing the satisfaction of its consumer base.

In this respect, the case of dating platforms is particularly eloquent. Beyond Tinder, many other dating platforms exist and are expanding because consumers are looking for different services that cannot be provided by a single provider: where Tinder accepts all profiles, others may specialize in extramarital encounters or bring together distinct groups: Star Trek fans, cat enthusiasts, Donald Trump supporters or ideologically left-wing people. Since these preferences are sometimes contradictory and very diverse, no single platform can effectively satisfy them as a platform specializing in that particular offering.[16]

The same goes for browser software,[17] e-commerce platforms,[18] data storage services,[19] social networks,[20] online video platforms,[21] or even operating systems.[22]

---

[13] Caillaud B andJullien B, "Chicken and Egg: Competition Among Intermediation Service Providers,"RAND JOURNAL OF ECONOMICS, 34: 309-328, 2003.

[14] Bellefamme P andPeitz M, "Managing competition on a two-sided platform,"JOURNAL OF ECONOMICS & MANAGEMENT STRATEGY, 28(1): 5-22, 2019.

[15] Katz ML and Shapiro C, "Systems Competition and Network Effects,"JOURNAL OF ECONOMIC PERSPECTIVES, 8(2): 93-115, 1994.

[16] Bouzou N, *L'AMOUR AUGMENTE*, Editions de l'Observatoire, 2020.

[17] If Chrome is used by a majority of consumers, they benefit from a wide choice, including Firefox and Explorer, the two most important browsers after Chrome, but also, among others, Arachne, Brave, Lunascape, Qutebrowser or Tor.

Economies of scale and economies of scope increase competition between platforms

And yet, behind any high concentration of market shares lies a wide variety of competitors, regardless of the market in which the platforms operate. This diversity is explained by the presence of economic and technological forces that limit sectoral concentration: while the effects of direct and indirect networks favor concentration, service differentiation, and multihoming favor competition by giving back sovereignty to consumers.[23]

In reality, what is supposed to strengthen monopolies in traditional markets favors competition in platform markets. The static analysis of platforms omits an economic phenomenon specific to this economy. Because they develop through the use and enhancement of data, platforms benefit from economies of scale and scope that allow them to improve their services as they grow and diversify the services they offer. The more they develop, the more they can access new markets with similar operations and business models.

Therefore, entry costs into a new market are partially offset for a platform that has already developed in its initial market. From a theoretical perspective, this specificity means that markets are all the more contestable where there are economies of scale and scope. For example, Facebook, originally a social network, offers e-commerce services, competing directly with Amazon. Similarly, Amazon can create a video distribution platform and compete with Netflix and YouTube.

More importantly, because of network effects, different services can then become competitors due to consumer usage. For example, social networks can be used as services that compete directly with instant messaging or email services (communicating privately on Facebook or Twitter becomes an alternative to sending text messages on iMessage or emails via Yahoo mail or Google mail); a job search can be done on Facebook, LinkedIn or Le Bon Coin (in partnership with Pôle Emploi, the French public employment service), and Amazon or Facebook can be used as search engines. Because these platforms have already partially assumed the development costs and attracted enough consumers, they can easily penetrate markets where other platforms are present. In other words, if the platforms benefit from economies of scale, allowing them to have a multi-market reach, they inevitably compete with each other.

---

[18] Among the dozens of existing platforms are Walmart, Alibaba, Otto, JD.com, eBay, Rakuten, Etsy.

[19] Among the most well-known: Microsoft Azure, Amazon Web Services, Google Cloud, Alibaba Cloud, IBM Cloud, Oracle Cloud, Tencent Cloud, iCloud.

[20] Beyond Facebook, which has more than 2 billion users and also owns Instagram and WhatsApp, there are a large number of networksincluding Snapchat, LinkedIn, QQ, Pinterest, Reddit, Snapchat, Tumblr, TikTok, Twitter, WeChat.

[21] As opposed to Netflix, there is Amazon Prime Video, Disney +, YouTube, HBO Now, among others. More broadly, if the competition concerns all platforms providing streaming video content, there are hundreds of competitors.

[22] Although Windows is pre-installed on most computers, there are competitors such as Ubuntu, Mint, Linux, Tails.

[23] Evans DS andSchmalensee R, "The antitrust analysis of multi-sided platform businesses," in Blair andSokoi (eds) THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS VOLUME 1, Oxford University Press, p. 404-450, 2015.

1.3 The platforms' strategies reveal the existence of intense competition in all of their market sectors

To estimate the market power of a platform, one must first define the boundaries of its market

The platform economy's precise nature requires using metrics beyond each company's share or size to determine their market power.[24] This is because platforms offering multiple functionalities or services in different market sectors can easily compete with other platforms' services and functionalities.

To determine whether a platform is dominant, it is, therefore, necessary to delineate its activity's total scope or, if this is not possible, to determine its influence upon each market in which it operates. Two dimensions must be integrated: horizontal competition and the complementary services offered by the same platform.

- **Horizontal competition:** The intensity of competition depends on other companies' alternative services, regardless of whether they are digital platforms. In the particular case of sectors benefiting from a network economy, identifying competitors can be complicated. Companies with different business models or initially offering different services may find themselves in competition. For example, while its activity was primarily in the physical world, Walmart's entry into online commerce has made it a direct Amazon competitor. Similarly, concerning the online video distribution sector, YouTube, a platform for the direct sharing of content by individuals, can be considered a direct competitor to Amazon Video or Netflix, even though Amazon essentially provides HBO content and Netflix provides a range of content produced by professionals or produced directly for distribution on the platform.

  Defining the state of competition cannot be done based on static criteria, like the economic model adopted or market shares at a given moment.

- **Complementarity of the proposed services:** Due to the economies of scope that characterize platforms' economy, they can offer complementary services that can simultaneously enhance global competition between platforms and make consumers captive to the same platform without them noticing. For example, when using Facebook and Instagram, consumers may think they are using services from different companies, but they do not leave Facebook. Conversely, they may also use competing social networks simultaneously, for instance, by posting the same messages on LinkedIn, Facebook, and Twitter, which is equivalent to providing the same data to different platforms and thus reinforces the state of competition. Similarly, a student can search for information on Google Scholar and YouTube without knowing that they are still using Google's services. But they can also search on Facebook or Amazon or use competing specialized search engines.[25]

[24] Patterson MR, "Google and search-engine market power," HARVARD JOURNAL OF LAW & TECHNOLOGY OCCASIONAL PAPER SERIES, 2013.

[25] Feld H, THE CASE OF THE DIGITAL PLATFORM ACT: MARKET STRUCTURE AND REGULATION OF DIGITAL PLATFORMS, Roosevelt Institute, 2019.

In this context, only by observing consumer behavior can one estimate the intensity of competition and the existence of a dominant position for one or more platforms. The influence of a platform, or more generally of a company offering multiple online services, via its platform or a set of interconnected platforms, can only be assessed based on the way consumers use them.

It is, therefore, essential to refer to each platform's definition of their relevant market. **The relevant market includes all the services considered to be competitors by consumers, making it possible to assess the state of competition based on the uses that consumers make of services with potentially diverse characteristics.** Generally speaking, the outline of the relevant market's boundaries is relatively easy to define.It is sufficient to observe the cross-price elasticity of services likely to be competitors to determine whether an increase in one service's price leads to a carry-over effect on the consumption of another service. If so, the services are in the same relevant market.

For platforms, observing the relevant market boundaries can pose technical problems, as most services are offered without monetary compensation. But the fact that market boundaries are more difficult to define does not reduce the tool's importance. Since the intensity of competition between platforms depends fundamentally on how consumers use each of the platforms' services, it seems essential to define their relevant markets. Therefore, instead of abandoning this concept because of the technical difficulties involved in assessing it with regard to platforms, new methods should be developed to preserve its explanatory power.

R&D spending, a race towards innovation and aggressive strategies reflect the intensity of competition

In the absence of a straightforward method for defining their relevant markets, it remains possible to estimate the state of competition based on indirect criteria. Regardless of the school of thought to which they belong, economists consider that **the weaker the competition, the less incentive for companies to provide quality services and innovate.** The absence of competition thus leads to a waste of resources - a lack of innovations designed to optimize scarce production inputs - and to a redistribution of wealth to the benefit of firms. It is for these reasons alone that monopolies are regulated, and public authorities promote competition.

In this respect, platform strategies seem to suggest that they operate in a highly competitive context. Indeed, their research and development spending is continually increasing, demonstrating that they are continually seeking to improve their services' quality. According to the latest PwC innovation report,[26] Amazon and Alphabet are the world's two largest investors in R&D, spending $22.6 billion and $16.2 billion respectively in 2018. Microsoft, Apple, and Facebook rank sixth, seventh, and fourteenth, respectively. In comparison, Volkswagen, Roche, and Novartis, the largest European investors, spent €15.8 billion, €10.8 billion, and €8.5 billion, respectively, in 2018. In the digital sector, SAP and Ubisoft, the two

[26] *Strategy&'s Global Innovation 1000*, PWC, 2019, https://www.strategyand.pwc.com/gx/en/insights/innovation1000.html.

largest investors, spent €4 billion and €0.9 billion, respectively. Putting these investments into perspective, digital platforms' investments reflect their need to innovate, renew, and improve the services they offer to maintain their appeal. Indeed, for companies that are considered as global giants, these expenditures are significant: Amazon, for example, spent the equivalent of 38% of France's domestic R&D expenditures on their own R&D in 2018.[27]

Similarly, the platforms' vertical acquisitions and integration operations illustrate the competition intensity to which they are subjected. If they operated in monopolistic sectors, they could easily increase their prices and reduce their supply since possible entry barriers would protect them. However, their strategies reveal precisely the opposite effect: each time a new service, feature, or network appears, they must invest more to provide a similar service or feature or purchase the new platform to improve their offer. Given the magnitude of the risks and investments that characterize these actions, it appears that the economic structure of the markets in which these platforms operate is highly competitive.

[27] France's GERD amounted to 51.8 billion euros in 2018.

2. SPECIFIC REGULATIONS: A THREAT TO CONSUMER WELFARE, COMPETITION AND INNOVATION

2.1 The sole purpose of regulation must be the welfare of the consumer

The danger is not the existence of a monopoly but rather the captivity of the consumer

Because they are based on a static analysis of competition, most reports conclude that there is a need to regulate platforms because they benefit from dominant positions or monopolistic power. Beyond the difficulty of assessing the competitive intensity of the markets in which they operate, such an approach poses a fundamental problem: the fight against dominant positions and monopolies is legitimate only if the latter is harmful to consumers. Ultimately, it is essential to ensure consumer welfare.

In the case of platforms, or more generally network economics, consolidation can be beneficial to consumers since the value of the service offered depends simultaneously on the number of consumers and the number of providers present on the same network. For example, the value of the Uber platform to the consumer is proportional to the number of drivers on the platform, and the number of drivers depends on the number of consumers. The presence of these direct and indirect effects implies that market concentration can be favorable to consumers.[28] Consequently, the regulation's objective cannot be limited to controlling market concentration but must first assess the causes and impacts of each concentration phenomenon.

This fundamental approach often seems to be absent from public reports, which fail to place consumer welfare at the heart of their reflection.[29] In so doing, they risk undermining market processes that benefit consumers. Indeed, as soon as a network benefits from indirect effects, mechanically reducing its growth means decreasing the value of the service offered.[30]

To regulate platforms, consumer sovereignty must be strengthened

Whether or not a monopoly or high concentration in the sector is harmful depends on the consumers' ability to react. There are potential limits to market concentration for two-sided or multi-sided markets, and thus to platform power.[31] However, the effectiveness of these limits depends on the degree of consumer sovereignty:

---

[28] Caillaud B and Jullien B, "Chicken and Egg: Competition Among Intermediation Service Providers," RAND JOURNAL OF ECONOMICS, 34: 309-328, 2003.
Rochet JC and Tirole J, "Platform Competition in Two-Sided Markets," JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION, 1: 990–1029, 2003.

[29] Faure-Muntian V and Fasquelle D, RAPPORT D'INFORMATION SUR LES PLATEFORMES NUMERIQUES, Assemblée Nationale, n° 3127, 2020.
Furman J, UNLOCKING DIGITAL COMPETITION. REPORT OF THE DIGITAL COMPETITION EXPERT PANEL, 2019.
Crémer J, de Montjoye YA and Scweitzer H, COMPETITION POLICY FOR THE DIGITAL ERA, European Commission, 2019.

[30] Julien B, "Two-Sided Markets and Electronic Intermediaries," in Illingand Peitz (eds) INDUSTRIAL ORGANIZATION AND THE DIGITAL ECONOMY, MIT Press, p. 273-302, 2006.

[31] Evans DS and Schmalensee R, "The antitrust analysis of multi-sided platform businesses," in Blair and Sokoi (eds) THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS VOLUME 1, Oxford University Press, p. 404-450, 2015.

- **Capacity constraints:** There are two constraints on platforms that can reduce a network's value as it grows. First, by using the platform innovatively or differently from its traditional use to attract new consumers, the platform may lose value in early consumers' eyes. This is particularly the case with social networks, whose usage evolves as the number of consumers grows. Consequently, the larger the network grows, the more it brings together heterogeneous groups, and the less value it has.
    - On the other hand, as consumer heterogeneity increases, the network's value to advertisers may decrease as the cost of marketing increases. Also, when the business model is based on advertising funds, the platform's size may be limited by the heterogeneity of consumer preferences and uses. This explains the coexistence of many platforms that provide a similar service but target an identified population, which is the case with dating sites or professional networks.
- **Degree of differentiation:** Consumer heterogeneity also favors the emergence of new platforms that offer competing but differentiated services. The more consumers want differentiated services, the more opportunities exist for different platforms to emerge and coexist. In this respect, Facebook's acquisitions of WhatsApp and Instagram reflect the constraint imposed by consumers on platform development strategies: because the younger generations have different uses for social networks, Facebook has been forced to diversify its offer by integrating them. Similarly, despite Google's weight in the online search segment, several engines exist and are developing because they provide different services: they do not collect personal data, they donate part of their revenues to planting trees, they provide meta-searches.
- **Multihoming opportunity:** The ability to use several different platforms simultaneously or in parallel also decreases the level of sector concentration and increases competition between platforms.

The importance of these three limitations to platform concentration fundamentally depends on the degree of consumer responsiveness. The easier it is for consumers to switch platforms or use them simultaneously, the less likely they are to be captive to only one platform.[32] It is not the existence of a high degree of concentration that is important, but instead, the result of consumer choice that matters.

Therefore, any regulation of platforms must focus on strengthening this responsiveness and not on reducing the size of the platforms. This means that limiting the platforms' market power should only be possible if it results in a decrease in the quality of service provided, a delay in innovation, or an increase in prices. In this respect, the General Data Protection Regulation (GDPR) Directive has provided essential resources for consumers by ensuring data interoperability and portability. Indeed, the introduction of these rules reinforces the three constraints on platform concentration.

To further protect consumers and provide them with greater sovereignty in their decision-making, mechanisms should be introduced to inform consumers about how platforms operate to make informed decisions. Recent research in behavioral economics has shown that the degree of consumer dissatisfaction and their fears regarding protecting their data

[32] Haucap J andHeimeshoff U, "Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization?" INTERNATIONAL ECONOMICS AND ECONOMIC POLICY, 11(1-2): 49-61, 2014.

depend fundamentally on their understanding of platform ecosystems and how their data is used.

Furthermore, the reason why consumers do not leave a platform even though they would like to use a new one, or why they use a platform financed by an advertising-supported model even though they would like to limit access to their data is essentially due to their lack of awareness about the technological resources at their disposal and the way their data is used. This situation can give rise to a form of consumer indifference that promotes concentration beyond their expectations.[33]

To counteract this apathy, consumers must be better informed, which requires a better understanding of how platforms work and the introduction of a mechanism that would allow them to compare the different uses that platforms make of their personal data. In this respect, one of the most effective solutions would be to introduce several financing options for the same service.[34] By giving the consumer a choice between receiving advertising or sponsored content versus paying directly to use the same service without advertising, the consumer would have a better perception of the value of their data and how it is monetized. Consequently, whatever their choice, the consumer acts with full knowledge of the facts, reinforcing competition between various platforms.[35]

This strategy raises the question about the ownership of personal data and opens up a broader debate beyond the regulation of data alone. However, it is worth reiterating that when it comes to regulating platforms, what matters is not limiting their size or growth as ensuring that their evolution is the result of an informed consumer choice.[36] In other words, while the definition of the relevant market is essential for determining the existence of a dominant position, it is the identification of consumer surplus that must be retained and analyzed to assess whether or not that position is harmful.

2.2 Specific regulations on structuring platforms would place the burden of responsibility on public authorities

Differentiated regulation leads to reduced competition and preserves the status quo

The difficulties in defining a relevant market and assessing consumer surplus have led to a search for alternative ways to regulate platforms' activity. Among these means, the idea of a specific regulation has been developed to define a particular framework that would apply only to so-called "structuring" platforms.

---

[33] Acquisti A, Taylor C andWagman L, "The Economics of Privacy,"JOURNAL OF ECONOMIC LITERATURE, 54(2): 442-492, 2016.
Norberg PA, Horne DR and Horne DA, "The Privacy Paradox: Personal Information Disclosure Intentions versus Behaviors,"JOURNAL OF CONSUMER AFFAIRS, 41(1): 100-126, 2007.

[34] Tsai JY et al., "The Effect of Online Privacy Information on Purchasing Behavior: An Experimental Study,INFORMATION SYSTEMS RESEARCH, 22(2): 254-268, 2011.

[35] Purtova N, "Do property rights in personal data makes sense after the big data turn: Individual control and transparency,"JOURNAL OF LAW AND ECONOMIC REGULATION, 10(2): 64-78, 2017.
Purtova N, "The illusion of personal data as no one's property,"LAW, INNOVATION AND TECHNOLOGY, 7(1): 83-111, 2015.

[36] Bourreau M, de Streel A andGraef I, BIG DATA AND COMPETITION POLICY: MARKET POWER, PERSONALISED PRICING AND ADVERTISING, Centre on Regulation in Europe, 2017.

This would involve defining a group of platforms considered to have abnormally dominant positions in their market based on their size, market share, economies of scale and scope, and ability to control and restrict consumer data access. As explained above, from a purely economic standpoint, these criteria do not appear to be relevant in judging competitive intensity in the case of platforms. However, this approach seems particularly risky for two reasons highlighted by the economic analysis of the law.

The introduction of differentiated regulation automatically leads to market distortions. Once considered "structuring," a platform will be subject to more stringent regulation, reducing its incentive to develop beyond the level at which the new regulation is imposed. Therefore, differentiated regulation is inevitably accompanied by a reduction in competitive intensity, thereby freezing market strategies. This is an unavoidable consequence that results in the maintenance of the status quo in a given market.

While this may be legitimate in the case of particularly risky activities - for example, with regard to the protection from environmental and health risks, which differentiates regulations according to how dangerous companies are - the costs and benefits of such regulation for society as a whole should always be compared: tighter regulation improves the protection of individuals from certain risks but to the detriment of market dynamics.

For platforms, differentiated regulation will be ineffective since the assumed risk is that of imperfect competition. In other words, imposing differentiated regulation to strengthen competitive processes implies reducing competition in the name of the competition itself.

In addition to this, there is a second difficulty which relates to the role of the regulator. To define efficient criteria for differentiating platforms, the regulator must identify the platforms' costs and operations, which means developing close interactions with the companies it will have to regulate. This is another inevitable constraint since the information needed to introduce efficient regulatory standards is by its very nature confidential, known only to the companies. Furthermore, to obtain this information, it is necessary to establish close ties with the companies that will be subject to the new regulations, which increases the risk of "capturing" the regulator.[37]

This risk, widely documented in economic literature, translates into a two-fold problem: firstly, the regulator may be led, consciously or unconsciously, to implement ineffective regulations or to misapply regulations; secondly, and more seriously, by imposing specific regulations, the regulator becomes, in the eyes of consumers and society in general, responsible for the development of the regulated sector, thus providing an opportunity for firms to shift the burden of responsibility away from them.

Imposing a platform control authority would make this public authority responsible for market inefficiency

[37] Laffont JJ and Tirole J, "The politics of government decision-making: a theory of regulatory capture,"QUARTERLY JOURNAL OF ECONOMICS, 106(4): 1088-1127, 1991.

Laffont JJ and Tirole J, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION, MIT Press Cambridge, 1993.

Martimort D, "The life cycle of regulatory agencies: dynamic capture and transaction costs,"REVIEW OF ECONOMIC STUDIES, 66(4): 929-947.

Zingales L, "Preventing economists' capture" in Carpenter and Moss (eds), PREVENTING REGULATORY CAPTURE: SPECIAL INTEREST INFLUENCE AND HOW TO LIMIT IT, Cambridge University Press, 2013.

The creation of a specific entity in charge of the application of differentiated regulation would consequently present two significant difficulties: a reduction in competitive intensity and a shift in the burden of responsibility from the platforms to the public authority.

This could lead to several adverse consequences for which public authorities would be held responsible.

- **Slower diffusion of innovations:** By limiting the growth processes of emerging platforms and reducing the opportunities for acquisitions by structuring platforms, the regulation would slow down the diffusion of innovations. Although they have been accustomed to continuous innovations to improve their satisfaction, consumers could expect to see a deterioration of their well-being. To defend themselves, platforms could then plead that too strict regulations were being introduced, putting the authorities in direct conflict with consumer expectations.
    - This would be all the more detrimental since consumers would be able to observe developments in other countries from which they would not benefit in Europe. Therefore, in addition to the downturn in innovation on the part of structuring platforms, there would also be a risk of leakage from innovative European platforms to foreign countries, which would be detrimental to European consumers' welfare.
- **Disempowerment of consumers:** The introduction of a public authority in charge of controlling structuring platforms would also weaken consumers' incentive to inform themselves and disclose their preferences concerning platforms. Indeed, suppose an authority determines competition intensity and acts on behalf of consumers. In that case, the latter are encouraged to adopt a passive behavior, primarily because they consider that the regulator guarantees their protection. Secondarily, they no longer directly influence the evolution of the market.
    - This perverse effect was observed in the context of data protection with the introduction of the GDPR Directive: considering themselves protected by the new regulations, internet users tended to be less concerned about the protection of their data, becoming more indifferent than they were before the regulations protected them.
    - If this logic were to be extended to all the platforms' activities, consumer behavior would no longer reveal their expectations and satisfaction. It would become even more challenging to know the impact of the economic structure of the platforms' market on their welfare. Therefore, as explained above, it would be preferable to protect consumers by strengthening their control over their data rather than delegating their sovereignty to a regulatory authority.

2.3 Ex-ante regulation and abuse of monopolization: a threat to the welfare of users

Ex-ante regulation: a costly and ineffective approach

Among the most ambitious suggestions made in recent reports on the subject, it is worth mentioning the implementation of ex-ante regulation, which would impose certain obligations on "structuring" platforms even before the consequences of their actions

became observable. This type of regulation is not new and has been extensively discussed in economic literature and economic analysis of the law, making it possible to define its costs and benefits concerning ex-post regulation mechanisms.

The main benefit of this kind of regulation lies in the regulator's ability to ensure that each player's behavior regulated in this manner can be verified, thereby preventing any harmful action for the company. On the other hand, it has a significant disadvantage: the cost of implementation. By definition, ex-ante regulation implies controlling all companies' behavior subject to such regulation, regardless of the consequences of such action. Compared to a liability mechanism that would apply only in the event of harmful or undesirable behavior, ex-ante regulation is very costly since it involves mobilizing supervisory agents and efficient administration upstream of any activity.[38]

The best illustration of the costs and benefits of such an approach is undoubtedly found in the field of technological and environmental risk prevention: as soon as they are likely to cause severe health or environmental damage, companies are subject to specific, stricter regulations requiring them to adopt special prevention measures and to communicate information to the regulator concerning their operations and the degree of risk that their activity represents.[39] This ex-ante regulation is justified because, in the event of a nuclear accident or an accident resulting in widespread water or soil pollution, the damage would be far greater than the costs of prevention imposed by the regulations. However, this regulation is accompanied by several additional costs and shortcomings. In the French case, its application was insufficient because of the drastic costs that each company's strict monitoring would impose.[40] Moreover, ex-ante regulation has proven to be incapable of genuinely regulating behavior since it is virtually impossible to monitor companies' day-to-day activities.[41] And finally, the individuals in charge of making the rules and enforcing them have sometimes been "captured" by the companies whose activities they were supposed to regulate.[42] This example reminds us that even in areas where it appears to be perfectly adapted, ex-ante regulation is only partially effective. The costs of implementation and enforcement remain very high in relation to the expected benefits.[43]

---

[38]Dewees D, Duff D andTrebilcock M, EXPLORING THE DOMAIN OF ACCIDENT LAW: TAKING THE FACTS SERIOUSLY, Oxford University Press, 1996.

Hiriart Y, Martimort D andPouyet J, "On the optimal use of ex ante regulation and ex post liability,"ECONOMIC LETTERS, 84(2): 231-235, 2004.

[39]Notably the LAW RELATING TO CLASSIFIED INSTALLATIONS FOR THE PROTECTION OF THE ENVIRONMENT of July 19, 1976, the LAW RELATING TO THE PREVENTION OF TECHNOLOGICAL AND ENVIRONMENTAL RISKS, 2003-699 of July 30, 2003, known as the "Bachelot Law," the JUNE 29, 2004 decree introducing the obligation to adopt the "best available techniques." For a complete description of environmentalregulations and theireconomic impacts, see:Cans C (dir), *LA RESPONSABILITE ENVIRONNEMENTALE*, Dalloz Thèmes et Commentaires, 2008 andBentata P, *LA COMBINAISON DE REGLEMENTATION ET DE RESPONSABILITE CIVILE ENVIRONNEMENTALE : MANIFESTATIONS ET EFFICACITE DANS LE DROIT FRANÇAIS*, Doctoral thesis, Aix Marseille Université, 2012.

[40] Bentata P, "Liability as a Complement to Environmental Regulation: An Empirical Study of the French Legal System,"ENVIRONMENTAL ECONOMICS AND POLICY STUDIES, 16(3): 201-228, 2014.

[41] Bentata P, "Environmental Regulation and Civil Liability under Causal Uncertainty: An Empirical Study of the French Legal System,"REVIEW OF LAW & ECONOMICS, 9(2): 239-263, 2013.

[42]Hylton K, "When Should We Prefer Tort Law to Environmental Regulation?"41: 515-534, WASHBURN LAW JOURNAL, 2002.

Boyer M andPorrini D, "Law Versus Regulation: A Political Economy Model of Instruments Choice in Environmental Policy,"in Heyes (ed) LAW AND ECONOMICS OF THEENVIRONMENT, Chelthenham: Edward Elgar Publishing, 2001.

Hiriart Y, Martimort D andPouyet J, "The Public Management of Risk: Separating Ex Ante and Ex Post Monitors,"JOURNAL OF PUBLIC ECONOMICS, 94: 1008-1019, 2010.

[43] Bentata P and Faure MG, "The role of environmental civil liability: an economic analysis,"ENVIRONMENTAL LIABILITY, 20(4): 120-128, 2012.

For this reason, ex-ante regulation is preferable to an ex-post liability mechanism only on the condition that the potential damage in case of corporate misconduct is irreversible and exceeds the financial capacity of the companies. Otherwise, and particularly if companies have heterogeneous operations or operate in different markets, ex-post liability regulation is preferable.[44] Also, with regard to platforms, ex-ante regulation does not seem to be effective, as the potential damage they could cause is not irreversible, and their operations are heterogeneous.

Another intrinsic flaw of such regulation is that it inevitably lags behind economic activity: by definition, regulation is based on existing behaviors and technologies.[45] As a result, there are always regulatory loopholes and contingencies that benefit regulated companies. And this is especially true in highly innovative sectors, such as those where platforms operate. Consequently, no ex-ante regulation can provide the same incentive for platforms to take consumer welfare into account, as can the threat of ex-post liability.

Beyond the expense incurred by the company, this regulation, as proposed, for example, in the Faure-Muntian and Fasquelle report, poses another difficulty. It is accompanied by an obligation to be transparent about how its algorithms work. However, platforms' efficiency is primarily due to their ability to optimize the consumer experience by best meeting their expectations, which depends on their algorithms' performance and their ability to improve them continuously. As a result, one of two things will happen: either the platforms will refuse to disclose their information and the regulations will not be enforced, or the regulators will impose this transparency obligation, and the platforms will cease to operate in the market. In the first case, the regulation will have been costly and ineffective; in the second case, it will have been imposed at the expense of consumer welfare.

On this point, it should be reminded that such a regulation would indeed be necessary in the context of intense international competition, which constitutes a double risk: firstly, innovations from targeted platforms would arrive later in Europe than in the rest of the world, not only putting consumers at a disadvantage, but also the entire digital ecosystem in the region. Secondly, if the objective of regulating or even reducing the size of targeted platforms were to be achieved, this would reinforce the power of competing platforms from other countries, in particular, Chinese platforms. **In both cases, innovations and developments in the digital market would depend entirely on foreign standards. By seeking to limit American platforms' size, Europe could grant a competitive advantage to platforms from countries with which its trading and regulatory margins would be even more limited.**

The abuse of monopolization, a concept contrary to all economic logic

The risk to consumer activity and welfare from the introduction of ex-ante regulation is even more significant with the proposal to create a regulation against the "abuse of monopolization." This regulation, which proposes to sanction any manifest desire to

---

Faure MG, *L'ANALYSE ECONOMIQUE DU DROIT DE L'ENVIRONNEMENT*, Bruylant, 2007.

[44]Pacces A and Van den Bergh R, "An introduction to the law and economics of regulation," in Van den Berg andPacces (eds) REGULATION AND ECONOMICS, ENCYCLOPEDIA OF LAW AND ECONOMICS VOL. 9, 2012.

[45]Ogus A, REGULATION: LEGAL FORM AND ECONOMIC THEORY, Clarendon Press, 1994.

establish a monopoly, actually combines all the shortcomings of ex-ante regulation: reduced competitive dynamics, reduced incentives to innovate, diminished consumer welfare, and prohibitive administrative costs.

Such adverse effects are foreseeable due to this proposal's counterintuitive nature, which goes against all economic logic. Any entrepreneurial strategy's objective should be to strengthen a company's position in a given market and ultimately improve its prospects for profit. Therefore, any entrepreneurial strategy is equivalent to an attempt at monopolization, regardless of the company observed and regardless of its market.[46] Consequently, whether it is a question of acquisitions, innovations, cost or price reductions, communication, or marketing campaigns, any action could be considered an abuse of monopolization. As stated in the proposal, an abuse of monopolization occurs when "there is a clear intention to create a monopoly (...) where there is a very substantial likelihood that it will be achieved." In other words, such regulation would penalize any potentially profitable strategy and would only permit strategies that are expected to be ineffective.

As specified in the proposal, combating monopolization abuse would also imply making acquisitions of other companies conditional upon prior notification by the platforms. But once again, this type of regulation goes against any form of economic logic. Indeed, a company's efficiency depends on its ability to react to uncertain events and adapt to economic changes to seize new opportunities. Consequently, requiring companies to notify their acquisition strategies can only lead to a prolongation of acquisition deadlines and slow down competitive dynamics.

[46] Friedman M, "The Methodology of Positive Economics," in Hausman (ed) THE PHILOSOPHY OF ECONOMICS: AN ANTHOLOGY, Cambridge University Press, 1984.

3. CONCLUSION

The analysis of competition and market structures of digital platforms reveals the need to understand their situation dynamically, focusing on consumer welfare.

Going beyond the simple observation of the market shares of the platforms, two conclusions can be drawn:

- First, far from representing a market failure, the size of platforms is explained by the network economy's technical characteristics, and the emergence of large platforms is the result of a particularly intense competitive process.
- Second, as they develop, the platforms compete with each other due to economies of scale that favor their expansion beyond their core business. This process tends to create a global digital marketplace that blurs each platform's business sectors' boundaries. While this accelerates innovation and benefits consumers, it also makes it more difficult to assess potential dominant positions.

Given this context, to protect consumer sovereignty while limiting the potential for abuse by dominant platforms, regulation should be based on the digital economy's reality. Instead of focusing on the size of the platforms or their market share, effective regulation should start from a consumer-centered approach and try to assess the market power of the platforms according to three criteria: the diffusion of innovation, the degree of consumer captivity, and their level of knowledge of platform ecosystems.