

# **Regulation of Marketplaces. Recent Proposals. An Assessment**

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# **REGULATION OF MARKETPLACES. RECENT PROPOSALS. AN ASSESSMENT<sup>1</sup>**

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## EXECUTIVE SUMMARY

### I. Introduction

There is an important international discussion on the feasibility of regulating online businesses and the right antitrust tools to benefit consumers and competition. Some of the concerns are about the online businesses of Apple, Amazon, Facebook, and Google. Hoverkamp (2020) has suggested that these businesses use different inputs (although there may be some overlap), that they sell different products, and that they deal with users in varying ways, so that their only common characteristic is that they are very large and that a large part of their technology is digital. Given this framing of online businesses, the position of this paper is that there is no single regulatory approach that can apply to all of these businesses.

We focus our discussion on marketplaces. First, we survey the economic literature on marketplaces. We then analyze the arguments of the U.S. House of Representatives Judiciary Subcommittee on Antitrust, Commercial, and Administrative Law (hereafter referred to as the Subcommittee) regarding competition in online businesses. We briefly discuss proposals for regulating online businesses in different parts of the world, and we survey the empirical economic literature on marketplaces. We conclude with an assessment of the problems these proposals will face, in light of the literature surveyed.

### II. Basic Characteristics of the Major Online Businesses

#### *Google*

Google is the leading search engine, whose main source of revenue is AdWords, an online service that sells words that appear in search results.<sup>2</sup> “Although Google has diversified its offerings,” the Subcommittee notes, “it generates the vast majority of its money through digital ads, which accounted for over 83% of Google’s revenues in 2019.”<sup>3</sup>

#### *Apple*

Apple is a leading hardware company with an important operating system for mobile devices, which has close to a billion users. Apple charges a commission on applications purchased in its App Store. “For app subscriptions, Apple charges a 30% commission for the first year and a 15% commission for subsequent years,”<sup>4</sup> according to the Subcommittee. “Apps are not permitted to communicate with iOS users that the app may be available for purchase at a lower price outside the App Store.”<sup>5</sup>

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<sup>2</sup> U.S. House of Representatives (2020), Investigation of Competition in Digital Markets - Majority Staff Report and Recommendations, Judiciary Committee, Subcommittee on Antitrust, Commercial, and Administrative Law, p. 174, [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf).

<sup>3</sup> Ibid., p. 175.

<sup>4</sup> Ibid., p.339

<sup>5</sup> Ibid., p. 339.

## **Facebook**

Facebook is the leading social network, with approximately 1.79 billion daily users.<sup>6</sup> The various businesses owned by Facebook (Facebook, Instagram, WhatsApp, and Messenger) had a total of 3.14 billion active monthly users in July 2020.<sup>7</sup> The firm monetizes its digital service ads.

## **Amazon**

Amazon is a multiproduct firm that offers a variety of services, most importantly retail sales and cloud services. It serves business-to-business and direct-to-consumer markets with video and music streaming, content production, cloud services, book publishing, and logistics.<sup>8</sup>

These descriptions make it clear that the business models of these companies have very different features that imply different competition policy perspectives.

### **III. Marketplaces As Two-Sided Markets**

A marketplace is a “two-sided market” where buyers and sellers meet and make transactions. Two-sided markets relate two groups of actors and are characterized by the existence of externalities between the sides (the more stores there are, the more customers they attract; the presence of more customers in a marketplace increases store profits and attracts more stores). They are also characterized by externalities within each side, as higher quality or lower prices offered by one store can attract customers for other stores.

Selling through marketplaces has various advantages. On the one hand, it enables stores to maintain control of pricing and shipping decisions. On the other hand, there are benefits for the marketplace as a whole, as it increases the variety of supply and reduces inventory costs to stores. Given that the marketplace does not establish consumer prices, the double marginalization problem is less important when final consumers are reached through the structure of the marketplace. This implies greater efficiency and benefits for final consumers, who also benefit from the increase in variety and the lower prices enabled by the greater degree of competition in larger marketplaces.

In online commerce there are various ways of reaching final consumers. A producer can sell directly to consumers, for instance, through its web page. A producer can also sell through an intermediary, in what is known as the reseller mode. Or a producer can sell its products in a marketplace where other producers also sell. The choice of how to reach the final consumer, as discussed by Vakharia, Tan, and Xu (2018), responds to considerations of efficiency and market structure.

The competition faced by online marketplaces can be important. It is related to the different ways in which products can reach final consumers. They face competition both from other online marketplaces and also from the stores that sell through the marketplace, as these generally have

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<sup>6</sup> Ibid., p. 133.

<sup>7</sup> Ibid., p.133.

<sup>8</sup> Ibid., p. 247.

websites as well as physical stores, and from other physical and web stores that sell many of the same products.

The investment needed to build a successful marketplace can be large, which, in addition to network effects, leads to online marketplaces being large. Physical or online stores that provide effective competition to the marketplace do not require such a large investment. Marketplaces thus face actual or potential competition that can discipline their pricing and other policies.

Marketplaces that provide their own products and are also used by other producers are called hybrid marketplaces. These can emerge for reasons of efficiency, as noted by Dryden, Khodjamirian, and Padilla (2020). There is an externality between stores selling in a marketplace: when a store makes better offers— better quality or greater variety—more customers visit the marketplace, and this increases the probability of selling for other stores as well. This externality is not internalized by the third parties that sell through the marketplace: they have no incentive to offer an optimal level of variety or make better offers in the marketplace. One way to internalize this externality is for the marketplace to adopt the hybrid mode.

There are several studies of competition policy and the hybrid marketplace mode (Khan 2019; Zhu and Liu 2018; Etro 2021; Hagiu, Teh, and Wright 2021) that add to the discussion of the proposal by academics and regulators to structurally separate businesses. This is an ex-ante type of regulation that is proposed for the most important online businesses. However, it is argued in the literature that not all online businesses are equivalent, that online marketplaces face different forms of competition and have other incentives than market monopolization, and there are several efficiency arguments for hybrid marketplaces.

### ***Arguments for Marketplaces from the House Judiciary Committee Subcommittee on Antitrust, Commercial, and Administrative Law***

The Subcommittee claims that Amazon's share of e-commerce is 50%. However, the same source used by the Subcommittee indicates that Amazon's share went down to 45% after the pandemic. The subcommittee argues that Amazon owes its dominance to network effects, switching costs, and economies of scale. Network effects reduce the incentives to shift to another online business, and they are reinforced by Amazon's logistics infrastructure. However, these network effects may enhance social welfare. If artificial competition is created, the final outcome might be reduced social welfare. Additionally, where online search costs for different prices are minimal, there is the possibility of multi-homing. Hoverkamp (2020) has argued that multi-homing (including online and brick-and-mortar markets) occurs frequently, which calls into question the usual differentiation by antitrust authorities between online and offline markets. The Subcommittee's argument about switching costs focuses on Amazon Prime, whose social welfare benefits have yet to be evaluated. Increasing switching costs does not mean that the program does not provide benefits. Baker (2019) argues for evaluating the net benefit.

There are additional recommendations related to Amazon's vertical integration, with some opposing this arrangement. However, there are efficiency arguments that vertically integrated marketplaces do increase social welfare (Etro 2021). In fact, we observe that the Amazon Basics division does compete with very large firms (Hoverkamp 2020). The Subcommittee points out

important information asymmetries between online businesses and their brick-and-mortar counterparts. Posner and Weyl (2019) show that there are increasing returns in data availability. This last argument means that online businesses can tailor products to consumer needs and save on promotional expenditures, which generates economies of scale in promotional costs (Baker 2019).

The Subcommittee argues that Amazon has information about third-party vendors that it can use for its own benefit. However, it is not clear that self-preferencing or imitation is socially detrimental; indeed, it may enhance welfare (Etro 2021). The Subcommittee acknowledges that Amazon provides its vendors with a series of tools that allow them to improve their selling experience. Such information includes prices from other sellers (including Amazon), exchange rates, taxes and international fees for worldwide stores, product SKUs, details, and images, consumer shopping behavior data with statistical analyses, customer reviews and purchasing information, and inventory information. Amazon's purpose in sharing this information is to improve third parties' business in its marketplace by such means as better pricing of their items, increasing their sales, and protecting their intellectual property. Yet this policy is clearly aimed at improving Amazon's network externalities, a policy that benefits both Amazon and its third-party vendors.<sup>9</sup> The Subcommittee asserts that Amazon ties its Fulfillment by Amazon program to its Prime Badge program. If Amazon logistics enjoys economies of scope and scale, the policy allows the firm to achieve productive efficiency and increases social welfare.

Arguments made by Khan about predatory behavior by Amazon are exaggerated (Khan 2017). A highly valued stock may be the result of a future expectation of a highly efficient firm, for example. Other plausible explanations can be advanced.

#### **IV. Regulatory Outlook**

This section begins with a review of the recommendations to the U.S. Congress by the House Judiciary Committee's Subcommittee on Antitrust, Commercial, and Administrative Law. These include various structural measures, bans of online businesses, and restrictions on the use of data.

The Subcommittee's proposals are a priori in nature and if implemented as proposed would leave little room to analyze the competitive situation of markets on their merits, in addition to having a bias against the role of competition in traditional business models and its disciplining effect on digital businesses. It is unlikely that they would improve the efficient functioning of markets.

Various regulatory efforts have also been made in Europe. In the case of the European Union, a Digital Markets Act (DMA) has been proposed, which aims to prevent companies with market power in digital activities, identified as gatekeepers, from imposing unfair conditions that affect effective competition in the sector. The authority intends to intervene in the digital services most used by professional and end users. Intervention would most likely be in scenarios of high concentration, reliance on a small number of large online companies that act as gatekeepers, and misuse of the power of core service providers. This proposal is complemented by the Digital Services Act (DSA),

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<sup>9</sup> See <https://sellercentral.amazon.com> and <https://sell.amazon.com/learn>. There are also YouTube videos, for example <https://www.youtube.com/watch?v=L1Xycx447To>.

which aims to protect consumers of online services and their fundamental rights, establish measures to promote transparency and accountability of online platforms, and boost innovation, growth, and competitiveness in the European market.

The United Kingdom has undertaken a major effort to create institutions to deal with online businesses. To this end, it commissioned a group of experts to produce a study, the so-called Furman Report (2019), whose conclusions were accepted in 2020 by the government. The report (2019) suggests the implementation of six strategic recommendations, of which the first is the creation of a Digital Markets Unit in charge of using tools to support greater competition and consumer choice.

Germany has implemented specific provisions to investigate and regulate online businesses, including a reform of German law regarding competition, which incorporates new rules applicable to digital markets. The law prohibits certain conduct by online businesses, adopting an a priori approach that, according to the authority, allows for rapid action to be taken with respect to dynamically evolving markets.

In general terms, European jurisdictions are concerned about the widespread presence of business models known as gatekeepers, which are potentially persistent dominant businesses. The authorities acknowledge the usefulness of traditional instruments of competition policy; however, they agree with the idea that policy instruments are not enough in an environment of rapid technological and economic change. The authorities believe it is necessary to act a priori, through innovative instruments, because traditional antitrust tools are unable to combat potentially anticompetitive behavior in a timely manner, before it has negative effects on the market. A priori actions are complemented by various means of identifying firms with certain dominant characteristics and prohibiting certain conducts that are considered harmful per se.

Adopting a per se approach and avoiding discussion and analysis of the effects of prohibitions may be counterproductive for the efficient operation of markets. In contrast with the European approach, the discussion in the U.K. allows for greater flexibility in the analysis of conduct, which should be contextualized in terms of the specific business models of the online firms. Prohibitions per se may generate different outcomes in different contexts and are likely to negatively affect consumer welfare.

## **V. Empirical Evidence Concerning Marketplaces**

To round out our discussion of the efficiency of hybrid marketplaces, we conclude this study by providing empirical evidence concerning Amazon's effects on social welfare. Despite the already mentioned antitrust concerns, online businesses have benefited consumers considerably, mainly by lowering prices and increasing the variety and quality of products. For instance, one important antitrust concern is that information may be used for self-preferencing, yet appropriate use of information has benefited consumers by guiding them towards goods they will enjoy more: this is the importance of Amazon reviews. Such information has also encouraged the development of more enjoyable goods.

In this section we survey works by Aguiar and Waldfogel (2018), Brynjolfsson, Hu, and Smith (2003), Brynjolfsson and Smith (2000), Cavallo (2017), Fan, Tang, Zhu, and Zou (2018), Goolsbee and Klenow

(2018), Reimers and Waldfogel (2021), and Zhu and Liu (2018), whose findings make evident the gains obtained from online businesses. Such businesses have lowered prices and inflation, encouraged the emergence of goods that otherwise would have not appeared, and helped consumers to discover them, which also benefits offline stores, as their special orders increase. Online businesses also provide important pre-purchase information to guide consumers, and they have decreased geographic inequality. As acknowledged by the Furman Report (2019), these are important benefits that should be considered when regulating online businesses.

We focus on the benefits to consumers, as this is the main concern addressed in the literature. But Brynjolfsson, Hu, and Smith (2003) note that there might also be important gains in producers' welfare that should be considered: for instance, the increase in sales, facilities provided by online businesses, and reductions in costs.

## **VI. Concluding Remarks**

There is a large debate at the international level about the explosive growth of online businesses. The degree of capitalization of these firms as well as allegations of monopolistic practices has put competition authorities on alert around the world. Countries have engaged in a race to ameliorate the presumable danger in the growth of these firms. However, besides anecdotal evidence, the proposed changes in some cases show a lack of understanding of the economic principles governing the operation of these firms. It is clear from our brief review of the operations of two-sided market firms that a similar approach does not fit all.

We thus propose an antitrust approach to regulating these firms that is not based on general restrictions applying to all, as proposed by the European Union. In the case of marketplaces, an allegation of imitation of third-party vendor products must be investigated on the merits. Given that vertical integration by a marketplace operator may be efficient, the best approach to control monopolization abuse is to use antitrust principles rather than to prohibit vertical operation in general when the marketplace exceeds certain thresholds.

We agree with proposals that argue for changing antitrust legislation to provide more leeway in the standard of proof for allegations of monopolization. Eliminating the predation standard from the recoupment condition may be appropriate, for example. We also think that the proposals on data interoperability and data portability may be sensible, given that the information belongs to users, if the cost of interoperability is low. We believe that it would be difficult to implement non-discriminatory access to online marketplaces, given that differentiated contracts across firms and consumers appear to be essential for the firms to achieve efficiencies.

## RESUMEN EJECUTIVO

### I. Introducción.

Existe una discusión importante en el ámbito internacional sobre la factibilidad de regular los negocios en línea. Asimismo, existe un debate sobre las herramientas antimonopolio adecuadas para que operen en beneficio de la competencia y los consumidores. Algunas de las preocupaciones se refieren a los siguientes negocios en línea: Apple, Amazon, Facebook y Google. Hoverkamp (2020) ha sugerido que estas empresas usan diferentes insumos, venden diferentes productos (aunque puede haber traslape), tratan con los usuarios de diferentes formas, la única característica común es que son muy grandes y tienen una gran proporción de su tecnología operando en el ámbito digital. Dado este enfoque sobre los negocios en línea, la posición de este documento es que no existe un enfoque regulatorio único que abarque la operación de todo tipo de negocios en línea.

Enfocamos nuestra discusión en los mercados. En primer lugar, examinamos la literatura económica sobre los mercados. Luego analizamos los argumentos presentados por el Subcomité Judicial de la Cámara de Representantes de los Estados Unidos sobre Derecho Antimonopolio, Comercial y Administrativo (el Subcomité) sobre la competencia en los negocios en línea. A continuación, discutimos brevemente las propuestas mundiales que regulan los negocios en línea. Seguimos examinando la literatura económica empírica que analiza los mercados. Concluimos con los problemas que enfrentarán las nuevas propuestas, dados los resultados de la literatura analizada.

### II. Características básicas de los principales negocios online.

#### *Google*

Google es el principal motor de búsqueda, la principal fuente de ingresos es AdWords, un servicio de publicidad en línea que vende palabras publicitarias que aparecerían en los resultados de una búsqueda.<sup>10</sup> “Aunque Google ha diversificado sus ofertas, genera la gran mayoría de su dinero a través de anuncios digitales, que representaron más del 83 % de los ingresos de Google en 2019”.

<sup>11</sup>

#### *Apple*

Apple es una empresa líder en hardware que tiene un importante sistema operativo en los dispositivos móviles. Cuenta con varios cientos de millones de usuarios (cerca de mil millones en el mundo) de su hardware y sistema operativo. Apple cobra una comisión del 30% sobre las aplicaciones que se pagan en la App Store. “Para las suscripciones de aplicaciones, Apple cobra una

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<sup>10</sup> Véase: + U.S. House of Representatives (2020), Investigation of Competition in Digital Markets - Majority Staff Report and Recommendations, Judiciary Committee's Subcommittee on Antitrust, Commercial, and Administrative Law, p. 174, [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf?utm\\_campaign=4493-519](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519)

<sup>11</sup> Ibid., p. 175.

comisión del 30 % durante el primer año y una comisión del 15 % para años posteriores. No se permite que las aplicaciones comuniquen a los usuarios de iOS que la aplicación puede estar disponible para su compra a un precio más bajo fuera de la App Store".<sup>12</sup>

### **Facebook**

Facebook es la red social líder, con un aproximado de 1.790 millones de usuarios diarios.<sup>13</sup> Si incluimos todos los negocios propiedad de Facebook (Facebook, Instagram, WhatsApp y Messenger), cuenta con 3.140 millones de usuarios activos mensuales (datos de julio de 2020). La firma monetiza sus anuncios de servicios digitales.

### **Amazon**

Es una firma multiproducto que ofrece diferentes servicios. Los principales servicios son las ventas minoristas y los servicios en la nube. Atiende mercados de empresa a empresa, mercados directos al consumidor, transmisión de video y música, producción de contenido, servicios en la nube, publicación de libros y logística.<sup>14</sup>

De la discusión en esta sección queda claro que todos los modelos de negocios tienen características de operación muy diferentes que implican diferentes perspectivas desde el punto de vista de la política de competencia.

## **III. Lugares de comercio como mercados de dos lados.**

Un lugar de comercio es un "mercado de dos lados" donde los vendedores y compradores se encuentran y realizan transacciones. Los lugares de comercios de dos lados relacionan dos grupos de clientes y se caracterizan por la existencia de externalidades entre ellos (cuantas más tiendas hay, más clientes atraen, y la presencia de más clientes en un mercado aumenta las ganancias de las tiendas y por lo tanto atrae más tiendas). Al mismo tiempo, los lugares de comercio se caracterizan por externalidades entre miembros del mismo lado dentro del lado de las tiendas, ya que más tiendas de calidad o precios más bajos establecidos por una tienda pueden atraer clientes que también compran en otras tiendas.

Vender a través de lugares de comercio tiene varias ventajas para las tiendas y los mercados. Por un lado, las tiendas mantienen el control de las decisiones de precios y envío. Por otro lado, hay beneficios para el mercado, ya que aumenta la variedad de la oferta y reduce el costo de los inventarios, en los que incurren las tiendas. Dado que el lugar de comercio no establece los precios al consumidor, el problema de la doble marginalización es menos importante cuando se llega a los consumidores finales. Esto implica más eficiencia y beneficios para los consumidores finales, que también se ven beneficiados por el aumento de la variedad y por los menores precios que implica la mayor competencia que se presenta en los lugares de comercio más grandes.

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<sup>12</sup> Véase U.S. House of Representatives (2020), p. 339.

<sup>13</sup> Ibid., p. 133.

<sup>14</sup> Ibid., p. 247.

En el comercio en línea existen varias formas de llegar a los consumidores finales. Por ejemplo, un productor puede distribuir directamente a los consumidores a través de su página web. El productor también puede vender a través de un intermediario (esto se conoce como modelo de revendedor). Por otro lado, el productor puede vender sus productos en un lugar de comercio donde venden otros productores. La elección del modo de llegar al consumidor final, como comentan Vakharia, Tan y Xu (2018), responde a consideraciones de eficiencia y estructura de mercado.

La competencia que enfrentan los mercados en línea puede ser importante. Las fuerzas de competencia que enfrentan los mercados en línea están relacionadas con las diferentes formas en que los productos pueden llegar a los consumidores finales. Por un lado, se enfrentan a la competencia de otros mercados en línea. Por otro lado, enfrentan la competencia de las tiendas que venden a través del mismo lugar de comercio, ya que generalmente tienen páginas web además de tiendas físicas, y de otras tiendas físicas y web que venden muchos de los productos.

Las inversiones necesarias para construir un lugar de comercio exitoso pueden ser grandes y esto, sumado a los efectos de red, conduciría a grandes lugares de comercio en línea. Sin embargo, abrir tiendas físicas o en línea, que brinden competencia efectiva al lugar de comercio, no requiere una inversión tan grande. Por lo tanto, los lugares de comercio se enfrentan a una competencia real o potencial que puede disciplinar sus precios y otras políticas.

Los lugares de comercio que utilizan otros productores y ofrecen sus propios productos se denominan lugares de comercio híbridos. Los lugares de comercio híbridos pueden aparecer por razones de eficiencia, como señalan Dryden, Khodjamirian y Padilla (2020). Existe una externalidad entre las tiendas que venden en un lugar de comercio. Cuando una tienda coloca mejores ofertas, una mejor calidad o más variedades, más clientes visitan el mercado, y esto aumenta la probabilidad de vender también para otras tiendas. Esta externalidad no es internalizada por las tiendas que actúan como vendedores externos que venden a través del lugar de comercio, ya que no tienen el incentivo para ofrecer, en el lugar de comercio, el nivel óptimo de variedades o colocar las mejores ofertas. Una solución para la internalización de esta externalidad es la adopción del modelo híbrido por parte del lugar de comercio.

Examinamos varios artículos sobre la política de competencia y los lugares de comercio híbridos (ver Khan, 2019, Zhu y Liu, 2018, Etro 2021, Hagiú, Teh y Wright, 2021). Está también la discusión de la propuesta hecha por algunos académicos y reguladores de separación estructural de empresas. Este es un tipo de regulación ex-ante que se propone aplicar a los negocios en línea más importantes. Sin embargo, en la literatura se argumenta que no todos los negocios en línea son equivalentes, que los mercados en línea enfrentan diferentes formas de competencia y tienen incentivos diferentes a la monopolización del mercado, existen varios argumentos de eficiencia que sustentan la aparición de lugares de comercio híbridos.

### ***Argumentos del Subcomité sobre Derecho Antimonopolio Comercial y Administrativo sobre Lugares de Comercio***

Con respecto a Amazon, el subcomité argumenta que la participación de Amazon en el comercio electrónico es del 50 %. Sin embargo, la misma fuente indica un 45 % después de la pandemia (otra fecha). El subcomité argumenta que los factores que conducen al dominio de Amazon son los

efectos de red, los costos de cambio y las economías de escala. Los efectos de red reducen los incentivos para cambiar a otro negocio en línea. Los efectos de red se ven reforzados por la infraestructura logística de Amazon. Sin embargo, los efectos de red son características de estos negocios en línea y pueden mejorar el bienestar social. Si se crea una competencia artificial, el resultado final podría ser una reducción del bienestar social. Adicionalmente, existe la posibilidad de acceder a diversos mercados en línea (multihoming). Los costos de búsqueda en línea para encontrar precios menores son muy bajos. La literatura (Hoverkamp 2020) ha argumentado que el acceso a diversos mercados (incluidos los mercados en línea y tiendas físicas) ocurre con frecuencia. Este argumento pone en tela de juicio el procedimiento habitual de las autoridades antimonopolio que segmenta entre los mercados en línea y fuera de línea. Con respecto a los costos de cambio, el subcomité discute sobre Amazon Prime. Sin embargo, los beneficios de bienestar de este programa aún deben evaluarse. El aumento de los costos de cambio no significa que el programa no brinde beneficios (Baker 2019 argumenta a favor de evaluar el beneficio neto).

Hay recomendaciones adicionales relacionadas al tema de que Amazon opere verticalmente integrada. Hay algunas sugerencias de que la empresa no debería operar verticalmente integrada. Sin embargo, existen argumentos de eficiencia que muestran que los lugares de comercio integrados verticalmente aumentan el bienestar social (Etro 2021). De hecho, observamos que la división Amazon Basics sí compite con firmas muy grandes (Hoverkamp 2020). El subcomité señala que existen importantes asimetrías de información entre los negocios en línea y las tiendas físicas. Posner y Weyl 2019 muestran que hay rendimientos crecientes en la disponibilidad de datos. Este último argumento significa que las empresas en línea pueden adaptar los productos a las necesidades del consumidor y ahorrar en gastos de promoción. Este hecho genera economías de escala en costos promocionales (Baker 2019).

El subcomité argumenta que Amazon tiene información sobre proveedores externos que Amazon puede utilizar para su propio beneficio. Sin embargo, no está claro que la autopreferencia o la imitación sean socialmente perjudiciales, pueden mejorar el bienestar (Etro 2021). El subcomité reconoce que Amazon proporciona a sus proveedores una serie de herramientas que les permiten mejorar su experiencia de venta. Dicha información incluye: precios de otros vendedores (incluido Amazon), tipos de cambio, impuestos y tarifas internacionales para las tiendas en todo el mundo, SKU del producto, detalles e imágenes, datos de comportamiento de compra del consumidor con análisis estadísticos, reseñas de clientes e información de compra, información de inventario, etc. El propósito de Amazon de compartir esta información es mejorar los negocios de terceros en su mercado al fijar mejor el precio de sus artículos, aumentar sus ventas, proteger su propiedad intelectual, entre otros beneficios. Sin embargo, esta política está claramente dirigida a mejorar las externalidades de red que experimenta la empresa, una política que beneficia tanto a Amazon como a los proveedores externos.<sup>15</sup> El Subcomité afirma que Amazon vincula su programa de cumplimiento por parte de Amazon a su programa Prime Badge. Si la logística de Amazon disfruta de economías de alcance y escala, la política permite que la empresa logre eficiencia productiva y aumente el bienestar social.

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<sup>15</sup> Véase: <https://sellercentral.amazon.com>. También: <https://sell.amazon.com/learn>. También hay videos en YouTube, por ejemplo: <https://www.youtube.com/watch?v=L1Xycx447To>.

Los argumentos sobre el comportamiento depredador de Amazon son bastante atrevidos (Khan 2017). Las razones para una acción altamente valorada pueden provenir de la expectativa de una empresa bastante eficiente en el futuro, por ejemplo. Se pueden adelantar otras explicaciones plausibles.

#### **IV. Perspectiva regulatoria.**

La sección empieza revisando las recomendaciones del Subcomité sobre Derecho Antimonopolio, Comercial y Administrativo del Comité Judicial del Congreso de los Estados Unidos. Estos incluyen varias medidas estructurales, prohibiciones para negocios en línea y restricciones en el uso de datos.

Las propuestas del subcomité son de carácter a priori y de implementarse como se proponen dejarían poco espacio para analizar la situación competitiva de los mercados en función de sus méritos, además de tener el sesgo de evadir el papel de la competencia de los modelos de negocios tradicionales y su efecto disciplinador en los mercados digitales. Además, es probable que no mejore el funcionamiento de los mercados.

También se han realizado varios esfuerzos regulatorios en Europa. En el caso de la Unión Europea, se ha emitido una propuesta de Ley de Mercados Digitales (DMA, por sus siglas en inglés), que tiene como objetivo evitar que las empresas con poder de mercado en actividades digitales, identificadas como *gatekeepers*, impongan condiciones injustas que afecten la competencia efectiva en el sector. La autoridad pretende intervenir en los servicios digitales que son más utilizados por usuarios profesionales y usuarios finales. La intervención sería más probable en escenarios de alta concentración; la dependencia de un pequeño número de grandes empresas en línea que actúan como *gatekeepers* (guardianes); y el mal uso del poder de los proveedores de servicios básicos.

Esta propuesta se complementa con la Ley de Servicios Digitales (DSA, por sus siglas en inglés), que tiene como objetivo proteger a los consumidores de servicios en línea y sus derechos fundamentales, establecer medidas para promover la transparencia y responsabilidad de las plataformas en línea e impulsar la innovación, el crecimiento y la competitividad en el mercado europeo.

Gran Bretaña ha emprendido un gran esfuerzo para crear instituciones que se ocupen de los negocios en línea. Para ello, encargaron a un grupo de expertos la elaboración de un estudio, el denominado Informe Furman (2019), cuyas conclusiones fueron aceptadas en 2020 por el gobierno británico. El Informe Furman (2019) sugiere la implementación de 6 recomendaciones estratégicas, de las cuales la primera es la creación de una Unidad de Mercados Digitales, encargada de utilizar herramientas para apoyar una mayor competencia y permitir una mejor elección del consumidor.

Alemania ha implementado disposiciones específicas para investigar y regular los negocios en línea. Entre ellas se incluye una reforma de la ley de competencia alemana, que incorpora nuevas reglas aplicables a los mercados digitales. La ley de competencia prohíbe diversas conductas de los negocios en línea, con el fin de adoptar un enfoque “a priori” que, según la autoridad, permita actuar con rapidez respecto de mercados que tienen una evolución dinámica.

En términos generales, las jurisdicciones europeas están preocupadas por la presencia generalizada de determinados modelos de negocio conocidos como *gatekeepers*, que podrían representar posiciones dominantes persistentes. Las autoridades reconocen la utilidad de los instrumentos tradicionales de política de competencia; sin embargo, están de acuerdo con la idea de que los instrumentos de política no son suficientes en un entorno de rápido cambio tecnológico y económico. El enfoque de las distintas autoridades es que es necesario actuar a priori, a través de instrumentos innovadores, debido a la incapacidad de las herramientas antimonopolio tradicionales para combatir conductas potencialmente anticompetitivas de manera oportuna, antes de que se produzcan los efectos negativos en el mercado. Las actuaciones a priori se complementan con diversos planteamientos para identificar como dominantes a empresas con determinadas características y prohibir determinadas conductas que se consideran nocivas per se.

Adoptar un enfoque per se y evitar la discusión y análisis de los efectos de algunas prohibiciones puede resultar contraproducente para el funcionamiento eficiente de los mercados. En este sentido, la discusión en el Reino Unido permite una mayor flexibilidad en el análisis de las conductas, que deben contextualizarse en función del modelo de negocio específico de las empresas de negocios en línea. Las prohibiciones per se pueden generar diferentes resultados en diferentes contextos y es probable que afecten negativamente el bienestar del consumidor.

## **V. Evidencia Empírica sobre Lugares de Comercio.**

Para redondear nuestra discusión sobre la eficiencia de los lugares de comercio híbridos, finalizamos este estudio proporcionando evidencia empírica sobre los efectos que Amazon ha tenido en el bienestar social. A pesar de las preocupaciones antimonopolio discutidas anteriormente, los lugares de comercio en línea han beneficiado considerablemente a los consumidores. Esto ha ocurrido al reducir los precios y aumentar la variedad y calidad de los productos. Por ejemplo, una preocupación antimonopolio importante es que la información puede usarse para que el lugar de comercio se favorezca a sí mismo. Sin embargo, un uso adecuado de la información ha beneficiado a los consumidores al guiarlos hacia productos que disfrutarán más, esta es la importancia de las reseñas disponibles en Amazon. Además, dicha información ha fomentado el desarrollo de bienes que satisfacen mejor a los consumidores.

En esta sección repasamos trabajos de Aguiar y Waldfogel (2018), Brynjolfsson, Hu y Smith (2003), Brynjolfsson y Smith (2000), Cavallo (2017), Fan, Tang, Zhu y Zou (2018), Goolsbee y Klenow (2018), Reimers y Waldfogel (2021), y Zhu y Liu (2018), cuyos hallazgos evidencian las ganancias en bienestar que se obtienen de los negocios en línea. Tales negocios han bajado los precios y la inflación, fomentado la aparición de bienes que de otro modo no habrían aparecido y ayudado a los consumidores a descubrirlos, lo que también beneficia a las tiendas físicas a medida que aumentan sus pedidos especiales. Además, los negocios en línea brindan información importante previa a la compra para guiar a los consumidores y han reducido la desigualdad espacial. Como reconoce el Informe Furman (2019), estos son beneficios importantes que deben tenerse en cuenta al pretender regular los negocios en línea.

Nos enfocamos en los beneficios para los consumidores, ya que esta es la principal preocupación abordada en la literatura. Como lo señalan Brynjolfsson, Hu y Smith (2003), también podría haber

ganancias importantes en el bienestar de los productores que deberían considerarse, por ejemplo, el aumento de las ventas, las facilidades que brindan los negocios en línea y la reducción de costos.

## **VI. Observaciones finales.**

Existe un gran debate a nivel internacional sobre el crecimiento explosivo de los negocios en línea. El grado de capitalización que muestran estas firmas así como las denuncias de prácticas de monopolización han alertado a las autoridades de competencia de todo el mundo. Los países se han embarcado en una carrera por legislar para paliar el presumible peligro que puede entrañar el crecimiento de estas empresas. Sin embargo, además de la evidencia anecdótica, los cambios propuestos muestran, en algunos casos, una falta de comprensión de los principios económicos que rigen la operación de estas empresas. Después de la breve revisión de las operaciones de las empresas de lugares de comercio de dos lados, no está claro que un marco similar sirva para todos.

Debido a estas preocupaciones, proponemos un enfoque antimonopolio para regular estas empresas, no proponemos restricciones generales sobre las operaciones de todas ellas, como las propuestas por la Unión Europea. En el caso de los lugares de comercio, una acusación de imitación de productos de terceros debe investigarse en cuanto al fondo. Dado que la integración vertical por parte de un operador del lugar de comercio puede ser eficiente, el mejor enfoque para controlar los abusos de monopolización es utilizar los Principios Antimonopolio y no prohibir la operación vertical en general si el Mercado supera ciertos umbrales.

Estamos de acuerdo con las propuestas que argumentan a favor de cambiar la legislación antimonopolio para dar más espacio al estándar de prueba para las acusaciones de monopolización. En este sentido, por ejemplo, puede ser apropiado no requerir la condición de recuperación de beneficios para mostrar depredación. También pensamos que las propuestas sobre interoperabilidad de datos y portabilidad de datos pueden ser propuestas sensatas, dado que la información pertenece a los usuarios y si la interoperabilidad es de bajo costo. En cuanto al acceso no discriminatorio a los lugares de comercio en línea, creemos que es difícil de implementar, dado que la discriminación (contratos diferenciados ofrecidos) entre empresas y consumidores parece ser esencial para que las empresas logren eficiencias.

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## I. Introduction

There is an important international discussion on the feasibility of regulating online businesses and the right antitrust tools to benefit consumers and competition. As Shapiro (2019) notes: “The most talked-about antitrust question of the day is whether and how antitrust should act to limit the economic power of the largest tech firms, often identified as Amazon, Apple, Facebook, and Google. Should they be broken up? Forced to modify their business practices and pay fines for their past sins? Watched carefully? Left alone and applauded?”<sup>16</sup> He argues that before breaking up a company we must analyze “whether that company has engaged in practices that go beyond competition on the merits and are likely to (1) exclude its rivals and fortify its market position or (2) extend its power to adjacent markets. If so, a remedy is needed to restore competition.”<sup>17</sup> However, to “talk of breaking up the tech titans without reference to a specific antitrust violation is putting a very large cart before the horse.”<sup>18</sup>

A proper discussion of these issues requires a definition of what policy makers, academics, and others mean when they talk about “online businesses.” A useful definition is that they are a type of business that uses information and communication technologies to facilitate interactions (including commercial transactions) between users, with collection and use of data about these interactions. Such businesses are often associated with network effects which make businesses with users on one side (e.g., buyers) most valuable to users on the other side (e.g., sellers).<sup>19</sup> The definition includes various features relevant to online businesses. First, there are different types of users that interact through these businesses (for example, Amazon facilitates the interaction of buyers and sellers). Second, there are network effects. If more consumers use the Amazon store, leading to a wider variety of goods, there are “indirect” network effects: the larger the number of sellers (through the store), the greater the benefit for consumers. Other online businesses experience “direct” network effects when larger numbers of users benefit other users on the same side (e.g., social media or video conferencing software, where a larger number of users means it is

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<sup>16</sup> Shapiro (2019), “Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets,” *Journal of Economic Perspectives*, Volume 33, Number 3, Summer 2019, p. 79. <https://faculty.haas.berkeley.edu/shapiro/protectingcompetition.pdf>.

<sup>17</sup> *Ibid.*, p. 80.

<sup>18</sup> *Idem.*

<sup>19</sup> Furman Report (2019), *Unlocking Digital Competition*, Report of the Digital Competition Expert Panel, pp. 21-22.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/785547/unlocking\\_digital\\_competition\\_furman\\_review\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf).

better for other users). In sum, an online business is a multisided entity in which the users on different sides have direct and indirect network effects on other users, and the pricing structure attempts to optimize these effects with the aim of maximizing profit.

As the quotation from Shapiro (2019) indicates, the concern about abusive competitive practices is oriented toward the largest online businesses: Apple, Amazon, Facebook, and Google. However, each of these firms has a different way of doing business and satisfies different user needs. As Hovenkamp (2020) notes: “They have different inputs. While there is some overlap, they sell different products, only some of which are digital. They deal with various third parties including customers in different ways. What they have in common is that they are very large and that a sizeable portion of their operating technology is digital.”<sup>20</sup> It is thus difficult to generalize and formulate a regulatory model that applies to all four of these businesses. An approach more focused on each individual model is desirable.

In this paper we analyze the best antitrust rules to monitor the competition process in online businesses, and also the best deterrents, and we discuss the new proposals in various countries to regulate them. We focus the discussion on marketplaces. First, we discuss the economic definition of a marketplace. We then discuss the analytics of marketplaces and the results in the economic literature regarding the efficient operation of marketplaces, as well as their impact on competition. We then analyze the arguments presented by the U.S. House of Representatives Subcommittee on Antitrust, Commercial, and Administrative Law on competition in online businesses. We follow these analyses with a discussion of the proposals in the major countries that regulate competition with respect to online businesses, and we present empirical evidence of the impact of marketplace operation on the efficient operation of the economy. We conclude with a discussion of the problems these proposals will face in light of the analytical and empirical evidence from the literature.

## **II. Basic Characteristics of the Major Online Businesses**

One problem in the analysis of online businesses is the difficulty of identifying common characteristics that allow the design of analytical frameworks applicable to different business models. In some ways, every business has unique characteristics, which must be identified and analyzed to determine whether it engages in conduct that could affect competition and whether there are operational alternatives that preserve efficiencies and

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<sup>20</sup> Hovenkamp, H. J. (2020), “Antitrust and Platform Monopoly,” Faculty Scholarship at Penn Law, p. 4, [https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3194&context=faculty\\_scholarship](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3194&context=faculty_scholarship).

avoid unnecessary disruption to consumers and the market. For this reason, in the next section we review the characteristics of the major online businesses.

## **Google**

Google is the leading search engine. It pioneered a new algorithm called PageRank that ranked searches according to the number of web pages linked to any given web page. The algorithm gave Google a technological advantage and by 2000 it had become the most-used search engine.<sup>21</sup> In 2000 Google introduced AdWords, an online advertising service that sells ad words that appear in search results.<sup>22</sup> The usual method for allocating slots in this kind of advertisement is through real time bidding. “Although Google has diversified its offerings, it generates the vast majority of its money through digital ads, which accounted for over 83% of Google’s revenues in 2019.”<sup>23</sup> The information that Google gathers from users (through searches) allows it to target the advertising. It gives the search service for free, and in exchange it uses the user information it gathers to target advertising. “The vast data sets collected by Google, Facebook and others as a by-product of their core business functions became a crucial source of revenue and competitive advantage.”<sup>24</sup>

The model has evolved to use artificial intelligence (AI) and machine learning (ML) models to analyze data and use them for commercial purposes. Varian (2018) has advocated for the emergence of ML vendors such as Google that can sell access to a processed database or can sell the processing of large data.<sup>25</sup> He argues that the marginal value of additional information (additional users) is almost zero, since large amounts of data are being used, so that it makes sense to provide free searches in exchange for data. This model of operation has been called into question on efficiency grounds by Posner and Weyl (2018). They argue that ML is not adequately described by classical statistical analysis, in which as the sample size grows, additional information has almost zero value. With artificial intelligence, however, this assumption may not hold: simpler problems in ML may have low

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<sup>21</sup> U.S. House of Representatives (2020), Investigation of Competition in Digital Markets - Majority Staff Report and Recommendations, Judiciary Committee's Subcommittee on Antitrust, Commercial, and Administrative Law, p. 174, [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf?utm\\_campaign=4493-519](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519)

<sup>22</sup> Idem.

<sup>23</sup> Ibid., p. 175.

<sup>24</sup> Posner, E.A. and E. G. Weyl (2018), *Radical Markets: Uprooting Capitalism and Democracy for a Just Society*, Princeton University Press.

<sup>25</sup> Varian, H. (2018), “Artificial Intelligence, Economics and Industrial Organization,” Work Paper 24389, National Bureau of Economic Research, <http://www.nber.org/papers/w24389>.

marginal cost, but more complex problems may need far more information, and the marginal value of the more complex problem may be very large indeed. Following this reasoning, it is not clear that a model in which the user gets a payment of zero in exchange for additional information may have the right incentives on the margin. Indeed, according to Posner and Weyl (2018), “this arrangement is far from optimal,”<sup>26</sup> because users are not being paid the marginal value of their contribution, and those that can provide more value do not enter the online business. In sum, the exchange of free search services for data may not be optimal for the generation of socially valuable information and processing.

### **Apple**

Apple is a leading hardware company with an important operating system for mobile devices. It has close to a billion users. The Subcommittee argues that this leading position allows the firm to control the App Store for its devices, and accuses it of misappropriation of information for applications that compete with its own. The Subcommittee also argues that Apple overcharges application developers for their access to the App Store. “For app subscriptions,” it notes, “Apple charges a 30% commission for the first year and a 15% commission for subsequent years. Apps are not permitted to communicate with iOS users that the app may be available for purchase at a lower price outside the App Store, provide links outside of the app that may lead users to find alternative subscription and payment methods, or offer their own payment processing mechanism in the app to avoid using Apple’s IAP. Apps that violate Apple’s policies can be removed from the App Store, losing access to the only means of distributing apps to consumers with iOS devices.”<sup>27</sup> The Subcommittee reports that other application stores, from Microsoft, Amazon, and Apple’s own operating system for Mac computers, allow for downloading of applications from the websites of application developers. In other words, other application stores allow for bypass in order to get the applications.

The Subcommittee also maintains that simple search results for common words in the App Store will always favor Apple’s applications. In 2018, a search for music in the App Store put Spotify (the largest music streaming provider in the world) in 23rd place.<sup>28</sup> There are also allegations that the App Store uses sensitive information about third-party apps to develop their own competing apps.

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<sup>26</sup> Posner and Weyl (2018), p. 231.

<sup>27</sup> U.S. House of Representatives (2020), p. 339.

<sup>28</sup> *Ibid.*, p. 359.

## **Facebook**

Facebook is the leading social network, with approximately 1.79 billion daily users.<sup>29</sup> The various businesses owned by Facebook (Facebook, Instagram, WhatsApp and Messenger), had 3.14 billion active monthly users in July 2020. That month, according to the Subcommittee, “the United Kingdom’s Competition and Markets Authority (CMA) found that Facebook is dominant in the markets for social networks and digital display ads, and that its market power ‘derives in large part from strong network effects stemming from its large network of connected users and the limited interoperability it allows to other social media platforms.’”<sup>30</sup> This idea of market power dominance is in contrast with Facebook’s own view that it competes with a wide variety of other platforms for the attention of users with limited time. In this context any content provider is a potential competitor with Facebook: gaming platforms, YouTube, Snapchat, and almost any other platform are competition for users’ attention.

However, the Subcommittee argues that there are barriers to entry that impede competition with Facebook. Among these are network effects, high switching costs, and data advantages. It argues that most of Facebook’s applications have reached a tipping point with network effects. Facebook is the social network used by most people: if they want to have network interactions, they can only do so through Facebook. It is too costly to interact with people through other networks: people are not signed up with them, and the amount of information saved in the network is too large to transfer. This last point is related to switching costs. The Subcommittee argues that it is very difficult to migrate photos, texts, and other information generated over time to other networks unless there is interoperability, and that Facebook has data advantages, given its larger number of users. Its access to a larger database allows Facebook to profile its users and provide them with access to the information they want. This in turn attracts more information about these users, which allows Facebook to better profile them. Smaller social networks are at a disadvantage. The Subcommittee also argues that Facebook has acquired potential competitors with its social network, as in the case of Instagram, which could compete with Facebook, and WhatsApp, which could compete with Messenger.

Facebook’s main source of income is digital advertising. The profiling information that Facebook acquires from its network users allows it to target specific advertising to them. This unique feature is highly attractive to advertisers.

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<sup>29</sup> Ibid., p. 133.

<sup>30</sup> Ibid., p. 134.

## **Amazon**

Amazon is a firm that offers a variety of products. The main services are retail sales and cloud services, serving business-to-business and direct-to-consumer markets, video and music streaming, content production, cloud services, book publishing, and logistics.<sup>31</sup> Amazon has two main channels for sales in its marketplace. First, it sources products from vendors or manufactures its own brands and sells them in the marketplace. Second, it allows third parties to sell their products through the Amazon Marketplace, in which vendors sell their products to consumers using Amazon's website. According to the Subcommittee, Amazon has approximately 2.3 million third-party sellers worldwide in the Amazon Marketplace. The Subcommittee also argues that about 37% of these third-party sellers sell exclusively through Amazon Marketplace. However, this figure is contested by other sources. According to a report by Data Catalyst, "a whopping 87% of SMB [small and medium business] sellers on Amazon's online marketplace also sell on at least one other online marketplace."<sup>32</sup> A single product may be offered by different third-party sellers (and by Amazon). For any given product, while all sellers are able to sell to customers through their "stores," Amazon may provide customers with a Featured Offer that represents a particularly good deal for the customer. Amazon selects the Featured Offer with an algorithm that predicts the choice the consumer would make based on a comparison of offers. Amazon competes with brick-and-mortar stores and other online outlets for most of their products.<sup>33</sup> There are other online services that compare prices between online stores, such as [shopping.google.com](http://shopping.google.com), which reports the prices of a given product from different online outlets.

Amazon also offers logistics services to third-party sellers, who can choose among various options. One option is for the third-party seller to handle delivery itself. Another is to use Amazon Logistics to fulfill the order. There is also an option in which Amazon fulfills the order under the terms of Amazon Prime, where delivery is free to the customer. According to the Subcommittee, a third-party seller incurs various charges if it sells a product through Amazon's platform: it may pay a monthly subscription fee, a high-volume fee, a referral fee, and a closing fee for each item sold. If the seller chooses to use Amazon Logistics there are additional fees, and there are advertising fees as well. Independent vendors also have access to Amazon's database so that they can improve their pricing and selection. The Subcommittee's claims about Amazon are discussed in a separate section.

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<sup>31</sup> *Ibid.*, p. 247.

<sup>32</sup> <https://datacatalyst.org/wp-content/uploads/2021/12/DCI-Super-Sellers-FINAL-V2-Oct-2021.pdf>.

<sup>33</sup> Hovenkamp, *op. cit.*

## **Remarks**

It is clear from these descriptions that all of these companies have different business models, with distinctive operational features that imply different perspectives on competition policy.

For example, in the search engine industry there is a clear technological advantage for Google, which has increasing returns in data gathering. It is not clear how this advantage could be reduced through competition policy. Multi-homing is possible, but given the technological advantage of Google's search engine, people may not wish to multi-home.

Apple is trying to exploit its leadership in the hardware industry to obtain an advantage in a related market, the applications industry. Multi-homing is not possible if the user has an iOS operating device: it requires the acquisition of hardware with another operating system.

Facebook is a social network with network externalities, in which multi-homing would be difficult. The quantity of information stored in the network by each user increases switching costs. There are also technical barriers that prevent users of one social network from interacting with those of another, because there is no interoperability.

Amazon has economies of scale and scope. It sells products to consumers and competes with brick-and-mortar stores. The possibility of multi-homing with other online stores and physical stores is great, and many brick-and-mortar stores have online outlets. There are also price comparison devices that allow consumers to compare prices among online sellers. Switching costs are minimal and multi-homing is always a possibility. In fact, studies by consulting firms show that consumers are shopping both online and in physical stores.<sup>34</sup>

This brief review of these online businesses makes it clear that their business models are qualitatively distinct. It is therefore not possible to regulate all of them with the same strategies and tools, if indeed regulation is necessary. The inputs used and the goods and services sold are distinct, and the interaction with users is different. We do not believe that all of these business models can be analyzed within the same framework. We thus turn our attention to online marketplaces, which have operational features that distinguish them from other online business.<sup>35</sup>

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<sup>34</sup> <https://www.deloittedigital.com/content/dam/deloittedigital/us/documents/offerings/offerings-20220125-insightiq-ccia-consumer-preferences-embrace-a-mix-of-physical-and-digital.pdf>.

<sup>35</sup> In the final part of this paper we review the proposals advanced by the United Kingdom, the European Union, and Germany to regulate these types of businesses.

### **III. Marketplaces As Two-Sided Markets**

A marketplace is often described as a “two-sided market” where buyers and sellers meet and make transactions. There were marketplaces publicly organized in almost all ancient cities, where the state provided a place with security for buyers and sellers to meet and trade, generally charging sellers a fee. In Mexico, one of the important places in pre-Hispanic cities was the market, where food and other commodities were exchanged. In modern times, there are private shopping centers or malls, where a developer provides space for stores and facilitates in a variety of ways, such as providing parking and security, customers’ visits and purchases in the stores.

Two-sided markets relate two groups of actors and are characterized by the existence of externalities between the two sides.<sup>36</sup> In fact, one of the roles of the two-sided market is to internalize those externalities through its pricing policy. The more stores there are in a marketplace, the more customers they attract, and the presence of more customers in a marketplace increases the stores’ profits and attracts more stores. They are also characterized by externalities within each side, as higher quality or lower prices offered by one store can attract customers from other stores. Traditional commercial malls generally face congestion externalities (in limits on parking, for example) that limit their size. Technology has now facilitated the existence of online businesses that can be much larger than traditional malls, in the sense of having more stores serving more customers; they are less subject to congestion and serve their customers online. However, in these two-sided markets there are also important externalities between and within sides.

#### ***Online Businesses and Marketplaces***

Online businesses have various ways of reaching final consumers. A producer can distribute directly to consumers through its web page. It can also sell through an intermediary (in what is known as the reseller mode). Many marketplaces began as intermediaries that sold other manufacturers’ products, charging them a commission or fee. A producer can also sell its products in a marketplace where other producers sell. Nowadays, various marketplaces that were traditionally intermediaries are used by other producers but also sell their own products. These are called dual or hybrid marketplaces.

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<sup>36</sup> According to Rochet and Tirole (2006), “two-sided (or, more generally, multi-sided) markets are roughly defined as markets in which one or several platforms enable interactions between end-users and try to get the two (or multiple) sides ‘on board’ by appropriately charging each side” (p. 645). More specifically, a two-sided market is one “in which the volume of transactions between end-users depends on the structure and not only on the overall levels of the fees charged by the platform” (p. 646). Rochet, J. C., & Tirole, J. (2006), “Two-sided Markets: A Progress Report,” *The RAND Journal of Economics*, 37(3), pp. 645-646.

Selling through marketplaces has various advantages. On the one hand, stores maintain control of pricing and shipping decisions. On the other hand, there are benefits for the marketplace as a whole, as it increases the variety of supply and reduces the inventory cost to stores. The increase in variety increases the attractiveness of the marketplace. The marketplace charges fees for facilitating transactions but has no direct stake in those transactions. These fees are important: according to data quoted in Khan (2019), merchants' sales through Amazon Marketplace are around 68% of Amazon's total sales and in 2018 generated \$42.75 billion in service fees.<sup>37</sup> Given that the marketplace does not establish consumer prices, the double marginalization problem is less important when final consumers are reached through the structure of the marketplace. This implies greater efficiency and benefits for final consumers, who also benefit from the increase in variety and the lower prices enabled by the greater degree of competition in larger marketplaces.

### **Hybrid Marketplaces**

As already noted, marketplaces that are used to provide a company's own products and are also used by other producers are called hybrid marketplaces.

Tian, Vakharia, Tan, and Xu (2018) analyze decisions about online business models in various schemes:<sup>38</sup> the reseller, the marketplace, and the hybrid marketplace modes. They find that the marketplace mode mitigates the double-marginalization problem and benefits both the intermediary and suppliers through a revenue sharing scheme, though upstream competition between suppliers can affect this possibility. They relate the optimal mode of intermediary to the interaction of order-fulfillment costs and upstream competition intensity. They find that when order fulfillment costs are high and supplier product offerings are similar, the pure reseller mode is the optimal one; when order-fulfillment costs are small and the supplier product offerings are highly differentiated, the pure marketplace mode is preferred, and when order-fulfillment costs are moderate and suppliers' products are somewhat similar the hybrid mode is chosen. Their results imply that the choice of the intermediary mode responds to efficiency and market structure considerations.

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<sup>37</sup> Khan, Lina (2019), "The Separation of Platforms and Commerce," *Columbia Law Review*, Vol. 119, No. 4, p. 987.

[https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=3794&context=faculty\\_scholarship](https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=3794&context=faculty_scholarship)

<sup>38</sup> Tian, L., Vakharia, A. J., Tan, Y., & Xu, Y. (2018), "Marketplace, Reseller, or Hybrid: Strategic Analysis of an Emerging E-commerce Model," *Production and Operations Management*, 27(8), pp. 1595-1610, <https://www.yrtan.com/Publications/2018%20POMS%20Marketplace.pdf>

### ***Hybrid Marketplaces and Competition Policy***

Hybrid marketplaces have attracted the attention of academic researchers and regulatory authorities in various countries. These claim that if online businesses have enough market power, they can favor their own products or service providers, putting their competitors at a disadvantage. They consider hybrid marketplaces to be formally equivalent to other online businesses, without making any distinctions. However, we will argue below that hybrid marketplaces face different types of competition that can be stronger than those with other online businesses.

Some regulators and researchers claim that marketplaces' choice of the reseller model has the objective of "free riding" on other stores' efforts and using third-party sellers' knowledge of the market and their business model through their control of the platform information collection process. In fact, according to Khan (2019), Amazon implements policies that privilege its own products as seller, which gives it power over brands and pricing, and it uses its marketplace to appropriate business information from merchants.

As we discuss below in greater detail, Zhu and Liu (2018) analyze Amazon's entry into the sale of products sold by stores in its marketplace. They find evidence for a correlation between this entry and positive customer ratings and popularity of the products, and with a reduction in shipping costs and increased demand.<sup>39</sup>

In line with Zhu and Liu (2018), Etro (2021)<sup>40</sup> shows that with competitive sellers, Amazon is more likely to enter the market with a private label or as a first-party retailer when the product has limited added value and the demand is highly elastic, so that more products can potentially be sold at a lower price. Amazon enters when third-party sellers have higher shipping costs or lower conversion rates, and leaves expensive "long tail" and niche products to be sold by third parties. Amazon's entry with a private label or as a first-party retailer is socially efficient, in the sense that it maximizes consumer surplus, for a family of preferences including linear, log-linear, and isoelastic demand. In other words, Amazon's entry decisions are aligned with consumer interests for many common specifications of the demand function.

This efficiency result prevails when there is competition for customers, and commissions and prices are reduced, but when third-party sellers have market power, it breaks down. Market power disincentivizes first-party retail by Amazon and incentivizes private label

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<sup>39</sup> Zhu, F., & Liu, Q. (2018), "Competing with Complementors: An Empirical look at Amazon. com." *Strategic Management Journal*, 39(10), pp. 2618-2642.

<sup>40</sup> Etro, F. (2021), "Product Selection in Online Marketplaces," *Journal of Economics & Management Strategy*, pp. 1-24, <https://doi.org/10.1111/jems.12428>.

products, as the latter avoid the double marginalization generated by the commissions and large markups of third-party sellers. In any case, whether Amazon sells private label products or serves as a first-party retailer, its entry is insufficient to maximize consumer surplus. Consumers benefit from Amazon's entry as it lowers prices, but market power reduces its profits and there is thus underprovision.<sup>41</sup>

There are two major reasons why Amazon's entry may lead to unfair competition. First, Amazon has access to detailed information from sellers regarding demand, prices, consumer searches, and reasons for returns that it may use opportunistically to enter a product space or copy the product, which may deter third parties' investment and entry, including product development. Second, the platform may guide consumers towards purchase of its own products rather than those of other sellers, a practice known as self-preferencing. According to Etro (2021), although banning copycat activity would foster innovation, consumers would be harmed, as they benefit more from the lower prices available with Amazon's entry. The negative effects on investment are more serious in offline business than in the online marketplace.

One of the proposals to avoid conflicts of interest that could be exploited to increase dominance over other users is a structural separation that prohibits a business from entering its users' markets. Khan (2019) is one advocate of this type of solution.<sup>42</sup> This ex-ante regulation has been proposed for the most important online businesses. However, it can be argued that not all online businesses are equivalent. We will argue that online marketplaces face different forms of competition and have other incentives than market monopolization. In fact, we will claim that there are several efficiency arguments in favor of hybrid marketplaces.

Hagiu, Teh, and Wright (2021) study the welfare implications of an online firm simultaneously serving as a marketplace for third parties and selling its own private label. They consider three business models for the online firm: the marketplace mode (where it is a facilitator for third-party sellers), the dual or hybrid mode (where it is a facilitator for third parties and also sells under its own name), and the seller mode (where it sells only under

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<sup>41</sup> Underprovision refers to the fact that Amazon provides a product at a higher conversion rate than the one that maximizes social welfare (its opposite is overprovision). This underprovision result holds when we consider only the consumer surplus. If we take total social welfare (consumer and producer surplus), there might be overprovision, as Amazon makes profit by "stealing" profits from the other sellers. This is the classical "business-stealing effect" discussed by Mankiw, N. G., & Whinston, M. D. (1986), "Free Entry and Social Inefficiency," *The RAND Journal of Economics*, 17(1), pp. 48-58, [https://scholar.harvard.edu/files/mankiw/files/free\\_entry.pdf](https://scholar.harvard.edu/files/mankiw/files/free_entry.pdf).

<sup>42</sup> Khan (2017) and Khan (2019).

its own name).<sup>43</sup> The authors show that where imitation and self-preferencing are not possible, the platform prefers the dual over the marketplace mode, and when the quality of its product is not much greater than that of the seller, it prefers the dual over the seller mode. If the dual mode is prohibited and the business switches to the marketplace mode, consumer surplus decreases due to weaker price competition. However, total welfare can go either way, given that an innovative seller may invest more or less in innovation. Surprisingly, this seller may invest more in innovation in the dual mode, since this model increases sales, which may offset its margin losses and allow it to profit from innovation.

To measure the maximum potential harm that copycat and self-preferencing practices may have on innovation, consumer surplus, and welfare, Hagiu, Teh, and Wright (2021) consider the extreme cases where: i) the online firm can perfectly imitate the seller's innovative product in a costless manner, and ii) the online firm can disclose the seller's availability in its marketplace. In this case, the business always (weakly) prefers the dual mode over the others. Since the innovative seller knows that its product can be imitated, the dual mode disincentivizes its investment. This mode can also eliminate price competition, as the online firm can steer consumers to buy its own product or raise its commissions. To address the problems of this mode, the authors consider four policies:

1. Prohibiting the dual mode reduces welfare, since consumers no longer benefit from competition between the marketplace and the innovative seller.
2. Prohibiting product imitation alone may have no effect or may benefit the marketplace, as it takes advantage of the innovative seller's investment, leading to an increase in consumer surplus and welfare.
3. Prohibiting self-preferencing alone restores price competition if the marketplace decides to stay in the dual mode, which decreases final prices and benefits consumers (and welfare also increases with the number of transactions). Since imitation is still possible, innovation is discouraged and if the marketplace switches to the seller mode, welfare may decrease.
4. Prohibiting both product imitation and self-preferencing increase consumer surplus and welfare if the marketplace stays in the dual mode, as it restores investment in innovation and price competition.

Prohibiting the dual mode may benefit third-party sellers, but it hurts consumers and total welfare decreases. The authors conclude:

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<sup>43</sup> Hagiu, A., Teh, T. H., & Wright, J. (2020), "Should Platforms be Allowed to Sell on Their Own Marketplaces?", *RAND Journal of Economics* (forthcoming), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3606055](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3606055)

[The] dual mode intermediation has clear benefits when applied across different products, including increasing the diversity of products, allowing each product to be provided by the more efficient seller (the platform or the third parties), saving on search costs for consumers, ensuring more stable supply, internalizing cross-product spillovers in marketing and enabling the platform to have some loss-leaders.<sup>44</sup>

### ***Competition in Online Marketplaces***

The competition in online marketplaces may have various forms related to the different ways in which products can reach final consumers. They face competition from other online marketplaces (for instance, in Mexico there is competition between Amazon and such businesses as Mercado Libre and Liverpool), and they also face competition from the stores that sell through their marketplace, as these generally have websites as well as physical stores (for instance, one of the most important wine and gourmet food stores in Mexico, La Europea, sells some of its products through Amazon, but it has an online store with different offers than those made through Amazon, and it also has many physical stores with offers found neither in their own online store nor in Amazon).

The investment needed to build successful marketplaces can be considerable, as these require technology providing secure ordering and payment, search capabilities, and logistics infrastructure. They also require applications to match the needs of stores and buyers. These investments, if large enough, could be barriers to entry. However, physical or online stores that provide effective competition with the marketplace do not require such large investments. Marketplaces thus face actual or potential competition that can discipline their pricing and other policies.

Larger marketplaces can be more attractive to customers, as they can provide a greater variety of products, and there can be more competition on the store side. This means that there can be network economies of scale, as marketplaces with a larger number of stores are more attractive to customers, and those with a greater number of customers are more attractive to stores. These network effects can be a market barrier. The technology can serve additional stores and customers with similar levels of infrastructure (considering the limitation of logistics, which would require more storage, delivery equipment and so forth). This would not imply, however, that hybrid marketplaces are interested in excluding or displacing the stores with which they compete in the marketplace, as a greater number of stores provides value to the marketplace.

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<sup>44</sup> Hagiu, Teh, and Wright (2021), p. 30.

As already noted, Amazon service fees charged to third-party merchants generated \$42.75 billion in 2018 (Khan 2019). This revenue means that marketplaces are also interested in maintaining their role as marketplace. They obtain revenue from the products sold by other stores, and the products from stores make for a more valuable marketplace. These incentives contradict the idea that the hybrid marketplace intends to exclude or displace the stores selling through it.

### ***Efficiency Reasons for the Appearance of Hybrid Marketplaces***

Dryden, Khodjamirian, and Padilla (2020) analyze the efficiency of three online business structures:<sup>45</sup> the pure marketplace, the reseller scheme, and the hybrid marketplace. Marketplaces try to maximize the volume sold through their stores, given that their revenue comes from commissions on store sales. These authors argue that there is an externality between stores selling in a marketplace: when a store has better offers, better quality, or greater variety, more customers visit the marketplace, and this also increases the probability that other stores will sell goods. They claim that the stores do not internalize this externality, as third-party sellers that sell through the marketplace do not have an incentive to offer optimal variety or better deals on the marketplace site. This happens because these sellers usually have their own physical or online stores, and they prefer to use their own distribution channels to save marketplace fees. These third-party sellers consider the effect of their commercial policy on their own sales in the marketplace and on their own distribution channels, but they do not consider their effect on the total sales volume through the marketplace. In consequence, the variety, pricing, and quality sold through the marketplace are not necessarily optimal. However, third-party sellers are concerned about cannibalizing their own direct distribution by offering new products or pricing more aggressively in the marketplace. The marketplace reacts by adopting a hybrid model, selling products directly and adding greater variety at more competitive prices.

According to Dryden, Khodjamirian, and Padilla (2020), the goal of the hybrid marketplace is thus to make its own marketplace more competitive with other distribution channels. It can do so by entering as a reseller in those product markets where third-party sellers do not price competitively or do not supply sufficient variety. If the market is more competitive, other third-party resellers can benefit, and consumers can also benefit from lower prices, higher quality, and greater variety. If the marketplace is more successful, more stores will be interested in selling through it. In this sense, the hybrid marketplace entry into the product market has the objective of increasing the success of the platform, without aiming

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<sup>45</sup> Dryden, N., Khodjamirian, S., & Padilla, J. (2020), The Simple Economics of Hybrid Marketplaces, <https://ssrn.com/abstract=3650903>.

for the displacement of competitors. In fact, competitors are a source of revenue for the marketplace.

This assessment, according to Dryden, Khodjamirian, and Padilla (2020), contradicts the “value capture” theory, argued by some regulators and researchers, that claims that the entry of the marketplace as a reseller and its bias in favor of itself as reseller have the objective of free-riding on the efforts of third-party sellers, and using knowledge of the market and of the business model of third-party sellers obtained through their control of platform information.

### ***Arguments for Marketplaces of the U.S. House Subcommittee on Antitrust, Commercial, and Administrative Law***

The U.S. House Subcommittee on Antitrust, Commercial, and Administrative Law argues that the highly-valued stock of some firms is an indication of their expected future profits. It estimates that Amazon has a 50% share of e-commerce in the U.S.<sup>46</sup> However, the source of this figure also shows that Amazon decreased its estimated share to 44% at the height of the COVID-19 pandemic, and it is counterbalanced by the fact that other e-commerce vendors have shown a strong competitive response to changes in demand conditions. It also notes that Amazon’s very large market share provides it with market power in the e-commerce sale of individual products, including printed books and e-books.

The Subcommittee goes on to argue that “the sum of evidence that Subcommittee staff examined demonstrates that Amazon functions as a gatekeeper for e-commerce. Amazon is the most-visited website in the world for e-commerce and shopping. In a submission to the Committee, an e-commerce market participant said that ‘many of the 64% of American households that have Prime memberships are effectively locked into Amazon for their online shopping.’ Meanwhile, recent market analysis suggests that over 60% of all online product searches in the U.S. begin on Amazon.com.”<sup>47</sup> Based on the testimony of third-party vendors, the Subcommittee argues that there are no other options for many that sell through Amazon.

The Subcommittee argues that Amazon’s market power resides in network effects, switching costs, and economies of scale resulting from its advantage in logistics. The network effects are the result of direct and indirect externalities that hinder both users and

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<sup>46</sup> U.S. House of Representatives (2020), p. 254. See also Whole Paycheck Tracker (2020), Amazon vs. Walmart, Battle for The Digital-First Consumer, <https://www.pymnts.com/tracker/amazon-walmart-whole-paycheck-september-edition-digital-consumer/>.

<sup>47</sup> U.S. House of Representatives (2020), p. 256.

sellers in switching to another platform. Switching costs derive from the benefits of Amazon Prime, which charges a fixed fee: once paid, it becomes a sunk investment. The economies of scale are based upon the complex logistics infrastructure that Amazon has built and the data it has accumulated from vendors and users. Network effects also benefit from this logistics infrastructure, which allows Amazon to offer next-day delivery to 10 million users.<sup>48</sup>

The Subcommittee alleges that Amazon engages in anticompetitive behavior against third-party providers. Its most important example accuses Amazon of predatory behavior in the sale of diapers, where it quotes internal documents that it claims demonstrate Amazon's carrying out of a price war.<sup>49</sup> It also includes allegations of Amazon forcing third parties to change their minimum advertised prices and requiring large companies to enter into a wholesale relationship with the platform. The Subcommittee also includes a section on "bullying," citing various examples of Amazon's treatment of sellers.

The Subcommittee argues in a section on data availability that there are large asymmetries between the customer information available to online businesses and that available to their brick-and-mortar competitors. It claims that Amazon's information advantage has given it the ability to use sensitive information from competitors to offer similar products and displace them from the market.<sup>50</sup> It describes how Amazon provides its sellers with a menu of tools and data from Amazon Marketplace, and that other marketplaces do not offer the same benefits.<sup>51</sup> The Subcommittee's report does not provide enough information to assess how effective these benefits are, though it claims that they are expensive. Amazon does have a database that enables sellers to improve their products and make pricing decisions.<sup>52</sup>

The Subcommittee also claims that Amazon ties its Fulfillment by Amazon program to its Amazon Prime Badge program, where sellers display a logo indicating their commitment to the terms of Prime delivery. The fulfillment program provides sellers with access to Amazon warehouses, packing and shipping services, and Prime customers. The Subcommittee alleges that Amazon Prime is a factor in the algorithm for the buy box in the search rankings, which forces Amazon sellers to select the Fulfillment by Amazon program.

Beginning with its voice assistant Alexa, Amazon has created an ecosystem of programs and devices for operating in "the internet of things." The Subcommittee argues that Amazon is seeking to increase its importance through a strategy of low prices which it claims is similar

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<sup>48</sup> Ibid., p. 260.

<sup>49</sup> Ibid., p. 71.

<sup>50</sup> U.S. House of Representatives (2020), p. 282.

<sup>51</sup> Ibid., p. 283.

<sup>52</sup> In the next section, we elaborate on this point.

to Amazon's strategy in developing Amazon Marketplace. It cites evidence that Amazon sets prices below cost, and that the default settings for Alexa favor Amazon music and video services as well as the products sold by the Amazon Basics unit.

### ***Discussion***

The U.S. House Subcommittee on Antitrust, Commercial, and Administrative Law argues that the highly-valued stock of some firms is an indication of their expected future profits. However, there is a lack of strong evidence for this type of strong statement about the source of this high valuation. Tesla stock also has a high valuation, but there is little evidence that Tesla will dominate the future of automobiles. Amazon may be a highly valued company because it is very efficient, and the markets expect that it will continue to be so in the future. We will return to this point. The Subcommittee estimates that Amazon has a 50% share of e-commerce in the U.S.<sup>53</sup> However, the source of this figure also shows that Amazon decreased its estimated share to 44% at the height of the COVID-19 pandemic, and it is counterbalanced by the fact that Walmart, another e-commerce vendor, doubled its annualized sales figures at the height of the pandemic. If the leader had the same share but no response from competitors to a change in demand, it would have far more market power than in a situation where competitors show vigorous response to a change in the condition of the market. An evaluation of the effect of brick-and-mortar retailers on e-commerce is necessary in order to infer market power.

The Subcommittee alleges that Amazon engages in anticompetitive behavior against third-party providers, and it thus recommends regulations that will impede vertical integration by online businesses. In fact, there are proposals from Senator Elizabeth Warren for an injunction prohibiting Amazon "from owning both the platform utility and any participants on that platform."

The Subcommittee argues that the basis of Amazon's market power lies in network effects, switching costs, and economies of scale from its advantage in logistics. However, this reasoning must be carefully evaluated. Sellers know that Amazon's delivery logistics will benefit their sales, so they would like to do business with Amazon. We do not believe that the increase in network effects from Amazon's logistics infrastructure is a market failure. According to basic principles of competition, if an online business becomes a monopoly due to advantages in efficiency, that is no reason for an investigation of that business. Innovation and improved service are landmarks of free competition and market economies. Even if Amazon becomes a monopoly online business because its efficient logistics favor

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<sup>53</sup> U.S. House of Representatives (2020), p. 254. See also Whole Paycheck Tracker (2020).

network effects, it is not clear that artificial competition created by antitrust intervention enhances the benefit to society.

The possibility of multi-homing is also disregarded by the Subcommittee. It is difficult to argue that users do not multi-home: the cost to a consumer of comparing the prices of different online businesses is low. For example, Mercado Libre has a large user base in Latin America, with a logistics infrastructure that favors large cities like Mexico City, and it offers next-day delivery for a variety of products. In his discussion of Amazon Fresh, Hovenkamp (2020) notes that: “Some customers also engage in multi-homing between a digital platform and a traditional market. . . . That is also true of customers who sometimes purchase groceries on the Amazon/Whole Foods digital platform, but other times visit a traditional grocery store.”<sup>54</sup> A large number of products sold by Amazon are also sold through other venues. Samsonite bags, for example, available on the Amazon platform, can also be purchased from other sources. “A Consumer Reports article from late 2019 found that luggage was being sold by a wide array of both online digital platforms and traditional brick-and-mortar stores, and some sellers who owned both. As of that date, two-thirds of buyers purchased their luggage from a physical store rather than online. Among the highest rated online sellers were Luggage Pros, Away, and Amazon. The brick-and-mortar stores included Walmart, Sears, Target, and Costco. For a product such as a Samsonite [sic] bag, it is not clear that Amazon has a significant advantage over rivals.”<sup>55</sup> This issue is important also for the argument by the Subcommittee that wants to segment online businesses from brick-and-mortar sales.

The argument concerning the switching costs of Amazon Prime cannot be accepted at face value. Even if Amazon Prime increases these costs, that does not mean there is no benefit to consumers. As Baker (2019) notes: “Efficiency benefits may outweigh any competitive harm.”<sup>56</sup> In the case of Amazon Prime, many consumers benefit from next-day delivery of millions of goods included in the program.

The Subcommittee’s proposal is that Amazon divest its division that sells Amazon Basics products. We have already offered two arguments against this proposal. First, the proposal may affect consumer welfare, because certain quality products would not be available if we did not allow the marketplace to vertically integrate. Second, the effects generated by Amazon as a vertically integrated marketplace (as a private-level or first-party seller, which imply some kind of vertical restriction) depend on the structure of the third-party sellers and the elasticity of market demand. If third-party sellers are competitive, then Amazon

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<sup>54</sup> Hovenkamp (2020), p. 26.

<sup>55</sup> Ibid., p. 46.

<sup>56</sup> Baker, J. (2019), *The Antitrust Paradigm*, Harvard University Press, p. 134.

entry benefits consumer welfare, as its efficiency may entail lower prices.<sup>57</sup> Amazon also has an incentive to enter markets with high shipping costs. In both cases Amazon entry is socially beneficial. If the third-party retailer has market power, then Amazon entry reduces that power and benefits consumers. As Hovenkamp (2020) argues, the Amazon Basics division competes with large firms with substantial competitive muscle. Amazon's batteries compete with Duracell and Energizer, its appliances compete with Black and Decker, and its travel products compete with Samsonite. As Hovenkamp (2020) notes: "These are all very large firms. The only real accomplishment of own-product separation would be to segregate aggressively priced, low-margin house brands from high-margin premium brands. Customers would end up paying more."<sup>58</sup> A blanket push for vertical disintegration may lead to the loss of competitive pressure from the Amazon Basics brand.<sup>59</sup>

These arguments are made to point out that vertical policies by Amazon are not socially detrimental. If Amazon did violate the law, there is antitrust law that can be used, if the current law is insufficient to prosecute a sensible damage on the efficiency of markets, it can be amended.

The Subcommittee claims that Amazon forces third parties to change their minimum advertised prices and requires large companies to enter into a wholesale relationship with the platform. The Subcommittee does not specify the efficiency advantages or disadvantages of these policies. It is not clear whether these policies should be prohibited. It is well known that supermarkets, for example, follow similar strategies in their pricing decisions. Our arguments in the analytical section of this paper demonstrate that these policies help to internalize network externalities. If Amazon reduces the prices of certain products it attracts more consumers to the marketplace and thereby benefits the other sellers. As argued below, it may also help to increase the customer base, and it may help to boost the marketplace's reputation for low prices, which would attract even more customers. Thus, Amazon's intention may be to increase network externalities, which may be socially beneficial for participants in the online business. There are also efficiency arguments that would justify a policy of forcing sellers into a wholesale relationship. Tian, Vakharia, Tan, and Xu (2018) find that when order fulfillment costs are large and supplier product offerings are similar, the pure reseller mode is the optimal one. The Subcommittee does not specify the conditions under which Amazon is asking sellers to enter into a wholesale relationship.

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<sup>57</sup> Etro (2021).

<sup>58</sup> Hovenkamp (2020), pp. 72-73.

<sup>59</sup> Ibid.

Regarding the Subcommittee's discussion of "bullying," we note that a viable inference that can be made here is that Amazon has an obsession with cost cutting. A byproduct of this strategy is bad customer service to providers. However, a firm that aims at cost cutting is good for the general welfare.

According to the Subcommittee, there are large asymmetries between the information available to online businesses and that available to their brick-and-mortar competitors. Considering the arguments proposed in the Stigler Center document, information is a real and enormous competitive advantage for online business.<sup>60</sup> The Stigler report and the arguments by Posner and Weyl (2018) indicate that there are increasing returns on data availability. This means that in the case of Amazon, for example, the information it has allows it to target advertising that is very specific to its customers, and it can profile its consumers much better than a brick-and-mortar store. As Baker (2019) argues: "[A] dominant firm's access to detailed and individualized information about customers may confer a form of scale economies. Those economies derive from the ability of firms with access to individualized buyer data to identify potential customers. Doing so could allow such firms to meet the needs and interests of potential customers by customizing products and promotions. . . . In this way, customer data may allow sellers to reduce their quality-adjusted promotional costs, thereby achieving scale economies."<sup>61</sup>

Although brick-and-mortar stores have loyalty programs that allow them to obtain similar information, they do not have the same quantity and quality of data. However, there are data brokers who collect data from users that can be used for commercial purposes.<sup>62</sup> There are also firms that in the ordinary course of business can collect data from users (for example, telecommunications firms).<sup>63</sup> However there are still differences in the quality and quantity of data that firms have access to.

The Subcommittee claims that Amazon's information advantage has given it the ability to use sensitive information from competitors (in this case third-party vendors) to offer similar products and displace them from the market. However, according to Etro (2021), although banning copycat activity would foster innovation, consumers would be harmed, as they benefit more from Amazon's price reductions. The negative effects on investment are more

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<sup>60</sup> Stigler Committee on Digital Platforms (2019), Final Report, <https://www.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report---stigler-center.pdf>.

<sup>61</sup> Baker (2019), p. 129.

<sup>62</sup> Federal Trade Commission (2014), "Data Brokers. A Call for Transparency and Accountability," <https://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014/140527databrokerreport.pdf>.

<sup>63</sup> Baker (2019), p. 28.

serious for offline businesses than for the online marketplace. However, the final effects depend on the assumptions of the model. The important point here is that there may be efficient outcomes when there is imitation and self-preferencing.

The Subcommittee notes that Amazon provides its sellers with a menu of tools and data from Amazon Marketplace, and that other marketplaces do not offer the same benefits. The Subcommittee's report does not provide enough information to assess how effective these benefits are, though it claims that they are expensive. Amazon does have a database that enables sellers to improve their products and make pricing decisions.<sup>64</sup> As specified in Amazon's Seller Tools and Resources, Amazon does share important information with their third-party sellers in order for them to improve their business. Such information includes prices from other sellers (including Amazon), exchange rates, taxes and international fees for worldwide stores, product SKUs, details, and images, consumer shopping behavior data with statistical analyses, customer reviews and purchasing information, and inventory information. Amazon's purpose in sharing this information is to improve third parties' businesses in its marketplace by such means as better pricing of their items, increasing their sales, and protecting their intellectual property. Yet this policy is clearly aimed at improving Amazon's network externalities, a policy that benefits both Amazon and its third-party vendors.<sup>65</sup>

The Subcommittee also claims that Amazon ties its Fulfillment by Amazon program to its Amazon Prime Badge program, where sellers display a logo indicating their commitment to the terms of Prime delivery. The fulfillment program provides sellers with access to Amazon warehouses, packing and shipping services, and Prime customers. The Subcommittee alleges that Amazon Prime is a factor in the algorithm for the buy box in the search rankings, which forces Amazon sellers to select the Fulfillment by Amazon program.

We do not find any problem with this policy. If Amazon logistics enjoys economies of scope and scale, the policy contributes to the efficient functioning of markets and allows the firm to achieve productive efficiency; it thus benefits social welfare. If the argument is that the sellers should use their own mechanism to deliver to the customer, it must show that this would be more efficient.

The Subcommittee presents evidence regarding Amazon's marketing strategy for Alexa that shows how Amazon promotes its technology, and includes evidence of pricing below cost. Given that this ecosystem involves the development of complementary technologies by others, this strategy seems sensible. We also note that pricing below cost occurs in markets

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<sup>64</sup> U.S. House of Representatives (2020), p. 283.

<sup>65</sup> <https://sellercentral.amazon.com>; <https://sell.amazon.com/learn>. There are also YouTube videos, for example <https://www.youtube.com/watch?v=L1Xycx447To>.

with experience goods and when firms compete for domination in a market with network externalities. In this kind of market, where firms are trying to become the de facto standard, low pricing is needed.

Most of the Subcommittee's allegations are based on the experiences of Amazon sellers and testimony from industry and antitrust experts. Regarding vertical integration, apart from the fact that in many cases hybrid marketplaces are efficient, we believe that the most important question is whether Amazon has the incentive to fully integrate vertically. If Amazon were to pursue this strategy, its business would fail. First, it has 2.3 million third-party sellers, and the network advantage effect should not be minimized. Second, most of these third-party sellers must survive and be successful for the platform to become viable and profitable. Several of the Subcommittee's allegations were based upon testimony of Amazon sellers, and some may be related to Amazon's goal of achieving more efficiencies and becoming a very large platform. The claim that tying the Fulfillment by Amazon program to the Amazon Prime badge is anticompetitive fails to note the economies of scope and scale in this practice. For Amazon to offer next-day delivery as part of its Prime service it requires sophisticated logistics. There is thus a positive feedback loop in which fulfillment helps Amazon Prime services and Amazon Prime helps logistics. Amazon's advertising program appears to have the aim to increase sales, which is a legitimate aim.

There is debate about the use of big data for targeting consumers. In principle, big data may allow a dominant marketplace to target consumers for special pricing, discounts, and price discrimination. There is also a debate in the literature about whether price discrimination is welfare enhancing. Given the information advantages, some authors have argued that a firm with big consumer data may implement first-degree price discrimination (each consumer pays their own willingness to pay). In this case the practice may be socially enhancing (although with a distribution problem). If firms are competing vigorously "the ability to target consumers may induce greater competition."<sup>66</sup> However, when an online business has much more information, targeting consumers of its rivals may diminish competition. The results depend upon the facts of the industry.

Khan (2017) argues that Amazon's success in its online business is due to predatory pricing.<sup>67</sup> The firm reduces current prices to displace competitors, and in the future it will recoup current losses with monopoly prices. Khan bases her argument on Amazon's current high stock price relative to its small profit. The argument appears exaggerated. Amazon's stock price may be high relative to current profits for a variety of reasons. To argue that current predatory behavior and future monopoly profits are the only reason goes too far.

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<sup>66</sup> Baker (2019), p. 133.

<sup>67</sup> Khan (2017).

As Baker (2019) argues, another reason may be Amazon’s highly profitable cloud services, where it is the market leader. There is also the possibility of betting on Amazon efficiency gains, which may lead to lower prices. Economies of scale and scope may lead to much lower costs and higher profits in the future, even with low prices.

A second problem is the multiproduct character of Amazon and the difficulty of measuring predatory behavior for all of its products with a multiproduct cost structure. Is every product priced below the long-run incremental costs? What about common costs? How do we allocate them and establish the predatory price for each product? What is the standard for predatory pricing by a multiproduct firm? As Baker (2019) argues, “there may be procompetitive reasons for charging low . . . prices. Doing so may help Amazon sell other products at the same time. Or low . . . prices, and the increased sales they generate, may pay off by increasing future sales, for example by building Amazon’s customer base, supporting Amazon’s reputation for discount pricing, or gathering information about customer preferences.”<sup>68</sup>

None of these questions are addressed by Khan. If there are arguments for predatory pricing, traditional antitrust analysis must be applied and predatory behavior investigated for individual products. The Subcommittee’s allegation of predatory pricing behavior for diapers, noted above, could be a good start.

The issue of monopolization must be addressed very carefully. The Subcommittee’s allegations described in this section as well as Khan’s position must lead us to carefully consider the appropriate measures for dealing with large, efficient online businesses and avoid harming antitrust principles.

#### **IV. Regulatory Outlook: A Quick Review**

##### **Regulatory Proposals in the U.S.**

The Subcommittee has made several recommendations to Congress:

- Legislate on structural separation and restrictions for online businesses.
- Establish non-discriminatory treatment of third parties.
- Implement data interoperability, mainly related to social networking platforms.
- Establish that any merger of online businesses should be presumed to be anti-competitive.
- Strengthen antitrust legislation.

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<sup>68</sup> Baker (2019), p. 138.

- Analyze with concern acquisitions of start-ups or potential competitors acquired by dominant companies.
- Legislate to prohibit vertical mergers if the firm is dominant. A company with a 30% market share would be considered dominant.
- Eliminate the loss recovery condition from the evidentiary standard in predation cases.
- Regulate those digital businesses that are allegedly dominant, according to the essential input doctrine.

The Subcommittee's proposals are a priori in nature and if implemented as proposed would leave little room to analyze the competitive situation of markets on their merits, in addition to having a bias against the role of competition in traditional business models and its disciplining effect on digital businesses. It is unlikely that they would improve the efficient functioning of markets.

For example, potential divestitures should be carefully evaluated, so that such decisions are made only when it is demonstrated that doing so would improve the functioning of markets. It is difficult to determine the effects of the presumption that mergers are anti-competitive, without additional details about how the proposal would be implemented. It would seem that horizontal mergers, which would clearly generate the greatest concern from an antitrust perspective, would receive the same treatment as vertical mergers, which can be beneficial to the market, as they allow exploitation of economic complementarities. The proposal to prevent acquisitions fails to specify the elements the authority would use to determine that a company is a nascent or potential competitor. Finally, the proposal to require non-discriminatory access to essential facilities would be difficult to implement without impairing the efficient functioning of markets. In fact, it could affect the policy of product differentiation that marketplaces allow sellers.

## **Regulatory Proposals in Europe**

### ***European Union***

In December 2020, the European Commission (EC) published a proposal for a Digital Markets Act (DMA),<sup>69</sup> which aims to prevent companies with market power in digital activities, identified as gatekeepers, from imposing unfair conditions that affect effective

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<sup>69</sup> Proposal for a Regulation of the European Parliament and of the Council on Contestable and Fair Markets in the Digital Sector (Digital Markets Act), <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0842&from=es>.

competition in the sector. The EC also published a proposal for a Digital Services Act (DSA),<sup>70</sup> which aims to protect consumers of online services and their fundamental rights, establish measures to promote transparency and accountability of online platforms, and boost innovation, growth and competitiveness in the European market.

Both proposals will be debated in the European Parliament and, if approved, will be applicable throughout the European Union (EU). The essential elements of each proposal are as follows.

#### *Digital Markets Act*

The Digital Markets Act proposal notes that some large online businesses, with entrenched and long-standing positions, act as gatekeepers between professional users and end users. These companies have created conglomerate ecosystems that reinforce barriers to entry into the industry and can misuse their power in some core digital services.

The authority's intention is to focus its intervention on digital services that are used most by professional users and end users. Intervention would be more likely in scenarios with the following characteristics:

- High concentration.
- Reliance on a small number of large online businesses that act as gatekeepers.
- Misuse of the power of core service providers.<sup>71</sup>

The proposed regulation establishes quantitative criteria for designating gatekeepers. The main criterion is based on the company's substantial turnover in the Union and the provision of core services in at least three member states.

The proposal calls for companies to demonstrate that they do not meet the quantitative thresholds to be considered gatekeepers. Otherwise, they will have to comply with various obligations. For example, they would be required to inform the EC of all planned and completed acquisitions in the digital sector, and they would be prohibited from using the data, from favoring their own services or products to the detriment of similar services provided by third parties, and from using their vertical integration to restrict the operation of third parties.

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<sup>70</sup> Proposal for a Regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0825&from=es>.

<sup>71</sup> *Ibid.*, p. 6.

### *Digital Services Act*

The Digital Markets Act proposal is complemented by the Digital Services Act proposal, which focuses on issues related to the responsibilities of online intermediaries for third party content, the security of online users, and asymmetric due diligence obligations for different information society service providers. This is a horizontal initiative that complements EU data protection laws.

The regulation would combat illegal content, establish protections for users, make online operations transparent, including the algorithms used for recommendations, and establish asymmetric regulation measures.

### ***United Kingdom***

The United Kingdom has undertaken a major effort to create institutions to address issues surrounding online businesses. To this end, it commissioned a group of experts to produce a study, the so-called Furman Report (2019), whose conclusions were accepted in 2020 by the British government. The report argues that it is possible to create a competitive environment with implementation of appropriate policies. In addition to the traditional tools of competition policy, rules must be applied to limit possible anti-competitive behavior, especially by the largest online businesses, and to allow the elimination of barriers that impede competition. The report also describes the need to allow consumers to have greater control over their data, to establish systems based on open standards, and to facilitate competitors' access to the data collected by large online businesses. It recommends the implementation of six strategic recommendations, of which the first is the creation of a Digital Markets Unit in charge of using tools to support greater competition and consumer choice. The other measures focus on applying a stricter merger control system, adjusting the instruments of the competition authorities to combat anti-competitive behavior, adopting greater vigilance over the use of machine learning algorithms and artificial intelligence, preparing a study of the digital advertising market that analyzes the entire value chain, and government engagement in promotion of the recommendations and collaboration with other authorities.

### ***Germany***

Germany has implemented specific legislation to investigate and regulate online businesses, including a reform of German competition law, which incorporates new rules applicable to digital markets. The reform prohibits various actions by online businesses, adopting an a

priori approach that, according to the authority, allows for rapid action to be taken with respect to markets that have a dynamic evolution.

The main change is in Section 19 of the law, which allows the Bundeskartellamt to intervene early in cases where competition may be threatened by online businesses. The authority can prohibit actions such as the self-preferential provision of a group's own services or hindering the entry of third-party companies into the market with the use of competitively relevant data.

The law prohibits various actions unless companies can demonstrate that they are justified. Among these are:

- Self-preferential practices.
- Obstructing the commercial activities of other agents in supply or sales markets.
- Hindering competitors in markets in which the company under investigation could rapidly expand its presence, even if it does not become dominant.
- Erecting barriers to entry for other companies through certain data processing strategies.
- Impeding the interoperability of products, services, or data.
- Providing insufficient information to other parties about the services provided.
- Demanding disproportionate benefits for the processing of another company's offers.

A central instrument in the new strategy is merger control, through which the authority will be able to require companies in certain economic sectors to provide notification of mergers even if they do not meet the turnover thresholds.

### ***Discussion***

Europe has made rapid progress in the implementation of regulatory measures focused on online businesses. In general terms, the jurisdictions analyzed are concerned about the widespread presence of certain business models known as gatekeepers, which could represent persistent dominant positions. The authorities acknowledge the usefulness of traditional competition policy instruments; however, they agree with the idea that policy instruments are not enough in an environment of rapid technological and economic change. The approach of the various authorities is that it is necessary to act a priori, through innovative instruments, due to the inability of traditional antitrust tools to combat potentially anticompetitive behavior in a timely manner, before the negative effects on the market occur. A priori actions are complemented by various approaches to identify

companies with certain characteristics as dominant and to prohibit certain actions that are considered harmful per se.

The German case stands out: not only has the competition law been reformed to incorporate explicit measures for the classification and regulation of certain types of online businesses with a widespread presence, but proceedings have also been initiated to establish whether individual companies are gatekeepers. In the EU, what is noteworthy is the prohibition of various actions, some of them related to business models that could generate greater economic efficiency or produce benefits for consumers, as well as establishment of the obligation for companies to prove that they are not gatekeepers or that their actions do not represent risks to competition. The U.K. has focused its efforts on the creation of a specialized digital markets unit, which would be responsible for establishing measures to ensure the interoperability of online business firms, the adoption of open systems, and the establishment of mechanisms to enable the mobility of personal data.

The U.K. authorities have chosen not to adopt a per se approach to various actions, unlike Germany and the EU. In this regard, unlike the report of the U.S. House Subcommittee, the various reports prepared in European jurisdictions avoid analyzing the economic impact of specific aspects of the operation of online businesses. There is no questioning of the economic dimension of the competition that online businesses may face, as well as the operation of hybrid marketplaces, among the other issues that we have noted in analyzing the U.S. proposals.

The key point is that adopting a per se approach and avoiding analysis and discussion of the effects of prohibitions may be counterproductive for the efficient operation of markets. The discussion in the U.K. and the U.S. allows for more flexibility in the analysis of specific actions, which should be contextualized in terms of the specific business model of the online business firms. Prohibitions per se may generate different outcomes in different contexts and are likely to negatively affect consumer welfare.

## **V. Empirical Evidence Regarding Marketplaces**

To round out our discussion of the efficiency of hybrid marketplaces, we conclude this study by providing empirical evidence concerning Amazon's effects on social welfare. Despite the already mentioned antitrust concerns, online businesses have benefited consumers considerably, mainly by lowering prices and increasing the variety and quality of products. For instance, one important antitrust concern is that information may be used for self-preferencing, yet appropriate use of information has benefited consumers by guiding them

towards goods they will enjoy more: this is the importance of Amazon reviews. Such information has also encouraged the development of more enjoyable goods.

We start by following up on our previous discussion of the decision of Amazon to enter a product space. As already noted, Amazon is a retailer that competes with its complementors (third-party sellers), and thus has incentives to appropriate value from them. Amazon decides whether to profit by charging commissions to third-party sellers or by becoming a seller on its own platform. If it decides to become a seller, Amazon can choose to sell its own brand (a private label such as Amazon Basics) or resell a product as a first-party retailer.

Zhu and Liu (2018) study Amazon's decision to enter a complementary product space and its effects on consumers and third-party sellers. They find that Amazon is more likely to enter spaces with more successful products, that is, with higher sales and better reviews, that do not use Amazon's fulfillment service. Moreover, Amazon is less likely to compete in spaces where products require significant investment to grow; in this case, Amazon encourages the third-party sellers to invest.

To analyze the product spaces that Amazon decided to enter, Zhu and Liu (2018) collected data in two rounds, June 2013 and April 2014, for four categories: Electronics and Computers; Home, Garden, and Tools; Toys, Kids, and Games; and Sports and Outdoors. Given the large number of products Amazon sells, the authors focused on a selection of 0.5% of products in each category. In April 2014, Amazon entered the market for 4,852 (3%) of the 163,853 products that were sold only by third parties in June 2013. Comparing affected products with similar unaffected ones (with propensity-score matching), they conclude that demand increased for the products Amazon began to sell. This may be explained by lower shipping costs from Amazon, preferential prominent display of their products on the website, or higher search costs for consumers to find another seller (even if Amazon is explicit about other sellers, the consumer may not see them). There is no change in product ratings, but affected complementors are discouraged from continuing to sell the products now sold by Amazon or growing their businesses in the marketplace. Contrary to conventional wisdom, intense competition does not deter online business owners from entering a market.

The efficiency of online businesses has been recognized since its beginning. According to Brynjolfsson and Smith (2000), an extreme view was that the internet offered a nearly perfect frictionless market where location is irrelevant, consumers are perfectly informed, and retailers make zero economic profit.<sup>72</sup> Comparing prices of CDs and books in online and

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<sup>72</sup> Brynjolfsson, E. & Smith, M. D. (2000), "Frictionless Commerce? A Comparison of Internet and Conventional Retailers," *Management Science*, 46(4), pp. 563-585.

offline stores, they find that prices are lower online, which has also been widely documented elsewhere, as discussed by Dryden, Khodjamirian, and Padilla (2020). They also find that prices change less on the internet, yet they are very dispersed.

In line with these results, Goolsbee and Klenow (2018) find that inflation is less online than offline for the same categories of goods<sup>73</sup> by 1.3 percentage points per year for the period January 2014 to September 2017.<sup>74</sup> They construct a Digital Price Index (DPI) for comparison with the Consumer Price Index (CPI), with data from Adobe Analytics that scrapes transaction prices and quantities purchased from the web. They cover categories that represent approximately 19% of the CPI relative importance weights of the U.S. Bureau of Labor Statistics (2018) and revenues of about 15% of total online sales reported by the U.S. Census Bureau (2018). This includes over 2 million products per month (the CPI includes 140,000). The following table shows their main results, as well as the categories considered. Note that except for medicines and medical supplies, all of the categories show lower DPI than CPI (and in addition, deflation was observed).

**Table 1. Average Annual Inflation.**

	DPI	CPI
<b>Headline</b>	<b>-1.6</b>	<b>-0.3</b>
Food and beverages	-0.9	0.3
Household goods	-4.9	-1.9
Apparel	0.3	0.8
Information technology	-6.1	-3.7
Medicines and medical supplies	1.2	-0.2
Transportation accessories and parts	-1.3	-0.4
Recreation goods	-6.2	-3.0
Other goods and services	0.7	1.7

*Notes:* DPI = Adobe digital price index. Percentage points per year in annual average inflation for 2014–2017.

Source: Goolsbee and Klenow (2018), Table 2, p. 490.

They also study the effects on entry and exit of goods, and conclude that the DPI inflation rate, adjusted for new products, is more than 3 percentage points per year lower than the CPI inflation rate, an important result considering the wide variety of goods offered by online businesses.

<sup>73</sup> Goolsbee, A. D., & Klenow, P. J. (2018), “Internet Rising, Prices Falling: Measuring Inflation in a World of E-commerce,” *AEA Papers and Proceedings*, 108, pp. 488-492.

<sup>74</sup> Jo, Matsumura, and Weinstein (2019) carried out a study with similar results using data from Japan. They also find that cities with more college graduates, such as Tokyo, benefit more from the new varieties of goods generated by online businesses, a phenomenon we discuss below. This happens because expenditure in online businesses is strongly correlated with college education in Japan. Jo, Y. J., Matsumura, M., and Weinstein, D. E. (2019), “The Impact of E-Commerce on Relative Prices and Consumer Welfare,” NBER Working Paper 26506.

Focusing on retailers that sell both online and offline, Cavallo (2017) shows that prices are identical in 72% of the cases, that is, that multi-channel retailers set similar prices online and offline.<sup>75</sup> To obtain his results, he followed online and offline prices of 56 of the largest multi-channel retailers in 10 countries: Argentina, Australia, Brazil, Canada, China, Germany, Japan, South Africa, the U.K., and the U.S.<sup>76</sup> He considers stores in the top 20 companies by market share in their countries, and products that are identical in the online and physical store. The U.K. showed the largest coincidence in online and offline prices, 91%, and Brazil the lowest, 42%. In the U.S., the percentage is 69%. The coincidences are greater in electronics and clothes, and less in drugstore and office products. Among the observations with different prices, he finds that the online markup is -4% for the full sample. Price changes are not perfectly synchronized, and they coincide 19% of the time. When prices are different in the online and offline channels, he does not find evidence of “dynamic pricing” in the U.S. (i.e., prices do not change with the IP location). Also, it seems that retailers do not try to match prices in Amazon.com, which coincide with retailer prices about 38% of the time.

Digitization has increased the variety of products, and several studies, for instance Hausman and Leonard (2002) and Petrin (2002), have shown that having a greater variety of products affects consumers positively.<sup>77</sup> Brynjolfsson, Hu, and Smith (2003) study the online book market and its effects on consumer surplus.<sup>78</sup> This market is distinguished by the practically unlimited inventory of online sellers. For instance, in 2003, the variety of titles at Amazon was up to 57 times greater than the number of books at a typical large bookstore in the U.S.; Amazon accounted for approximately 70% of the market share of internet book retailers. Online bookstores offer the advantage of making books available that would otherwise be almost impossible to find, given the high transaction costs of finding them in a brick-and-mortar store. Moreover, online businesses offer such features as reviews, recommendations, images, and search capabilities that help the reader find and evaluate books that would otherwise have remained undiscovered.

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<sup>75</sup> Cavallo, A. (2017), "Are Online and Offline Prices Similar? Evidence from Large Multi-Channel Retailers." *American Economic Review*, 107(1), pp. 283–303.

<sup>76</sup> In the U.S., the retailers considered are Walmart, Target, Safeway, Stop & Shop, Best Buy, Home Depot, Lowe's, CVS, Macy's, Banana Republic, Forever 21, GAP, Nike, Urban Outfitters, Old Navy, Staples, and OfficeMax/Depot.

<sup>77</sup> Hausman, J. A., & Leonard, G. K. (2002), "The Competitive Effects of a New Product Introduction: A Case Study," *The Journal of Industrial Economics*, 50(3), pp. 237–263; and Petrin, A. (2002), "Quantifying the Benefits of New Products: The Case of the Minivan," *Journal of Political Economy*, 110(4), pp. 705–729.

<sup>78</sup> Brynjolfsson, E., Hu, Y., & Smith, M.D. (2003), "Consumer Surplus in the Digital Economy: Estimating the Value of Increased Product Variety at Online Booksellers," *Management Science*, 49(11), pp. 1580-1596.

The authors find that the availability of obscure books increased consumer surplus by between 731 million dollars and 1.03 billion dollars in 2000. As a reference point, Brynjolfsson, Hu, and Smith (2003) estimate the gain in consumer surplus from increasing competition and greater efficiency offered by the internet, as seen in lower prices. They conclude that consumer surplus increased in the range of \$100.5-\$103.3 million. A greater number of new titles thus increased consumer surplus by 7.3-10 times more than lower prices.

Although these gains are considerable, the authors argue that they might be underestimated. For instance, internet channels facilitated the publication of some books that would not otherwise have been published. Also, special orders in offline stores increased: the internet helped readers to identify new titles, but they preferred to order them from physical bookstores. Some bookstores also installed internet for customers to place orders at the store, which mostly benefited consumers with no internet access.

Brynjolfsson, Hu, and Smith (2003) consider only the gains in consumer surplus, but there might be important gains for producers as well, leading to an important increase in social welfare. In contrast with lower prices, greater variety may increase both consumer and producer surplus: when prices decrease, consumers are better off, but at the expense of the producers. The gains they find may also be relevant to other inventory-intensive markets.

A similar study was conducted by Aguiar and Waldfogel (2018).<sup>79</sup> They also study the gains in consumer surplus induced by the rapid development of new products, but instead of focusing on the unlimited space in online stores (such that of books in Amazon), they focus on the reductions in entry costs brought about by online businesses. To this end, they examine the digital music market in 17 countries (the U.S., Canada, and 15 European countries) in 2006-2011. Digitalization reduced the costs of production, promotion, and distribution, and the number of new music products tripled between 2000 and 2008. Although recorded music revenue collapsed after Napster, the realized quality of music rose with the growth of new music.

Depending on which products are in the counterfactual (no digitalization) choice set, consumer surplus increased by \$0.51, \$10.09, or \$152.42 million, depending on whether there is perfect foresight (new products are those with the lowest realized quality), imperfect predictability (new products are those with the lowest expected quality), or no predictability (new products are as good, on average, as the existing ones in the absence of digitalization). The changes in welfare are \$6.20, \$71.72, and -\$494.58 million, respectively.

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<sup>79</sup> Aguiar, L., & Waldfogel, J. (2018), "Quality Predictability and the Welfare Benefits from New Products: Evidence from the Digitization of Recorded Music," *Journal of Political Economy*, 126 (2), pp. 492-524.

These results are for the U.S. in 2011, and the most plausible scenario is that with imperfect predictability.

Consumers have benefited from the rapid increase in the number of creative goods (such as books or movies), but they also value the pre-purchase guidance provided, for instance, by professional critics. In general, the number of goods has been always larger than the capacity of professional reviewers. Digitalization has increased this gap by increasing the number of available goods, but it has also provided consumers with crowd-based ratings, such as the reviews and star ratings in Amazon.

Reimers and Waldfogel (2021) consider the Amazon book market in 2018 for the U.S., Canada, and the U.K., and analyze the effects of professional reviews and Amazon star ratings on demand and consumer welfare. This market is important, since Amazon's market share for physical books in the U.S. at that time was about 45%. They also study whether crowd-based ratings have affected the influence of professional critics.<sup>80</sup> The authors find that professional reviews, especially those published by the *New York Times*, have a clear effect on sales. For instance, if the *Times* recommends a book, its sales will increase by 2.8% in one year. Although the effect of the Amazon star ratings on sales is about half of that of professional reviewers, it multiplies consumer surplus by more than 10, that is, by \$35.83 million versus the \$3.18 million of the professional critics. This gain in consumer surplus is explained mainly by substitution, that is, that consumers can substitute bad books with better ones.

Besides incentivizing the development of new products, online firms have increased the pre-purchase information available to consumers, which produces gains in consumer surplus and thus in social welfare. These benefits are particularly important in markets where professional critics are not available. Reimers and Waldfogel (2021) also show that Amazon star ratings do not replace professional reviews; they merely complement them, and professional critics have thus not been affected by the existence of crowd-based ratings.

Another benefit that online businesses have brought to consumers is a reduction in geographic inequality. These businesses bring goods to markets where physical stores are not available and do not plan to establish, given the high costs of entry, shipping, and marketing. According to Fan, Tang, Zhu, and Zou (2018), the availability of the wider variety of goods brought by online stores has had important consequences in the distribution of income and welfare, especially in small and remote cities, which may be of particular

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<sup>80</sup> Reimers, I., & Waldfogel, J. (2021), "Digitization and Pre-Purchase Information: The Causal and Welfare Impacts of Reviews and Crowd Ratings," *American Economic Review*, 111(6), pp. 1944-1971.

interest in developing countries.<sup>81</sup> They analyze the effects of Taobao (Tmall.com and Taobao.com) on inter-city trade and welfare in China in 2013. Taobao is Alibaba's online retail store and the dominant online store in China. Online trade was found to have two important advantages over offline trade in China. With online sales, firms do not have to invest in a new brick-and-mortar store that may not be profitable in a small market, yet goods are available to consumers who would not otherwise be served. Online trade also reduces information costs, as consumers can easily obtain information about goods in distant locations.

They also find that consumers in smaller and more remote cities destine a higher fraction of their expenditures on online shopping than those from larger cities (11% in the smallest population quintile versus 7.7% in the largest population quintile). The same happens in cities with less market potential, that is, in markets that are further away from large cities. The import ratio (expenditure share on goods produced in other cities) for cities in the smallest population quintile increased from 0% to 10.77% and decreased from 75.8% to 66.7% in the offline channel. Although offline trade decreased, the net effect on the import ratio was positive: it increased an average of 1.3% (among quintiles by population).

Workers benefited substantially from this increase in domestic trade. First, labor demand increased, given the entry of new firms to the online market, especially in small markets, leading to an increase in nominal wages. Second, prices fell, given the increased variety of products; hence, real wages (the ratio of the nominal wage to the price index) increased.<sup>82</sup> Welfare gains explained by higher real income are, on average, 1.6% per city. In the first population quintile, these gains were 2%, and in the fifth quintile were 1.1%. The gains in market potential ranged from 1.2% (5th quintile) to 2.1% (1st quintile). Benefits from online stores, in terms of real income and domestic trade, have been greater in small and remote cities, which has reduced geographic inequality.

These findings demonstrate the gains obtained from online businesses. They have lowered prices and inflation, encouraged the emergence of goods that would not otherwise have appeared, and helped consumers to discover them, which also benefits offline stores by increasing their special orders. They also provide important pre-purchase information to guide consumers, and have decreased geographic inequality. As acknowledged by the

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<sup>81</sup> Fan, J., Tang, L., Zhu, W., & Zou, B. (2018), "The Alibaba Effect: Spatial Consumption Inequality and the Welfare Gains from E-commerce," *Journal of International Economics*, 114, pp. 203-220.

<sup>82</sup> There are other effects that decrease labor demand and increase prices. For instance, labor demand to open new physical firms decreases, but overall, labor demand increases, and prices decrease, for the reasons described.

Furman Report (2019), these are important benefits that should be considered when regulating online businesses.

In this section, we have focused on the benefits to consumers, as this is the main concern addressed in the literature. But as pointed out by Brynjolfsson, Hu, and Smith (2003), there might also be important gains to producers' welfare that should be considered: for instance, the increase in sales, facilities provided by online businesses, and cost reductions.

## **VI. Concluding Remarks**

There is extensive international debate about the explosive growth of online business firms. The degree of capitalization of these firms as well as allegations of monopolizations practices has put competition authorities on alert around the world. Countries have engaged in a race to legislate in order to ameliorate the presumable danger in the growth of these firms.

However, besides anecdotal evidence, some of the proposed changes show a lack of understanding of the economic principles that govern their operation. First, even though all of these firms are characterized as multisided markets with network externalities, their real-time operations can be readily differentiated. A brief review of the operations of two-sided market firms indicates that it is unclear whether a similar framework can be made to fit all. An example may illustrate this point: in the European Union proposal for regulation, a platform that surpasses certain thresholds (€6.5 billion in turnover or €65 billion in capitalization) may be subject to specific regulation. However, in the case of marketplaces, because of economies of scale and scope, in addition to network effects, the larger a firm, the more efficiently it operates. This means that the more efficient a firm is, the more likely it will be regulated by the authority.

The European regulations also put restrictions on vertical operations for online businesses that may affect the efficiency of their operation. The proposal restricts the use of information by marketplaces to offer similar services to third-party vendors. But we have seen that online marketplaces' entry into markets in which third-party sellers operate may be beneficial for consumers (Etro 2020) and may also increase the variety of products (Dryden, Khodjamirian, and Padilla 2020). Various Amazon Basics products have large firms as competitors. In addition, online businesses have proved to benefit final consumers in many ways. Restrictions on the vertical integration of online firms may affect the efficiency with which these firms operate. Thus, a general rule for all online business firms may not be the appropriate way to regulate market power. As Baker (2019) argues, "the range and plausibility of possible efficiency justifications for exclusionary behavior cautions against

invoking an across the board presumption of competitive harm.”<sup>83</sup> The reasonableness of exclusionary behavior versus efficiency should be analyzed on a case-by-case basis. Some remedies may have to be imposed on Google and others on Amazon, but there should be no general rules for all.

We thus propose an antitrust approach to regulating these firms, but we do not support general restrictions on the operations of all, such as those proposed by the European Union. In the case of marketplaces, the imitation of the products of third-party vendors must be investigated on the merits. Given that vertical integration by a marketplace operator may be efficient, the best approach to controlling monopolization abuses is to use antitrust principles, not a blanket prohibition of vertical operation where the marketplace surpasses certain thresholds.

We agree with the proposals that argue in favor of modifying antitrust legislation to provide more leeway in the standard of proof for allegations of monopolization practices. It may be appropriate, for example, to strip the predation standard from the recoupment condition. We also think that the proposals on data interoperability and data portability may be sensible, given that the information belongs to the users, where the cost of interoperability is low. We believe that non-discriminatory access to online marketplaces would be difficult to implement, given that discrimination in the form of offering differentiated contracts to firms and consumers appears to be essential for the firms to achieve efficiency.

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<sup>83</sup> Baker (2019), p. 138.

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