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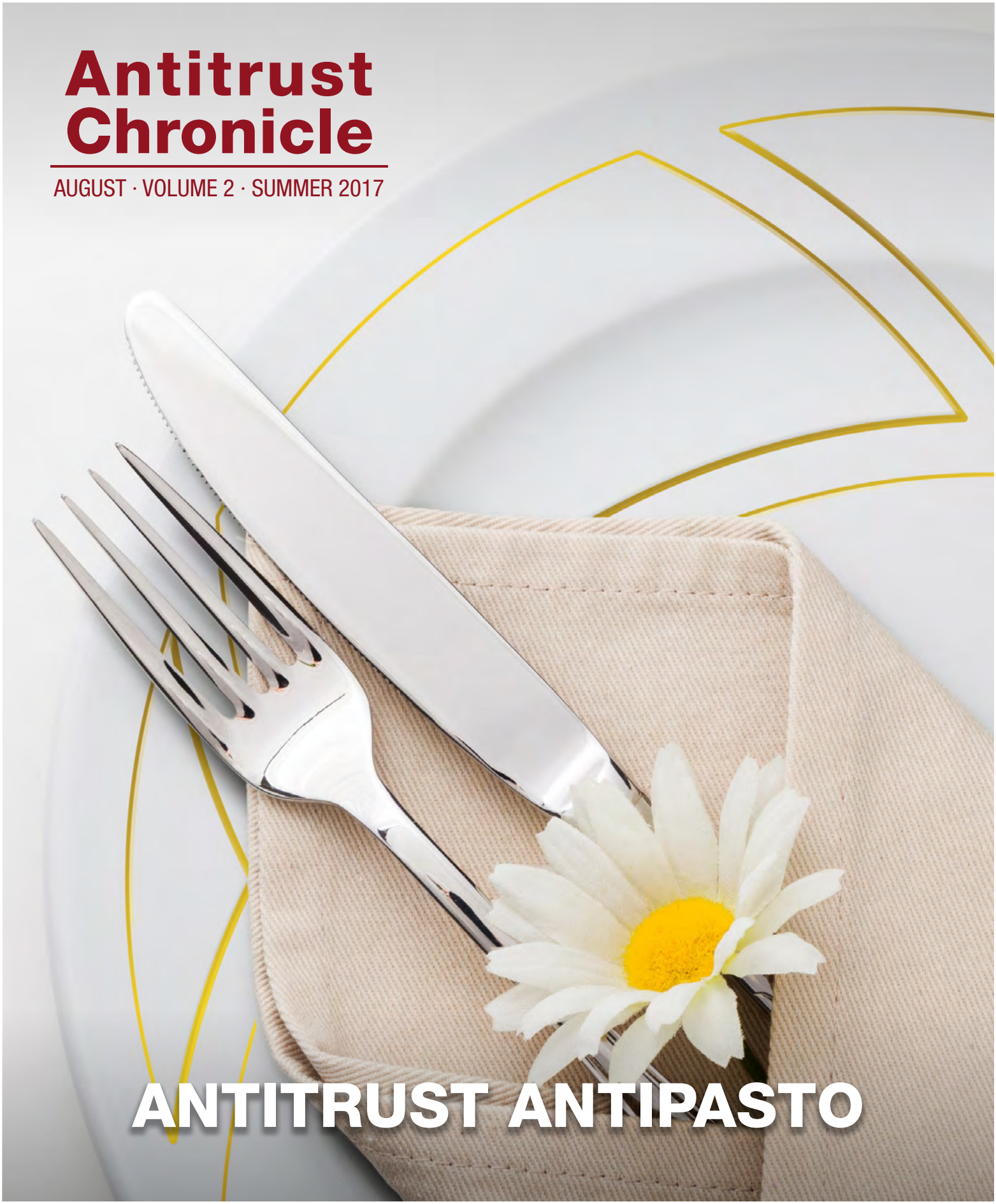

ANTITRUST ANTIPASTO

CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

For the month of August, we bring you our summer CPI Chronicle edition, the "Antirust Antipasto." This compilation of articles, for reading at the less hectic pace of summer, covers a cornucopia of antitrust jurisdictions ranging from the rapidly evolving Latin America and China to the EU and the U.S. on cutting edge topics such as algorithms and the conduct of digital platforms. Although diverse, there is a forward-looking theme that runs through many of the contributions as well as new insights into tried and true topics, such as global merger control and excessive pricing, and fresh new voices from emerging scholars.

In addition, the issue reaches out to deeper questions of the Ordoliberal standard of consumer choice or asking what is the definition of "big data."

Looking down the road, we anticipate seeing many of you in Brussels on September 25, 2017 at the Steigenberger Hotel for the LeadershIP EU conference which will feature dialogues between experts about the evolving international IP and Antitrust policy issues in the U.S. and the EU. CPI is proud to be one of the sponsors of the 2017 LeadershIP EU conference.

In the meantime, we sincerely hope you enjoy reading this summer 2017 "Antitrust Antipasto."

As always, thank you to our great panel of authors this month.

Sincerely,

CPI Team

LEADERSHIP

DISCUSS. DEBATE. UNITE. LEAD.

SUMMARIES

The Dynamics Of Platform Business Value Creation

By Eliana Garcés-Tolon

This paper argues that the technology and economic determinants of value creation in platform businesses have so far not been sufficiently taken into account in the analysis of the conduct of digital platforms. Platforms operate in an environment of extreme interconnectivity, exhibit many externalities and economies of scope and require sophisticated coordination solutions to manage the complex environment they create. This paper describes how the innovation management literature, together with elements of evolutionary theory, complexity, contract theory, and incentive mechanism design, provide the elements of a useful framework to analyze the evolution and behavior of digital platforms. This framework must build on an understanding of the source of value creation in platforms, of the deeply evolutionary nature of such platforms, and of the coordination tools that they can use to operate in a complex and uncertain environment. These tools include prices but also platform rules, contractual relations and integration decisions. Behavior pertaining to such matters can only be understood by taking the whole value generating process of the platform into account.

Algorithms And Competition: Friends Or Foes?

By Antonio Capobianco & Pedro Gonzaga

Big data and technologically advanced tools, such as pricing algorithms, are increasingly diffused today in everyone's life, and are changing the competitive landscape in many markets and sectors. While the size of this phenomenon is to a large extent unknown, there is a growing number of firms using computer algorithms to improve their pricing models, customize services and predict market trends. This phenomenon is undoubtedly associated to important efficiencies, which benefit firms as well as consumers in terms of new, better and more tailored products and services. However, a widespread use of algorithms has also raised concerns of possible anticompetitive behavior as they can make it easier for firms to achieve and sustain collusion without any formal agreement or human interaction. This article focuses on whether algorithms can make tacit collusion easier not only in oligopolistic markets, but also in markets which do not manifest the structural features that are usually associated with the risk of collusion.

Defining "Big Data" In Antitrust

By Xavier Boutin & Georg Clemens

This paper provides a definition of "big data" in antitrust. While big data has become an important topic in the antitrust literature and in competition policy practice, no clear-cut definition of big data has been provided yet. This contribution fills a gap, clarifying that a big data definition should not be volume centered but instead include aspects of data analysis and aspects of data variety. The definition provided in this paper can resolve uncertainties that prevail in the big data antitrust debate and contribute to assess market entry as well as competitive pressure in data related markets for future antitrust analysis.

Antitrust Sanctioning In China: How Can The NDRC Guidelines Be Further Improved

By Jet Deng & Yannis Katsoulacos

Antitrust sanctioning regimes have been the subject of extensive discussion among economists and legal practitioners in recent years and the emerging economic literature has shed considerable new light on the welfare and other properties (implementability and legal certainty) of alternative regimes. In China, the confiscation of illegal gains has always been stipulated in the laws and regulations as an indispensable antitrust sanctioning method, but only few cases have been imposed by it in reality.

This article applies some of the lessons that emerge from the economic literature to the recent debate in China about how to make antitrust sanctioning more effective. While the significance of the confiscation of illegal gains has been re-affirmed by the Draft Guidelines issued by the National Development and Reform Commission, we suggest that an alternative "sophisticated revenue-based" regime, in which the penalty rate applied to revenue is based on the overcharge rate, is superior in terms of welfare, implementability and legal certainty properties.

SUMMARIES

SUMMARIES

Rejecting The Ordoliberal Standard Of Consumer Choice And Making Consumer Welfare The Hallmark Of An Antitrust Atlanticism

By Joseph V. Coniglio

Protecting consumer choice remains essential to the enforcement of European competition law. This article provides an overview of ordoliberalism as a theory of political economy and its relation to a consumer choice paradigm for competition policy, before turning to a critical discussion of ordoliberalism's theoretical priors and practical standards for determining anticompetitive behavior. While an important chapter in the history of economic thought, the ordoliberal standard of consumer choice embodies a highly controversial and outmoded comprehensive worldview inapposite to the respective economic and political realities of dynamic and evolving markets as well as the importance of international convergence amidst the increasing number of competition regimes and views about the proper role of competition policy.

ANNOUNCEMENTS

REACHING OUT IN 2017

CPI wants to hear from you, our subscribers. In the coming months of 2017, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLE SEPTEMBER & OCTOBER 2017

The September 2017 Antirust Chronicle will address issues related to **The Digital Economy and Antitrust Risks**.

As a reminder to potential authors, our topic for the October 2017 Antitrust Chronicle is **Inequality and Antitrust**.

Contributions to the Antirust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited (follow bluebook style for footnotes) and not be written as long law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions for the October edition by September 20, 2017 to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers in any topic related to competition and regulation, however, priority will be given to articles addressing the abovementioned topic. Co-authors are always welcome.

WHAT'S NEXT?

This section is dedicated to those who want to know what CPI is preparing for the next month. Spoiler alert!

The September 2017 Antirust Chronicle will address issues related to **The Digital Economy and Antitrust Risks**. This edition will focus, in part, on competition in the major digital markets in which tech companies operate and how antitrust laws can affect innovation in this growing sector. Discussions related to platform-based business models, multi-sided markets, network effects and economies of scale will be covered. What are some of the major takeaways?

THE DYNAMICS OF PLATFORM BUSINESS VALUE CREATION

BY ELIANA GARCÉS-TOLON [1]

I. INTRODUCTION

In recent years, the expanding size and influence of some digital Internet platforms are generating unease among regulators around the world, in particular in the European Union. Concerns were initially raised by disrupted competitors, but regulatory scrutiny later gained traction on broader policy concerns relating to competition, privacy protection or consumer policy.

Much of the economic analysis used in regulatory discussions still relies on the same analytical framework applied to traditional offline markets. It is an economic framework built for situations where distinct products are exchanged in simple bilateral interactions, and where the dynamics of competition are determined by the availability, prices and quality of products of similar characteristics. This framework is mostly inadequate in the analysis of digital businesses due to some fundamental characteristics inherent to digital platforms: the high level of interconnectivity and variety of users; the scope for complementarities among the different activities; and the platform's resulting need to coordinate multiple agents for value creation. To better understand and analyze the evolution of Internet platforms and their impact on markets it is necessary to focus on the process of value creation in complex and uncertain environments. This requires the incorporation of concepts developed in the innovation management literature, complexity economics, evolutionary theory, contract theory and incentives mechanism design. This more sophisticated framework would allow a better assessment of regulatory responses.

Part two of this paper briefly describes the evolution of platform businesses. Part three presents the economic dynamics of digital platforms, the process of value creation and the coordination challenges that these platforms face. Part four concludes.

1 European Commission. Senior Fellow at George Mason University, Schar School of Policy and Government. The views expressed in the article are the private views of the author and may not, under any circumstances, be interpreted as stating an official position of the European Commission.

II. PLATFORM BUSINESS MODELS: EVOLUTION OVER TIME

The Internet originated in a technology that was initially meant to improve the resilience of existing communication networks. The packet networking technology was a response to the U.S. Department of Defense's desire to build a more secure communication network than the telephone network.[2] The new technology soon allowed bilateral connections to become multilateral. The Internet was created, and then opened. The new communication opportunities gave rise to commercial and social exchanges.[3] The Internet qualitatively changed when users started providing user-generated content, peer-to-peer exchanges, and social networking, thereby becoming direct contributors to the value creation online. Mobility added a new dimension to the kind of communications and services that could be offered. The ability to harness data, new big-data analytical capabilities and cloud computing, as well as a new approach to artificial intelligence based on machine learning further boosted the commercial value of data and online connectivity.[4]

Internet businesses evolved from the simple models focused on the online sale of goods, services or content to complex ecosystems of exchanges and collaboration that provided interlinked sets of services. These new platforms both served and engaged users, and used information in a radical new way. Amazon evolved from being an online bookstore to becoming a global market exchange, a cloud services provider, a content provider and finally a supplier of intelligent home services. Apple's mobility business evolved from a digital music provider to a communications and content provider, to a platform for services and eventually a provider of intelligent device connectivity. Google's business has long moved past the business of online search to provide online advertisement, maps and geo-location services, translation services, commercial marketplaces, cloud and management services as well as mobility services and mobile apps. The company is focused on increasingly large applications developed around artificial intelligence. Facebook's social networking site now provides advertisement, news, communication services and live content streaming. One could go on describing rapid evolutions of platforms such as LinkedIn, Booking.com, Ebay or Paypal.

Two important features have characterized successful digital platforms. First, they are evolving businesses that continuously span out into new activities. The evolution seems to be highly experimental with several instances of services and offerings that are tried out and then either developed or closed. Google tried three social network sites before Google+. Amazon tried several payment systems that it later shut down. The second characteristic is that these businesses have tended to higher or lesser degrees towards integration of their different offers into a single experience. Platforms are offering entire menus of services that increasingly rely on each other for delivery. A user will find a single interface for multi-purpose services that operate in an increasingly integrated fashion. Examples are calendars linking to mails and maps, commercial offers linked to content usage, or home devices placing orders by simple voice commands. Platform providers build their ecosystem exploiting synergies across different services. They do so in various ways using either partnerships or full integration. Digital services are becoming easier to access and simpler to use. Yet at the same time the complexity of the digital commercial world is vastly increasing.

These developments have defined the digital service markets. Users may be able to find alternative providers for a similar service but these services are rarely equivalent as the complementary offers they link to can be quite different. Similar services may be offered by platforms with different core strengths and complementary services that may vary from information processing, social networking, cloud business services, or marketplaces. The competition for users among large platforms occurs in a landscape of very differentiated suppliers that sometimes compete and sometimes complement each other. Competitive challenges may appear from a very different platform provider developing complementary services. Understanding the fundamental drivers of this complex and evolutionary environment is essential to understand its progression and distinguish desirable from non-desirable outcomes.

2 RAND "Paul Baran and the origin of Internet" http://www.rand.org/about/history/baran.html.

3 A good account of this process can be found in Greenstein, (2016) *How the Internet Became Commercial: Innovation, Privatization, and the Birth of a New Network,* Princeton University Press.

4 A vast literature documents the rise and evolution of platforms. See for example; Simon, *The age of the platform: How Amazon, Apple, Facebook, and Google have redefined business*. Motion Publishing, 2011.

III. THE ECONOMICS OF PLATFORMS AND PLATFORM DYNAMICS

A. What is a Digital Platform?

Platforms are diverse, and while some researchers have attempted to categorize them, others have attempted to define the underlying common elements.[5] This paper defines platforms as coordination devices that use technology and connectivity standards to bring together a variety of functionalities and users in a way that creates value and generates a rent for the platform owner.[6] This definition presumes and stresses the coordinating role of the platforms for value creation.[7] The focus of this paper will be on Internet-based platforms that have evolved into providing a great variety of diverse functionalities resulting in an ecosystem of activities beyond simple market intermediation or value chain organization. This means for example that a service that would only connect passengers and taxi drivers without any payment or complementary functionality is not the subject of this paper – although the economics of platforms predicts that if this service is independently owned it would eventually evolve towards offering such complementary services. Platforms covered include for example the Apple operating system, Android OS, Amazon market place but also to more specialized platforms such as travel reservation platforms or the more sophisticated payment platforms such as Paypal. All these platforms have in common an expansion of complementarity services and functionalities although they represent different choices in the level of integration and coordination.

From a technological perspective, a platform provides some standardized functionalities that form a core on which complementary modules or functionalities can be plugged. For example, an Internet search platform provides a technology on which advertisers, geo-location services or marketplaces can plug. An operating system provides a standard interface that can be used by all those who choose to add a service or functionality. Essential functionalities such as connectivity with users or even payment systems can potentially be standardized into the platform core. Complementary "add-on" functionalities can be added, removed or replaced at little cost without undermining the stable core service, and this promotes complementary innovation and platform evolution.[8] A platform structure is adopted as a business model when the platform owner is keen on generating investment in such complementary functionalities (or services) and when it stands to gain from their large degree of diversity.[9] The dynamics of the platforms therefore follow an evolutionary process where the platform owner tries and tests services that create value in a variety of ways. It then proceeds to establish links of different strengths with the providers of successful complementary services.

B. Platform Value Creation

A recent literature on business models, motivated by the impact of new technologies, has focused on the coordinating role of firms in discovering and developing opportunities for value creation.[10] The focus of this type of analysis is on the organization of value creation rather than on the firm strategy for competitive positioning.[11] The focus is on value generation rather than market share or

5 For a categorization attempt see Thomas, Autio and Gann (2014) "Architectural Leverage: Putting Platforms in Context," *Academy of Management Perspectives*, *28*(2), 198–219.; For an attempt to define common characteristics see Baldwin & Woodard, (2009) "The Architecture of Platforms: A Unified View" in Platforms, Markets and Innovation (Paperback Ed.), Cheltenham, UK and Northampton, MA.

6 Schreieck et al. (2016) similarly attempts to bridge the gap between a technology and market based approach to platforms. See Schreieck, Wiesche & Krcmar, (2016) "Design and Governance of Platform Ecosystems-Key Concepts and Issues for Future Research," in *ECIS* (ResearchPaper 76).

7 Bresnahan & Greenstein (1999) define a platform as "a bunch of standards components around which buyers and sellers coordinate efforts." See Bresnahan & Greenstein, (1999) "Technological Competition and the Structure of the Computer Industry," *The Journal of Industrial Economics*, 47(1), 1–40. This paper further extends the concept of platforms beyond simple marketplaces and presumes an active coordinating role by the platforms.

8 Baldwin & Woodard, (2009) "The Architecture of Platforms: A Unified View," in Platforms, Markets and Innovation (Paperback Ed.), Cheltenham, UK and Northampton,MA.

9 Baldwin & Woodard, (2009).

10 For a review see Zott, Amit & Massa (2011) "The Business Model: Recent Developments and Future Research," *Journal of Management*, 37(4), 1019–1042. This approach is also related to the literature on dynamic capabilities. See Teece, (2011) *Dynamic capabilities and strategic management: organizing for innovation and growth*: Oxford Univ. Press.

11 The importance of the capacity to combine and coordinate new technologies and abilities as a source of value creation is illustrated in the "dynamic

rent appropriation. This literature emphasizes the experimental and evolutionary nature of successful business models, and relates choices of architecture and relations with complementary actors to innovation fitness decisions.[12] It shows that the coordination of activities for the purpose of value creation typically extends beyond the formal boundaries of the firm, and also involves establishing links with independent players.[13] The framework developed in this business model literature is relevant to the analysis of digital platforms as it sheds light into their process of value generation.

Coordination tools used to maximize platform value involve pricing and non-pricing mechanisms. Some organization and pricing decisions are certainly driven by strategic considerations relating to competitive threats, but the important point is that these considerations are not the only factor determining the design and conduct of a platform business.[14]

A crucial point in the analysis of platforms is that value creation on a digital platform is often triggered by two factors that are largely absent in more traditional markets: the instant large-scale interconnectivity (access to users, counterparties or complementary providers) and the large opportunities for demand and supply complementarities that are technologically made possible within the platform.[15] Economies of scope may arise due to demand-side complementarities such as when the usage of a service makes the usage of another service more attractive. A platform payment service will be more valued by a user who also uses a marketplace service on the platform. But there are also supply-side synergies. The supply of a service might be made more efficient by the simultaneous supply of another service. Instant delivery services are made efficient by the simultaneous presence of geo-location and interactive map services. The observed convergence of traditional e-commerce and online content supply into a single value proposition is another example of such economies of scope in platform activity. Such convergence is visible when an online fashion retailer provides a fashion blog, a houseware retailer provides online cooking classes or an online gardening publication sells gardening tools.[16]

The technology for cheap interconnectivity increases the impact of network effects and economies of scale.[17] But the distinctive and determinant driver of platform businesses is the sheer amount of complementarities conducive to indirect network effects and economies of scope.[18] The opportunities for such demand-side and supply-side economies of scope are enhanced by the platforms' ability to interconnect very efficiently and very cheaply vast amounts of users and services. As every platform participant is immediately accessible to all counterparts, the combinatorial possibilities for transacting grow dramatically with platform size. While network effects in the provision of a given service have been treated by regulators as a factor cementing platform dominance in any one service, economies of scope are also a strong a driver of platform evolution. For example, Kakao Talk, a messaging application

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capabilities" literature. See Teece, Pisano & Shuen, (1997) "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, *18*(7), 509–533.

12 See for example Doz & Kosonen (2010) "Embedding strategic agility: A leadership agenda for accelerating business model renewal," *Long Range Planning*, *43*(2), 370–382.

13 This links to the concept of a business model as an "activity system" as developed in Amit & Zott (2010) and Zott & Amit (2010). Business models structure and govern a system of interdependent activities that cross the boundaries of the firm. This is a different approach than the partial optimization exercise across activities within a firm. See Amit & Zott, (2001) "Value creation in E-business," *Strategic Management Journal*, 22(6–7), 493–520; Zott & Amit, (2010) "Business Model Design: An Activity System Perspective," *Long Range Planning*, 43(2–3), 216–226.

14 Examples for pricing decisions on platforms driven by rent appropriation considerations can be found in Hagiu, (2009) "Two-Sided Platforms: Product Variety and Pricing Structures," Journal of Economics & Management Strategy, 18(4), 1011–1043.

15 Shapiro & Varian, (1998) offer and early but still valid account on how companies can exploit economies of scale and scope in digital services. See Shapiro & Varian, (1998) *Information Rules: A Strategic Guide to the Network Economy*, Harvard Business Press.

16 Berger & Hess, (2015) "The Convergence of Content and Commerce: Exploring a New Type of Business Model," *AMCIS 2015 Proceedings*.

17 The mechanisms of network effects on platforms when they are matching buyers and sellers or producers and users are described in Katz & Shapiro, (1994) "Systems Competition and Network Effects," *The Journal of Economic Perspectives*, 8(2), 93–115.; Evans, (2003) "The Antitrust Economics of Multi-Sided Platform Markets," *Yale Journal on Regulation*, 20(2); and Rochet & Tirole, (2003) "Platform competition in two-sided markets," Journal of the European Economic Association, 1(4), 990–1029).

18 Amit & Zott, (2001) presents a theoretical framework to explain value creation in e-businesses that also identifies these features. See Amit & Zott, (2001) "Value creation in E-business," *Strategic Management Journal*, 22(6–7), 493–520.

successfully beat Facebook in Korea after it developed social network functionalities into its core communication service.[19]

Data has greatly increased the complementary nature of many services as the data collected in one service can be used to improve another.[20] Platform users not only purchase goods or services but also provide useful information on behavior, demand and usage. The management literature is awash with predictions on the importance of Big Data analytics for the successful businesses of tomorrow, but the exploitation of Big Data is already a reality for the large online platforms.[21] Big Data analytics is used to improve existing services by targeting offers and possibly elaborate new ones. It is used to forecast behavior, and its utility spans beyond the market on which it is collected as observed patterns in one market can improve forecasts in another. Big Data is also essential for the development of businesses relying on artificial intelligence. Data is easy to collect in digital platforms, and new techniques are increasingly facilitating the type of processing that renders the data actionable for platforms capable of the necessary technological investment. The collection and exploitation of data are an increasingly important factor in platform value creation.

C. Elements of Platform Coordination

In order to properly generate and maximize the value made possible by the platform, the platform owner ends up having to coordinate a wide variety of diverse elements interacting on it. As mentioned above, one aspect of the platform coordination is the provision of a set of standard technology to be relied upon by all other complementary services. But platform coordination extends beyond the joint development or provision of standard technology, and also concerns the value creation process. It includes the set up rules, incentive mechanisms and payment structures that elicit particular behaviors on the part of all users involved in co-creation.[22] Such coordination tools include for example the design of the interface and rules of participation that prompt buyers and sellers to join an intermediation service platform, allow them to meet in relevant ways, and potentially incentivize them to improve the service.

Coordination mechanisms in market intermediation services that link two or more sets of users wanting to interact have been extensively studied in the multi-sided market literature.[23] This literature thoroughly analyzes the impact of behavioral complementarities (how the behavior of one type of users affect the behavior of the rest of the group or of other types of users) on a coordinating platform's contractual decisions. The focus of that literature has tended to be on the impact of these complementarities on price structures to incentivize market participation and growth.[24] But this interdependence needs also to be managed in order to unlock new forms of value generation.[25]

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19 "Despite its Android Dominance Facebook fails to Tower over Kakao in Korea," July 13, 2017 Business Korea http://www.businesskorea.co.kr/english/news/ict/18645-despite-its-android-dominance-facebook-fails-tower-over-kakao-korea.

20 Visconti et al. (2017) describe the Big Data value chain and the value created by "data fusion." They also highlight the complexity and technical challenges involved hence illustrating the benefits of coordination. Visconti, Larocca & Marconi, (2017) *Big Data-Driven Value Chains and Digital Platforms: From Value Co-Creation to Monetization* (SSRN Scholarly Paper No. ID 2903799). Rochester, NY: Social Science Research Network.

21 McAfee & Brynjolfsson, "Big data: the management revolution," *Harvard Business Review* 90.10 (2012): 60-68; Davenport, (2014) "How strategists use 'big data' to support internal business decisions, discovery and production," *Strategy & Leadership*, 42(4), 45-50. The data generated and collected in the platform can also be monetized in more classic ways and the sale of non-identifiable personal data is already a competing revenue stream with advertising on online services. This fact is mentioned in Roma & Ragaglia, (2016) "Revenue models, in-app purchase, and the app performance: Evidence from Apple's App Store and Google Play," *Electronic Commerce Research and Applications*, 17, 173–190. Data monetization is also described in Visconti et al. (2017).

22 Hagiu, (2014) "Strategic Decisions for Multisided Platforms," *MIT Sloan Management Review*, 55(2), 71–80; Parker, Alstyne (2014) *Platform Strategy* (SSRN Scholarly Paper No. ID 2439323). Rochester, NY: Social Science Research Network.

23 A non-technical explanation of the functioning of multisided markets can be found in Evans & Schmalensee, *Matchmakers: The New Economics of Multisided Platforms*, Harvard Business Review Press, 2016.

24 Rochet & Tirole, (2003) "Platform competition in two-sided markets. Journal of the European Economic Association," 1(4), 990–1029; Evans & Schmalensee, (2005) *The industrial organization of markets with two-sided platforms* (No. w11603), National Bureau of Economic Research; Rysman, (2009) "The economics of two-sided markets," *The Journal of Economic Perspectives*, *23*(3), 125–143.

25 In their analysis of platform ecosystems, Shreieck et al. (2016) note the lack of integration of the technology based literature that emphasize value creation and the market based approach that emphasizes pricing and revenue generation. McIntyre & Srinivasan (2017) summarize both strands of literature and also calls for a needed integration. See Schreieck, Wiesche & Krcmar, (2016) "Design and Governance of Platform Ecosystems-Key Concepts and Issues for Future Research," in *ECIS* (ResearchPaper 76); McIntyre & Srinivasan, (2017) "Networks, platforms, and strategy: Emerging views and next steps," *Strategic*

When coordinating the value generating activities it supports, a platform will attempt to optimize the total value generation process. It will set the rules of the platform to coordinate all possible types of valuable contributions by all the participants in order to maximize total value. In doing so, the platform must be sure to generate enough value to each user to incite their participation. Because of the large number of potential interdependences across users and services, the incentive mechanisms set by a platform will differ from a situation of distinct providers of these same services.

Coordinating across users and suppliers of complementary services will be particularly important when the platform is intent on technological or business model innovation. Such innovation may require an adaptation by users and suppliers; a platform can affect their ability and willingness to undertake that adaptation by establishing the right relationship.[26] The platform may also want to maximize the production of and access to actionable information actively or passively provided by users in their various interactions. For this, the platform may design behavioral incentives for different users to increase their provision of data. Finally, the platform owner will need to take into account the positive or negative impact that any participant's behavior has on other participants in order to enhance positive complementarities and avoid negative feedback effects across users.[27] Such negative feedback effects occur for example when a platform allows fraudulent operators to co-exist with legitimate ones causing users to drop out. Negative externalities explain why platforms often have an incentive to regulate against fraud, low-quality services, excessive user risk or other undesirable outcomes.

All these value-generating considerations will be relevant to the platform when it determines the final rules of participation to its participants. The drive to provide value to individual users, the opportunities to extract and use data and information, as well as the prevention of outcomes that could undermine the dynamics of the platform all play an important role in platform governance and incentive mechanisms.[28] The multi-sided market literature has extensively described the coordination issues involved in scaling and pricing correctly such as to bring on board two sides of a same market.[29] Coordination through pricing can also extend to behavior outside of the platform. For example, it has been argued that the price parity clause that hotel booking sites impose on hotels, which prevents them from selling rooms at a cheaper rate on their own websites, is meant to eliminate incentives for users to use the hotel search service on the platform without using the booking service. As it is efficient for a booking platform offering both search and booking services not to charge for the traffic generating search, and only to charge the hotel for the booking, eliminating the booking step on the platform may undermine the whole process of synergies and value creation for the platform business. This example also illustrates the tensions that often arise between platform value optimization and optimization by a single user.[30]

Rules and coordination mechanisms may extend beyond pricing, and may involve access rules, bouncer rights, restrictions on behavior, investment requirements or asset and risk sharing.[31] All these rules imposed on users may be motivated by the need to address the externalities that arise on the platform in order to increase or protect the value of the platform ecosystem.[32] An approach that considers the impact of platform rules on one particular service, functionality, or user type in isolation runs the risk of missing

Management Journal, 38(1), 141–160.

26 Yoffie & Kwak, (2006) "With Friends Like These," *Harvard Business Review*, 84(9), 88–98.

27 Hagiu, (2014) "Strategic Decisions for Multisided Platforms," *MIT Sloan Management Review*, 55(2), 71–80.

28 Iansiti & Levien, (2004) describe the strategic interest of businesses that rely on complementary suppliers in actively promoting "healthy" ecosystems. Iansiti & Levien, (2004) "Strategy as ecology," Harvard Business Review, 82(3), 68–81.

29 Katz & Shapiro, (1994) "Systems Competition and Network Effects," *The Journal of Economic Perspectives*, 8(2), 93–115; Evans, (2003) "The Antitrust Economics of Multi-Sided Platform Markets," *Yale Journal on Regulation*, 20(2); Rochet & Tirole, (2003) "Platform competition in two-sided markets," Journal of the European Economic Association, 1(4), 990–1029.

30 Yoffie & Kwak, (2006) "With Friends Like These," *Harvard Business Review*, *84*(9), 88–98.

31 Boudreau & Hagiu, (2008) discuss the necessary regulator role of platforms. Boudreau & Hagiu, (2008) "Platform rules: Multi-sided platforms as regulators." Parker & Van Alstyne, (2014) also provide examples of efficient platform non price coordination. Parker, Alstyne (2014) *Platform Strategy* (SSRN Scholarly Paper No. ID 2439323). Rochester, NY: Social Science Research Network.

32 Kapoor & Lee, (2013) argue that market based mechanisms coordinating only around prices may not promote innovation in new technologies under circumstances of complexity and uncertainty. Kapoor & Lee, (2013) "Coordinating and competing in ecosystems: How organizational forms shape new technology investments," Strategic Management Journal, 34(3), 274–296.

a value generating purpose of the rule. Technological complementarities, behavioral externalities and economies of scope on the platform need to be well understood in order to assess the rationale of platform rules.

D. Integration Decisions

The difficulty of establishing and maintaining the right incentives in support for maximum value creation will sometimes motivate platforms to take control of complementary services integrating them into the platform core. Economic theory predicts that a platform will not have an incentive to integrate a complementary service if it has an alternative way of internalizing the rent generated by the complementarity.[33] This appropriation could take the form of a higher fee charged to platform users, rent transfers from the complementary service provider or even higher platform traffic. But if realizing these complementarity efficiencies requires coordination then bargaining problems may occur that may push the platform towards integration.

Incentives for vertical integration due to the costs of writing and enforcing complete contracts have been described in the transaction costs economics literature.[34] Transaction costs are likely to be high when the contracting assets need to undertake specific investments for the joint value creation.[35] The link between the need to develop co-specialization and the level of integration has also been described in the literature of dynamic capabilities and the more recent literature on business models has also approached modularity as a mechanism for innovation and adaptation.[36] Under these frameworks, services that are integrated will be the ones that exhibit the highest and more complex complementarities within the platform and therefore offer the most gains from coordination in either supply or usage. For example, access to functionalities such as Google maps, Google Drive or Google Wallet is offered to any app developer that joins Google Play on the Android platform – although they remain distinct services.[37] Amazon has fully integrated payment systems into their marketplace platform. Although such integration decisions may be motivated by competitive strategy, the standardization of functionalities on the platform promotes value and often enhances coordination in a way that facilitates the realization of economies of scope.

Increasing difficulties in contracting access to data for the exploitation of possible synergies may, in this sense, point to less modular platforms in the future. Similarly, the technological coordination that is needed to facilitate the fusion of unstructured datasets also fosters cooperation and, absent coordinated solutions, integration.

E. Appropriation Mechanisms

The design of the business model by a platform must not only coordinate to create value but also include revenue appropriation mechanisms. These will also take a variety of forms across activities: access fees, transaction fees, direct sale of premium services or licensing. The collection of information can also ultimately be revenue generating. The design of mechanisms to appropriate platform benefits will need to be coherent with incentive mechanisms for value generation. As already described in the multi-sided market literature, who pays for what will be strongly affected by the role and externalities generated by the different platform users in the process of value creation.

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33 Farrell & Weiser, (2003) develop this concept of internalization of complementary efficiencies and discuss some exceptions to this rule. Farrell & Weiser, (2003) "Modularity, vertical integration, and open access policies: towards a convergence of antitrust and regulation in the internet age," *Harv. JL & Tech.*, 17, 85.

34 Starting with Williamson, (1971) "The Vertical Integration of Production: Market Failure Considerations," *The American Economic Review*, 61(2), 112–123.

35 Riordan & Williamson, (1985) "Asset specificity and economic organization," International Journal of Industrial Organization, 3(4), 365–378; Williamson, (1989) "Transaction cost economics," *Handbook of industrial organization*, 1, 135-182.

36 Teece, Pisano & Shuen, (1997) "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, 18(7), 509–533. For the role of capabilities development in the vertical structure of an industry see Jacobides & Winter, (2005) "The co-evolution of capabilities and transaction costs: explaining the institutional structure of production," *Strategic Management Journal*, 26(5), 395–413. For a description of choices of modularity as a mechanisms for innovation see Aversa, Haefliger, Rossi & Baden-Fuller, (2015) "From Business Model to Business Modelling: Modularity and Manipulation," in *Business Models and Modelling* (Vol. 33, pp. 151–185). Emerald Group Publishing Limited.

37 "Integrated Google Play Services on Android" https://code.tutsplus.com/tutorials/integrating-google-play-services-on-android--cms-19828.

Finding mechanisms to appropriate and protect the rents of innovation will also affect the architectural design of the platform. In order to avoid easy replication and an erosion of rent, platforms will promote the differentiation of the platform eco-system. The joint supply of diverse specialized services building on a core technological strength is an example of such possible differentiation. The need to protect rent appropriation mechanisms against competitive pressure will also determine the modules or functionalities that will be internalized or kept open.[38] For example, retaining control of or integrating those functionalities that are not easy to replicate will contribute to rent appropriation and protect from platform replication.[39] But a platform might also invest in a complementary asset that is valuable in generating further complementary opportunities and may even encourage imitations of this function if this subsequently increases the value of that asset.[40] The appropriation of a new functionality may therefore result in closure or additional openness depending on its role in the overall platform value generation and in its appropriation mechanisms.

Rent appropriation mechanisms are necessary for the business platform to be viable and innovative. As long as what is appropriated is a share of the value generated by the business, the welfare effect is positive. This contrasts with cases where strategies are put in place to increase rent extraction from the market as a whole at the expense of overall welfare and innovation capabilities.

IV. CONCLUSION

Platforms generate value by exploiting the benefits of large-scale interconnectivity and the opportunities of an exceptional range of possible economies of scope. Recent economic and management literature has illustrated how the incentives to invest in new technologies and the ability to organize and appropriate rent from the resulting innovation rely on complex relations with customers, suppliers and complementary providers.

This paper has presented the argument that the co-creation activity and coordination mechanisms for joint development of new products are as much a driver in the dynamics of platform governance as are the platform's strategic imperatives of competition. Rules of participation and pricing decisions will often work as incentive mechanisms and coordination tools in addition to their more traditional role of market positioning mechanisms. Yet production-oriented objectives have been mostly ignored in policy makers' analysis of platform markets. Traditional models of firm behavior generally used in less evolutionary and more disconnected environments are likely to be inadequate in explaining platform behavior and the dynamics of platform based businesses. This is particular the case when these models are used in a partial analysis of the overall platform activity.

38 Several articles also illustrate the link between platform architecture and competitive strategy. See for example Woodard, (2008) "Platform Competition in Digital Systems: Architectural Control and Value Migration," 1–38.

39 Teece, (1986) "Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy," *Research Policy*, *15*(6), 285–305.

40 Jacobides, Knudsen & Augier, (2006) "Benefiting from innovation: Value creation, value appropriation and the role of industry architectures," *Research Policy*, 35(8), 1200–1221.

ALGORITHMS AND COMPETITION: FRIENDS OR FOES?

BY ANTONIO CAPOBIANCO & PEDRO GONZAGA [1]

I. INTRODUCTION

There has been a recent wave of distress in some corners of the antitrust community about the hypothesis that, with the fast development of machine learning and the growing popularity of pricing algorithms, firms are developing new sophisticated strategies to collude under the radar of antitrust watchdogs. Among several possible theories of harm, there is the concern that artificially intelligent machines may be causing competitive harm by coordinating prices in a much more efficient way than what a human being could ever aspire to do. We will focus this paper on this particular risk and leave aside other possible theories of harm.

The lively debate that is growing around this topic, while initially kept more at an academic level, is now reaching antitrust practitioners, competition authorities, governments and international fora such as the OECD, which hosted in June 2017 a Roundtable on Algorithms and Collusion. What's the verdict? Well, the jury is still out and while some commentators remain skeptical about the risks of algorithms, possibly concerned with the burden that a stronger antitrust enforcement could pose on businesses, others claim that this is a sensational discussion not to be taken more seriously than stories about machines taking control over humans.

So which of these visions is true? Are competition policy debates turning into arenas to discuss science fiction stories that serve only to stimulate our intellect? Or do we increasingly live in a world where some market players, using complex computer codes, can exploit and harm those who do not dominate technology?

While it is probably exaggerated to say that computer algorithms will dramatically change everything we know about competition, it would also be unwise to ignore the clear signals that markets are changing, as well as the

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resulting implications for competition policy. Apart from the evidence of cartels in multiple jurisdictions that have been facilitated by advanced technology, the fact that the risks of algorithms are being taken very seriously by heads of agency and even heads of State suggests, at the very least, that this problem deserves deeper scrutiny before one chooses to disregard it.

In the analysis of this problem, it is equally important to avoid over simplistic approaches, such as assuming *a priori* that algorithms always facilitate anti-competitive agreements prohibited by competition law. Although in some cases this might be true, in other cases algorithms may raise new questions that require a more articulated analysis. In particular, it is important to evaluate whether algorithms might allow companies not only to collude in a wider spectrum of market structures, but also to do so without necessarily triggering a violation of competition laws, challenging thus existing antitrust approaches.

II. CAN ALGORITHMS ALTER STRUCTURAL CONDITIONS THAT FACILITATE COLLUSION?

The likelihood of collusion in a given industry depends on different market characteristics, which are commonly known as relevant factors for collusion. At first sight, it is hard to establish the impact of algorithms on the likelihood of collusion, as automated tools might affect relevant factors in different directions. Consider the following examples.

Relevant factors for collusion		How do algorithms affect collusion?
Structural characteristics	Structural characteristics	±
	Barriers to entry	±
	Market transparency	**+**
	Frequency of interaction	**+**
Demand variables	Demand growth	0
	Demand fluctuations	0
Supply variables	Innovation	-
	Cost asymmetry	-

Legend: + positive impact; - negative impact; 0 neutral impact; ± ambiguous impact.
Source: OECD (2017), "Algorithms and Collusion, Background note by the Secretariat, DAF/COMP(2017)4.

In the first place it is unclear how algorithms may affect the number of firms and barriers to entry, which are traditionally identified as two of the most important structural characteristics that affect the risk of collusion. While it is true that typical high-technology industries have a small number of large players (as is the case of search engines, online marketplaces and social networks), this is not necessarily a direct consequence of their proprietary algorithms and associated competitive advantage. After all, small companies can also develop better technologies to displace market incumbents, as has happened multiple times in the past.

In addition, the impact of algorithms on some supply factors could actually reduce the risk of collusion. For instance, algorithms are naturally an important source of innovation, allowing companies to develop non-traditional business models and extract more information from data, in order to improve product quality and customization. Similarly, if algorithms allow companies to differentiate their services or the production process in such a way that leads to cost asymmetry, collusion might be again harder to sustain, due to the inherent difficulties of finding a focal point to coordinate and as a result of the low incentives for the low-cost firms to collude.

Although the overall effect on collusion appears to be generally ambiguous, algorithms may likely affect some relevant factors for collusion more significantly than others. In particular, there is currently a concern that, as a result of recent technological developments, markets are becoming highly transparent and firms are increasingly able to use automated tools to interact quickly. This appears to be the case of financial markets, where the combination of transparency and high-frequency trading has already been responsible for some market distortions.

In order to evaluate the potential impact of these two market characteristics on collusion, a simple theoretical exercise can show that, when markets are sufficiently transparent and the retaliation lag is sufficiently small, collusion can always be sustained as an equilibrium strategy, no matter the market structure. The intuition for this result is straightforward: if markets are so transparent and reactive that firms can immediately detect and punish a deviation, no company has any incentive to deviate from an agreement.

It should be noted, however, that this result does not necessarily imply that collusion will be systematically observed in all digital markets. For instance, in less concentrated industries every player has an incentive to wait for other companies to form a cartel while remaining as an outsider, in order to benefit from the high price level charged by the cartel – the so-called "cartel umbrella." Therefore, in industries with many players, firms may still fail to coordinate despite the use of algorithms. Nonetheless economic theory suggests that algorithms could make collusion sustainable in a wider range of circumstances than before, possibly even in markets that were in the past characterized by fierce competition.

III. DO ALL FORMS OF ALGORITHMIC COLLUSION VIOLATE COMPETITION LAW?

It is important to make a distinction between instances where algorithms amplify conduct that is already covered under the current legal framework and instances where algorithms enable, to some extent, behaviors not covered by the current antitrust rules. Under the first scenario the discussion is rather straightforward, as algorithms ought to be assessed together with the main infringement that they enable. While detecting and proving the existence of such an infringement might be complex, agencies can nevertheless rely on existing rules on anti-competitive agreements, concerted practices and facilitating practices, which offer a framework to assess algorithms as practices ancillary to a main infringement.

Different considerations apply if algorithms replace formal cartels with tacit agreements which, not being forbidden by competition rules, would allow companies to extract an economic rent without the risk of triggering an antitrust violation. For that, firms can independently program algorithms to signal and coordinate a common policy as well as to monitor and punish deviators, all this without any explicit communication.

For instance, while in the past firms had to exchange detailed information in formal meetings in order to coordinate their pricing strategies, now they can unilaterally program algorithms to collect market data, monitor price variations and automatically retaliate if any company discounts. This is already facilitated, for example, by price aggregator websites, some of which use *scraping algorithms* that automatically extract updated price information from multiple companies' websites.

Algorithms may also serve as a much more effective tool to coordinate a tacit agreement by eliminating the cost of signaling. In the past, in order to propose a price rise without breaking the law, firms would have to increase prices for a significant amount of time in order to allow rivals to receive the signal and respond accordingly, risking in the meantime the loss of customers. Nowadays, firms can instantaneously execute countless price variations that are immediately detected by rivals, allowing them to coordinate strategies without giving enough time for consumers to react upon the price changes.

Although some competition authorities may investigate signaling practices under their competition law, more simple strategies can be implemented by firms in order to avoid fines and other sentences. In fact, in markets where products are sufficiently homogeneous, firms can simply program pricing algorithms to follow a market leader, by imitating in real time any price variations. Then, if the leader realizes what is happening without communicating with the remaining companies, this will very likely result in a collusive outcome that would hardly amount to an antitrust violation in any jurisdiction in the world.

In addition, some commentators have raised the hypothesis that firms can use machine learning techniques to make algorithms replicate a collusive outcome without being explicitly programed to do so. While machines that self-learn to collude may sound a lot like science fiction, some experiments in simulated environments have actually shown that neural networks are particularly good at reaching cooperative outcomes when playing the iterated prisoner's dilemma. Even though this hypothesis still remains to be empirically tested in real markets, the current antitrust toolkit of most jurisdictions might be unsuitable to detect, much less prosecute, this much nuanced form of (tacit) collusion.

IV. WHAT CAN COMPETITION AUTHORITIES DO?

In light of the many challenges brought by the rapid development of digital markets, some antitrust experts are advocating for the use of competition tools to reduce, as much as possible, the risk of collusion. This could involve, for instance, conducting market studies to identify industries where algorithms are more likely to harm competition; stronger merger control enforcement, by taking into consideration how algorithms might affect potential coordinated effects; and a variety of remedies, such as introducing auditing mechanisms for algorithms and applying "notice-and-take-down" processes if a considerable risk of collusion is detected.

The implementation of these and other traditional antitrust tools can certainly be helpful to address some of our most immediate concerns, but they might still be of little value to tackle more subtle forms of collusion that are not currently covered by competition law, particularly if these practices are increasingly widespread in a range of markets. In fact, while recognizing that the extent of algorithmic collusion is still unknown, policy makers might eventually be forced to reconsider some traditional competition law concepts, such as the legal approach to tacit collusion, the concept of agreement or the notion of liability.

Let's consider first the problem of tacit collusion, which is well known as one of the biggest antitrust legal challenges (the so-called "oligopoly problem"). So far, competition policy has provided limited solutions to the oligopoly problem, as it is commonly understood that the particular conditions required to sustain tacit collusion are rarely observed, with the exception of a few markets with a very small number of competitors, a high degree of transparency and high barriers to entry. However, algorithms might affect some characteristics of digital markets to such an extent that tacit collusion could become sustainable in a wider range of circumstances, possibly expanding the oligopoly problem to non-oligopolistic market structures. This raises the policy question of whether jurisdictions should reconsider the scope of their cartel rules to include tacit collusion.

A possible adjustment of antitrust tools could involve considering algorithms as "plus factors" for collusion. In other words, if competition authorities detect coordinated price movements in an industry, should they be allowed to consider the use of certain type of algorithms by businesses as a plus factor to prove an antitrust violation? If such a solution were applied, any companies with their prices aligned and who use at the same time dynamic pricing, third party data centers or machine learning algorithms, would have the burden to prove that their pricing strategy is not a result of collusion.

Another concept that deserves deeper analysis is the antitrust notion of agreement, which despite being broadly defined in most jurisdictions, has not been applied to new forms of interaction in digital markets. Indeed, if algorithms allow companies to implement very fast price changes that eventually converge to a common value, how does this differ from an actual explicit price negotiation?

Therefore, a possible solution to tackle algorithmic collusion would be to provide a more clear definition of agreement for antitrust purposes, which could eventually account for certain forms of "meeting of algorithms." For example, if firms program prices to replicate the price of a market leader, this could be seen as an offer to collude, which would be accepted when the leader raised the price. Likewise, an anti-competitive agreement could also involve a company publicly releasing a pricing algorithm that is downloaded and implemented by rivals.

Examples of tacit agreements between firms

Offer	Acceptance
Firm intermittently sets a higher price for a few seconds (costless signal)	Competitor increases price to the value signaled
Firm programs algorithm to mimic the price of a leader	The leader, recognizing this behavior, increases the price
Firm publicly releases a pricing algorithm	Competitor downloads and executes the same pricing algorithm
Firm programs an anti-competitive price to be triggered whenever the competitor's price is below a threshold	Recognizing the algorithm, the competitor always keeps the price above the threshold
Firm uses machine learning algorithm to maximize joint profits (for instance, by accounting for the spill-overs on competitors' profits)	Competitor reacts with the same strategy

Finally, even if the antitrust concepts of tacit collusion and agreement are reconsidered by policy makers, a last question that remains is how to establish liability. In particular, due to the subtlety of the potential anti-competitive behaviors enabled by algorithms, it is important to determine who should be fined or punished: the creator of the algorithm, the user or those that benefit from enhanced coordination?

Some commentators have suggested that when dealing with a robot engaging in anti-competitive conducts there are three possible ways of attributing responsibility: to the robot itself, to the humans who deploy it, or to no one. While the third option cannot be considered a realistic one, as it would *de facto* provide impunity for anti-competitive conduct put in place through the intermediary of an algorithm, the debate has highlighted the challenges of attributing antitrust liability to individuals when commercial strategies are delegated to an algorithm and humans have no ability to influence the way in which such decisions are taken.

Of course, most algorithms today still operate based on instructions designed by human beings and there is no doubt that humans will be in most cases responsible for the decisions taken. However, as artificial intelligence ("AI") develops further, the links between the agent (the algorithm) and its principal (the human being) become weaker and the ability of algorithms to act and price autonomously puts in question the liability of the individuals who benefit from the algorithm's autonomous decisions. In such cases, determining liability will mainly depend on the facts at hand.

All these questions do not have a clear and definite answer, but they will surely have to be addressed as the digital economy evolves at a rapid speed and machines become increasingly intelligent.

V. SHOULD AI SYSTEMS BE REGULATED?

It might seem too early at this stage to talk about regulating algorithms, since there is still a lack of evidence that firms systematically and successfully rely upon these tools to collude. However, there have already been some proposals to regulate AI systems in many other areas. For instance, in the transport sector, wide-reaching regulations are already being designed in anticipation to the appearance of self-driving cars.

Likewise, AI has been associated with many other risks outside the scope of antitrust, such as violations of privacy rights, information bias or even discrimination against particular groups of individuals, to enumerate just a few. In light of the many risks involved, it may be a question of time before AI systems are heavily regulated across multiple areas.

Nonetheless, it should not be forgotten that governments have adopted so far a market-oriented approach (with minimum regulatory intervention) to digital environments, which has resulted in the rapid growth of the digital economy and extraordinary gains for consumers. As a result, it is crucial to guarantee from these early stages that any new regulation is designed in such a way that does not overly restrict competition, stifle innovation or, of course, facilitate collusion even further.

As an example, some prominent authors have recently discussed new measures to force companies to be more transparent about the algorithms they use and to comply by design with competition rules. Apart from the obvious risks of restricting innovation and the enforcement costs involved, it should be noted that requiring firms to publicly disclose their algorithms could further enhance collusion, as that would allow them to easily access and copy each other's pricing strategies. This illustrates how well-intended regulations can very easily end up being counterproductive to their original goals.

In addition, it is also hard to say whether any viable regulations can actually be created with the purpose of tackling collusion. Such regulations could involve regulating prices, artificially designing markets (for example by restricting transparency or the frequency of price changes) or creating rules of algorithmic design that force algorithms to ignore certain market information. Unfortunately, all regulatory measures of this kind would pose substantial barriers to competition and, if not carefully considered, risk replacing collusion with an even worse distortion of the competitive process.

It seems that business strategies based on algorithms and automated decision-making can no longer be ignored. However, policy makers seem to be trapped in a delicate situation where both inaction and excessive enforcement pose their own risks. Whatever path they choose to take, a balanced approach should be used in order to protect as much as possible the competitive process in digital markets.

DEFINING "BIG DATA" IN ANTITRUST

BY XAVIER BOUTIN [1] & GEORG CLEMENS [2]

"… smartphones became popular, and Google began offering navigation for free on [Android-powered] phones."

"your competitors come from different fields – they're not the ones you expect them to be. Hilton Hotels would never have expected their margins would be eaten away by Airbnb. Every company starts with a blank sheet of paper, and some of them then arrive like a tsunami."

Corinne Vigreux (TomTom CEO)

I. INTRODUCTION

The story is well known. When it published its decision not to oppose the acquisition of Tele Atlas by TomTom on May 14, 2008, the Commission considered entry by firms offering internet based map applications as "unlikely."[3] Yet, Google soon started to offer navigation for free and TomTom's value slumped from €634m in the last quarter of 2007 to €213m in the first quarter 2009.[4] It is therefore fair to say that the European Commission (the "Commission") and the market in general, underestimated that the volume of data collected by Google and the quality of the collected data ultimately facilitated market entry.

Google's entry in the market for navigable digital map databases in 2009 is one of the earliest and most famous instances of the use of big data for a lateral and drastic entry that would soon revolutionize the entire market. Google Maps Navigation integrated a series of features such as "search along route," "search by voice," traffic view, satellite view and "search in plain

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3 See Case Comp/M. 4854—*TomTom/Tele Atlas*, Commission Decision of May 14, 2008, pp. 28-29, para 12.

4 See https://www.theguardian.com/business/2015/jul/21/navigating-decline-what-happened-to-tomtom-satnav.

English" using the data that was collected from Google's search engine.[5] Moreover, it had the significant advantage of relying on the updates sent by its users. The combination of a high volume and variety of data updated at a high velocity caught incumbents such as TomTom off- guard. In the year following Google's market entry TomTom's revenues plummeted while Google established itself as one of the most important players in the market for navigable digital map databases.

It was then difficult for the Commission, and the market as a whole, to see that cellphones could be used as portable navigation devices (downstream entry), that Google could easily integrate information from the large volume of data it collected such as store locations, restaurant locations and private addresses (downstream data) and, last, that it could easily integrate live traffic data and update maps more quickly than TomTom (upstream entry). This is the reason why Google was not perceived as a potential market entrant by competition experts.

Big data has been a major challenge for most competition authorities and a series of decisions related to big data such as the *Facebook/WhatsApp* merger have faced severe criticism by competition policy experts.[6] The difficulty to tackle antitrust problems in data-related markets is related to the fact that experts have not yet provided a unanimous definition of big data.

This paper fills a gap as it provides a comprehensive definition of big data based on aspects such as volume, variety and velocity commonly associated with big data in IT.[7] There is in our view no such thing as a big data market, or even big data markets. We present big data as a technology. It is therefore a supply related phenomenon that could disrupt practically any market. We will show that the definition of big data provided in this paper allows reconciling diverging opinions in the big data antitrust literature. In addition to that, our definition of big data adequately assesses developments in data-driven markets such as the market for online research. Finally, our big data definition solves the "chicken and egg" problem formulated by Stucke and Grunes (2015).[8]

II. BIG DATA IS NOT JUST A "LARGE VOLUME OF DATA"

While big data has emerged as a much debated competition policy topic, the antitrust literature has failed to provide a unanimous definition of the term big data itself.[9] Commission officials have limited the scope of big data to data volume defining it as "large sets of data."[10] In a similar line, McKinsey defines big data as "large pools of data that can be captured, communicated, aggregated, stored and analysed."[11] This narrow definition of big data has triggered uncertainty among competition policy experts regarding the actual relevance of big data in antitrust. The debate between Tucker and Wellford (2014)[12] and Stucke and Grunes (2016)[13] reflects the ambiguity related to the antitrust relevance of big data.

5 See http://googlemobile.blogspot.be/2009/10/announcing-google-maps-navigation-for.html.

6 See Stucke & Grunes, "Big Data and Competition," Oxford University Press, 2016.

7 See http://www.gartner.com/it-glossary/big-data.

8 Stucke & Grunes (2015) outline that some companies need enough volume of user data to increase the quality of their data-driven product. Yet large user volumes are only generated if the quality of the product attracts enough consumers. This generates a "chicken and egg" dilemma (See Stucke & Grunes, "Debunking the Myths Over Big Data and Antitrust," CPI Antitrust Chronicle, May 2015).

9 Stucke & Grunes (2016) outline that big data has "many definitions" which are "broad and inclusive" (See Stucke & Grunes "Big Data and Competition," Oxford University Press, 2016). The Autorité de la Concurrence and the Bundeskartellamt refrain providing a definition of big data in their joint paper on competition law in data-driven businesses (See Autorité de la Concurrence and Bundeskartellamt "Competition Law and Data," 2016).

10 Ocello, Sjödin, & Subocs, "What's Up with Merger Control in the Digital Sector? Lessons from the Facebook/WhatsApp EU Merger Case," 1 Competition Merger Brief, 2015, page 6.

11 McKinsey Global Institute, "Big data: The next frontier for innovation, competition, and productivity," 2011.

12 Tucker & Wellford, "Big Mistakes Regarding Big data," the antitrust source, 2014.

13 Stucke & Grunes "Big Data and Competition," Oxford University Press, 2016.

Tucker and Wellford (2014) argue that big data should not be tackled by antitrust laws.[14] They postulate that big data is characterized by ubiquity, low cost, wide availability and fleeting value. According to Tucker and Wellford these characteristics make big data different from the industry structures which are typically prone to competition problems. Correspondingly Tucker and Wellford neither see big data as a barrier to entry nor as a subject that would raise any other anticompetitive concern.

The claim formulated by Tucker and Wellford on the ubiquity, the low cost, the wide availability and the fleeting value of big data is clearly based on the author's understanding that big data equates to a large volume of data. In their assessment of big data as a barrier to entry the authors analyze whether new entrants are at a severe disadvantage with regards to data accessibility.[15] Hence, Tucker and Wellford exclusively focus on access to data volume. This approach contrasts to the comprehensive definition of big data given by the authors, where big data is not only limited to the collection of data volume but also includes the analysis of the collected data.[16] Paradoxically, Tucker and Wellford do not consider the role of "data analysis" in their assessment thereby possibly underestimating the antitrust relevance of big data.

As opposed to Tucker and Wellford Stucke and Grunes (2015, 2016) classify big data as a potential source for antitrust concerns.[17] Since Stucke and Grunes provide a response to Tucker and Wellford, their arguments necessarily revolve around the same volume-based definition of big data outlined in Tucker and Wellford. Although the authors acknowledge that big data is not only characterized by volume but instead by the four "Vs,"[18] they do not provide a clear-cut definition either. Our approach takes into consideration the most significant characteristics which are volume, velocity and variety, thereby accounting for the dynamics in data-driven markets.

III. DEFINING BIG DATA IN ANTITRUST

Our definition of big data is rooted in the analyses of data-driven markets and cases in data related industries. The OECD recognizes that a big data definition with emphasis on volume alone can be misleading, no matter if the volume is measured in gigabytes, petabytes (millions of gigabytes), or Exabyte (billions of gigabytes).[19] Although the OECD ultimately decided not to provide an alternative definition of big data, it outlined the importance of including concepts such as "velocity" and "variety" which cover more than the mere quantitative aspect of data. Outside of the antitrust debate big data has been commonly characterized by the following three "Vs" which represent the dynamic nature of big data:[20]

- Volume: the volume of data plays a crucial role for data orientated businesses;

- Velocity: …refers to the velocity of data generation but also to the access to data and the way data is processed and analyzed. Velocity adds a dynamic component to the definition of big data as it clarifies that data can quickly lose its value if it is not processed and analyzed quickly. As data loses its value over time, there is a necessity to update and constantly collect data generated by consumers, whether this is the address, the purchase behavior or the internet content; and

- Variety: …refers to the diversity of information data may contain. Data oriented businesses may not only be interested in collecting one type of data from a series of consumers. They potentially aim to elicit a series of data from one type of

14 Tucker & Wellford, "Big Mistakes Regarding Big data," the antitrust source, 2014.

15 Id. page 7.

16 Id. page 3.

17 Stucke & Grunes, "No Mistake About It: the Important Role of Antitrust in the Era of Big Data," the antitrust source, 2015 and Stucke & Grunes "Big Data and Competition," Oxford University Press, 2016.

18 As we will clarify later, big data can be characterized by three "Vs". These "Vs" are "Volume," "Variety" and "Velocity." Note that some definitions include two more "Vs" which are "Veracity" and "Value."

19 See OECD, "Data-driven Innovation for Growth and Well-being," 2014.

20 These three Vs of big data are sometimes extended to up to four or five "Vs" including characteristics such as "Value" or "Veracity."

customers. Yet variety also reflects also the variety of sources data may come from, so that companies may collect data using different platforms.

Velocity requires a data-driven business to update the data regularly and to be able to analyze the data set quickly. The velocity of analyzing data is not only determined by technological prerequisites. Data-driven businesses also have to match the competitor's velocity of data collection and their capability to analyze the data. A company that either manages to process and analyze data more quickly than its competitors or to better use the variety of information data can provide, may provide itself a significant competitive advantage. This can be shown using the example of the market for navigable map databases.

In the 2008 *TomTom/Tele Atlas* decision, the Commission excluded the possibility that Google could enter the market for navigable map databases quickly. It argued that the production of a navigable digital map database using end-user feedback was impossible. The Commission claimed that only a certain type of data could be used for navigable digital map databases and that this data needed to be collected through field surveys using customized vehicles.[21] Moreover, it was pointed out that the vast resources needed in building up a navigable digital map database would make entry very costly. Correspondingly, the Commission considered that entry would be unlikely to occur in the next three years.[22]

In 2009, one year after the *TomTom/Tele Atlas* decision, Google announced Google maps navigation for Android and outlined that it was using a navigable digital map database using end-user feedback.[23] Google's ability to compete with internet-based navigable digital map databases led to an upheaval of the market. TomTom which initially failed to react to Google's entry[24] suffered heavily from the competitive pressure that an internet-based navigation provider exerted and it ultimately had to reconsider its entire business strategy.[25]

The Commission clearly based its market entry assessment on a very "volume centered" definition of access to navigable digital map data. According to the Commission, market entry crucially hinged on the ability to duplicate exactly the same data that Tele Atlas and NAVTEQ generated. Moreover, the Commission assumed that exactly the same technology had to be used for this purpose.[26] The Commission did neither consider the fact that Google was able to use the variety of data which its search engine provided, nor did the Commission take into consideration that the search engine produced these data at a very high velocity. In contrast, the volume of data TomTom obtained through the acquisition of Tele Atlas lost its value quickly as €1bn on the Tele Atlas purchase had to be written off in 2009, only one year after the merger.[27]

A series of conclusions can be drawn from the development of the market for digital map databases: First, Tele Atlas and NAVTEQ were not only the dominant market players because of the volume of data they already possessed. Until Google's market entry, no competitor had a technology that could update, analyze and enlarge a high volume of data like Tele Atlas's and NAVTEQ's technology did. Second, Google managed to enter the market because the internet-based navigable maps it used included a variety of data that could be incorporated in the map product. Furthermore it allowed for quicker updates and improvements providing a product that was unmatched by TomTom. Third, in spite of having a head start with respect to the data volume for navigable maps, TomTom could not prevent the successful market entry of Google in the market for navigable map datasets.

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21 See Case Comp/M. 4854—*TomTom/Tele Atlas,* Commission Decision of May 14, 2008, pp. 28-29, para 12.

22 Ibid.

23 See footnote 3. Note that Google maps navigation entered the market in 2010 http://www.frandroid.com/android/applications/20696_google-maps-navigation-disponible-en-france (Retrieved: March, 21st 2017).

24 See https://www.ft.com/content/01e02434-1cb4-11df-8d8e-00144feab49a.

25 See: https://www.ft.com/content/9e6a2d6a-a163-11e0-baa8-00144feabdc0 and footnote 2.

26 See Case Comp/M. 4854—*TomTom/Tele Atlas,* Commission Decision of May 14, 2008, pp. 28-29, para 12.

27 See footnote 4.

In light of these conclusions, we advocate for a departure from the volume orientated approach to big data. Our definition of big data reads as follows: The ability to collect and analyze a large volume of data which contains a variety of information in a timely manner. This definition not only takes into consideration the three "Vs" of big data but also adds a dynamic component to markets that are unmistakably dynamic in their nature. Furthermore, it allows reconciling the critique formulated by Tucker and Wellford and the respective response by Stucke and Grunes and to solve the "chicken and egg" problem for big data.

IV. RECONCILING OPPOSING VIEWS ON BIG DATA IN ANTITRUST

As outlined above, Tucker and Wellford focus on the access to consumer data in their assessment and in particular to what extent limited data accessibility may become a barrier to entry. Moreover, the definition of a market for big data is questioned as, according to the authors, a market should only be recognized as such when a product is sold. Tucker and Wellford identify a series of big data characteristics which are its ubiquity, the low cost, the wide availability and the fleeting value of data. Moreover, Tucker and Wellford claim that these characteristics make big data not as prone to antitrust infringements, as other industries.

The characteristics outlined by Tucker and Wellford are not observed for our definition of big data in the antitrust context. The ability to collect and to analyze a large volume of data which contains a variety of information in a timely manner is not ubiquitous. Microsoft and Yahoo unsuccessfully tried to bundle their resources to match Google's search engine abilities but failed to catch up with regards to its performance.[28] Myspace was cautious regarding the collection of private data and therefore failed to quickly implement a successful big data strategy.[29] In contrast to MySpace, Facebook swiftly implemented a big data strategy where a variety of personal data was regularly collected, analyzed and enlarged. This helped Facebook to figure out what the consumers wanted and to swiftly implement new services.[30] Myspace never managed to compete on an equal footing with Facebook after 2008, as it failed to develop a competitive technology to analyze and enlarge a high variety and volume of data in a timely manner, in spite of its initial head start with regards to the possession of large volumes of data.

The technology, which allows collecting and analyzing a large volume and variety of data in a timely manner, is neither accessible at low costs, nor is it widely available. The Commission found in its *Microsoft/Yahoo* decision that large R&D and investment costs are associated with internet search services.[31] Yahoo clarified that heavy investments in software and in hardware are mandatory to stay competitive in the search engine market and that in spite of being significant, Yahoo's investments have only been a fraction of Google's investments.[32] Rough estimates suggest that Google had to invest approximately $585m to roll out its social network Google+.[33]

We agree with Tucker and Wellford that the mere procession of a large volume of data rarely justifies stronger antitrust scrutiny. Yet, companies such as Google, Facebook and Amazon emerge as strong players not because of the volume of data they collected so far. It is their technological ability to harvest data which ultimately provided these companies the dominant position they hold. We therefore also agree with Stucke and Grunes (2016) that big data, as effective data processing technologies, is a relevant antitrust subject. Yet we argue for a more comprehensive definition of big data. The "chicken and egg" problem formulated by Stucke and Grunes vanishes if our definition of big data is adopted.

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28 See Comp/M. 5727—*Microsoft/Yahoo! Search Business*, Decision of February 18, 2010.

29 See: http://www.businessinsider.com/former-myspace-ceo-explains-why-facebook-was-able-to-dominate-social-media-despite-coming-second-2015-5?IR=T.

30 "If you have an idea for networking on something, Facebook pushed its tech folks to make it happen. And they kept listening. And looking within the comments for what would be the next application – the next promotion – the next revision that would lead to more uses, more users and more growth"(See: http://www.forbes.com/sites/adamhartung/2011/01/14/why-facebook-beat-myspace/#70195d7e7023, and http://fortune.com/2010/11/19/how-facebook-learned-from-myspaces-mistakes/.

31 See Comp/M. 5727—*Microsoft/Yahoo! Search Business*, Decision of February 18, 2010, para 33.

32 Id. para 144.

33 See: http://www.forbes.com/sites/bruceupbin/2011/06/30/google-cost-585-million-to-build-or-what-rupert-paid-for-myspace/#b9e3b16349f8.

V. THE "CHICKEN AND EGG" DILEMMA IN BIG DATA

In their description of the *Google/Waze* merger, Stucke and Grunes (2015) discern a potential chicken and egg dilemma.[34] In *Google/Waze* the OFT found that Waze's navigation service quality crucially depended on the amount of information it collected from its customers.[35] The more customers use Waze, the better Waze becomes because of the amount of information it collects from its users. Yet, customers would only start using Waze if the quality is good enough.[36] This assessment yields a chicken and egg dilemma that hinges on the fact that large data volumes are defined as an essential input for competition in data-driven markets. Ultimately the OFT concluded that customers would not switch to Waze's service unless the quality of the service was high enough yet can only be safeguarded if enough customers provide their feedback to Waze.[37] Correspondingly, Waze was not seen as a competitive threat for Google by the OFT.[38]

The chicken and egg dilemma tends to overstate the role of data volume for data driven industries. While feedback was crucial for Waze to increase the quality of its navigation service, the same cannot be said for other data-driven industries. Google managed to maneuver out of the dilemma Waze was trapped in because it had a data collection and analysis technology which was superior to Yahoo's technology. Yahoo could not profit from having a higher volume of data than Google and ultimately lost its first spot in the market for search engines. Facebook managed to outperform Myspace, even though Myspace initially possessed significantly more customer data than Facebook.

The above mentioned examples show that volume of data alone may neither prevent market entry nor facilitate market foreclosure. The example of Google's successful entry in the market for navigational map services in 2009 proves that there is not a chicken and egg dilemma *per se* in data-related markets. Google managed to limit Waze's competitive impact because it could rely on a superior technology for data collection and data analysis. Waze could only have become a successful competitor to Google if it had access to an equally performant technology for the collection, analysis and enlargement of data.[39]

The chicken and egg dilemma is based on the assumption that the possession of large data volumes and the processing of data are unrelated. This same idea is present when referring to data as the "oil" of the 21st century, which tends to misrepresent the value of historical data. In our view, data is not comparable to oil; it is rather comparable to wind. Data flows and is largely accessible. Just like wind, it needs to be captured to be transformed into something valuable. Both windmills and data processing technologies certainly improve when tested in real conditions. However, in this context, it is the accumulated experience that is valuable, and not the accumulated wind, nor the historical data.

Therefore, evidence from data-related markets shows that the possession of large data volumes alone rarely causes a problem at all. It is the inability to collect and analyze a large volume of data, which contains a variety of information in a timely manner that yields firms failure in the market.

Moreover, another particularity of these technologies is their incredible versatility. No player in these industries realized that urban transportation or food deliveries could become the data driven industries they are now. There is therefore no closed list of data driven markets, and even less a market for big data itself. Big data is not a demand related phenomenon, but a supply one. Being able to develop the most efficient technology might be more important for success than decades of experience in a traditional sector.

34 Stucke & Grunes, "No Mistake About It: the Important Role of Antitrust in the Era of Big Data," the antitrust source, 2015.

35 Office of Fair Trading, Completed acquisition by Motorola Mobility Holding (Google, Inc.) of Waze Mobile Limited, ME/6167/13, para 88.

36 Stucke & Grunes, "No Mistake About It: the Important Role of Antitrust in the Era of Big Data," the antitrust source, 2015.

37 Office of Fair Trading, Completed acquisition by Motorola Mobility Holding (Google, Inc.) of Waze Mobile Limited, ME/6167/13, para 88.

38 Id. para 89.

39 Note however, that Waze might have had the potential to disrupt the market for navigational map services, as it experienced some significant growth, according to the OFT (Office of Fair Trading, Completed acquisition by Motorola Mobility Holding (Google, Inc.) of Waze Mobile Limited, ME/6167/13, para 41 and 42).The OFT therefore potentially disregarded Waze's ability to become a "maverick" in the market.

We already quoted Corinne Vigreux, TomTom CEO, in the opening of this paper: "Every company starts with a blank sheet of paper, and some of them then arrive like a tsunami." These tsunamis normally don't waste time wondering whether the egg or the chicken comes first.

VI. CONCLUSION

Big data has emerged as a much debated issue in antitrust and is likely to gain additional attention following the steps undertaken by the Commission to foster a European data economy.[40] Yet the antitrust literature has not provided a unanimous definition of big data thereby generating confusion with regards to its relevance. This paper fills a gap as it provides a comprehensive definition of big data based on standard big data concepts from IT. Our definition provides clarification on the relevance of big data in antitrust. Moreover it shows that the chicken and egg dilemma formulated by Stucke and Grunes (2015) becomes irrelevant when our big data definition is applied.

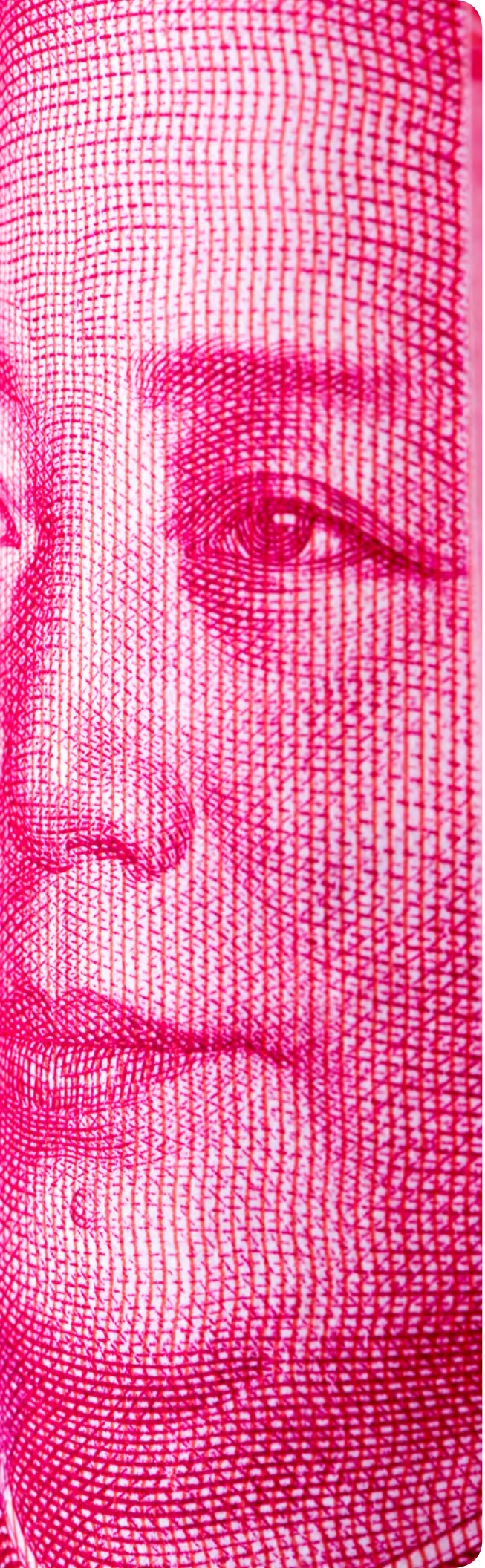
A correct definition of big data is crucial in a correct assessment of data-driven cases by antitrust authorities. In light of the increasing importance of big data strategies for businesses the number of antitrust cases in data related markets is expected to increase in the next years.[41] Antitrust authorities can therefore ill-afford misinterpreting the potential of market entry by companies with a big data strategy as this would lead them to start investigations with the wrong focus. This contribution should therefore be seen as a step to spark a debate on the necessity for a focus in antitrust cases related to big data.

Recent developments in data-driven markets confirm the correctness of our big data definition. Facebook and Google would both be classified as companies with a big data strategy. With the launch of Google+, the closeness of competition between both companies has been unmistakably demonstrated. Google and Facebook are both developing autonomous cars, showing that digitalization may transform a classical industry such as automobile into a big data industry. The increasing importance of big data has been recognized by the Commission, which has taken the next steps towards a European data economy.[42] Our contribution therefore provides an important tool for the identification of market entry and potential competitors in future antitrust cases related to data-driven markets.

40 See European Commission, "Commission outlines next steps towards a European data Economy," Brussels, January 10, 2017.

41 Only 1.8 percent of the firms that participated in the New Vantage Partner LLC "Big Data Executive survey" claimed that big data was not important to that firm (See New Vantage Partners "Big Data Executive Survey 2016," available at: http://newvantage.com/wp-content/uploads/2016/01/Big-Data-Executive-Survey-2016-Findings-FINAL.pdf.).

42 See footnote 40.



ANTITRUST SANCTIONING IN CHINA: HOW CAN THE NDRC GUIDELINES BE FURTHER IMPROVED

BY JET DENG[1] & YANNIS KATSOULACOS [2]

I. INTRODUCTION

In recent years there has been a lot of discussion about the need to revise the antitrust sanctioning systems in force in a number of countries and make them more effective, especially in view of the continuing empirical evidence showing that cartels[3] are still very active throughout the world and pervasive in a variety of markets.[4] Monetary penalties and other sanctioning methods are recognized as one of the most important policy instruments in the enforcement of competition law.[5]

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3 Below, following existing literature, we concentrate on fines to cartels / collusive agreements.

4 See, Levenstein & Suslow (2011), "Breaking Up Is Hard to Do: Determinants of Cartel Duration," *Journal of Law and Economics* 54, 455- 92; Levenstein & Suslow (2012), "Cartels and Collusion: Empirical Evidence," Ross School of Business Paper No. 1182, available at: http://ssrn.com/abstract=2182565; Marinielo (2013), "Do European Fines Deter Price Fixing?," VOX CEPR's Policy Portal; Connor (2015), "EU Cartel Penalties: Severity and Recovery: With International Comparisons," presentation in the Conference "Looking beyond the direct effects of the work of Competition Authorities: Deterrence and macroeconomic impacts" organized by Netherlands Authority for Consumers and Markets, UK Competition and Markets Authority and the European Commission ("DG COMP") in Brussels, September 2015, available at: http://ec.europa.eu/competition/information/macroeconomy/connor_en.pdf.

5 See, Ginsburg & Wright (2010), "Antitrust Sanctions," *Competition Policy International*, vol. 6 (2), pp. 3-39; Harrington (2010), "Comment on Antitrust Sanctions," *Competition Policy International,* 6, 41-51; Harrington (2014), "Penalties and the Deterrence of Unlawful Collusion," *Economics Letters*, vol. 124, pp. 33-36; Houba, Motchenkova & Wen (2010), "Antitrust enforcement with price-dependent fines and detection probabilities," *Economics Bulletin*, 30(3), 2017-2027; Houba, Motchenkova & Wen (2012), "Competitive Prices as Optimal Cartel Prices," *Economics Letters,* 114, pp. 39-42; Bageri, Katsoulacos & Spagnolo (*BKS*, 2013), "The Distortive Effects of Antitrust Fines Based on Revenue," *The Economic Journal*, 123 (572), 545-557; Katsoulacos & Ulph (2013) "Antitrust Penalties and the Implications of Empirical Evidence on Cartel Overcharges," *The Economic Journal*, 123 (572), 558-581.

As an outcome, in a number of countries, there have been moves by policy makers to reconsider their sanctioning regimes. In this article we consider the case of China,[6] where Draft Guidelines issued by the National Development and Reform Commission ("NDRC")[7] in 2016, have re-affirmed the importance of taking into account of illegal gains (disgorgement) in the setting of monetary penalties, appearing to create a presumption that disgorgement would apply in nearly all cases as long as relevant data are available,[8] *in addition* to traditional surcharges based on revenue. While we think that it is important to commend the NDRC for this re-focusing on the deterrence impact of its sanctioning policy, in this article our objective is to suggest an alternative penalty regime that is superior to one that combines revenue-based and illegal gains-based fines, by being easier to implement and being superior in terms of its welfare properties and in terms of legal certainty. Specifically, these penalty regimes can be improved by adopting an alternative regime in which the penalty *base* is that of revenue (as under the standard revenue-based regimes) but in which the penalty *rate* is determined by (and is increasing with) the cartel's overcharge rate[9] – where the latter is much easier to estimate than "illegal gains."

Economists have in the past concentrated on a comparison of the welfare properties of different penalty regimes. While this comparison is very important in identifying regimes that are superior in terms of their welfare impact, in order for the comparison to have policy significance, that is in order to guide policy makers in making choices of the sanctioning policy that should be adopted by competition authorities, a number of other policy-relevant dimensions of the regimes have to be assessed and compared. Specifically, a complete comparison has to take into account the following three dimensions/assessment criteria:[10]

(i) Implementability

(ii) Legal Certainty, and

(iii) Welfare properties

We start with a review of the antitrust sanctioning regime implemented under the Anti-Monopoly Law in China since 2008 and of the recently proposed Guidelines. We then discuss the lessons that emerge from the recent economic literature concerning which sanctioning policies are best, judged on the basis of the above three criteria, in order to recommend how the Guidelines can be improved further for the benefit of antitrust sanctioning policy in China.

II. REVIEW OF THE ANTITRUST SANCTIONING REGIME AND THE DRAFT GUIDELINES

A. The Situation between 2008 – 2015

Article 46 of the Anti-Monopoly Law of China regulates the legal liabilities of undertakings that reach or implement monopoly agreements and, specifically, the type of penalties that can be imposed by the antitrust enforcement authorities. The latter shall instruct undertakings which implement monopoly agreements to discontinue the violation, confiscate undertakings' illegal gains

6 Among the many countries that have in recent years seek to revise their sanctioning policies are Chile, Japan, South Africa and UK.

7 In China, it is the responsibility of the Anti-Monopoly Commission ("AMC") under the State Council to promulgate antitrust guidelines. In practice, the AMC usually assigns the drafting work to certain anti-monopoly enforcers, and will review and finalize the draft ultimately. In the case of the antitrust guidelines on illegal gains and penalties, its drafting work is assigned to the NDRC.

8 However, Wong-Ervin, Ginsburg, Slonim, Kobayashi & Wright (2016) "Monetary Penalties in China and Japan," GMU Antonin Scalia Law School, DP 16 – 40, criticize the NDRC's Draft Guidelines for the optional use of economic analysis in calculating illegal gains. The authors submitted comments to the NDRC on the Guidelines (Kobayashi et al. (2016), Comment of the Global Antitrust Institute, George Mason University School of Law, on the Proposed Revisions to the Guidelines of the Anti-Monopoly Commission of the State Council on Determining the Illegal Gains Generated from Monopoly Conduct and on Setting Fines (July 9, 2016), available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2807321; comments provided an overview of the economic analysis of penalties and advocate for the adoption of a penalty system more closely aligned with economic principles.

9 The proportional excess of the cartel price above the competitive price that would have been established in the absence of the agreement. For example, assuming that the competitive price is $100 and the cartel price is $110, the cartel's overcharge rate will be 10 percent ((110-100)/100=10 percent).

10 Illegal gains estimation requires knowledge of the overcharge and much more - see also below.

and, in addition, impose undertakings a fine of not less than one percent but not more than 10 percent of its sales achieved in the "previous year."

According to the Report on the Administrative Enforcement of Anti-Monopoly Law in China (2008-2015), of the 190 cases that had been investigated by the NDRC and the local development and reform commission or price supervision department, 154 cases relate to horizontal monopoly agreements, 21 cases relate to vertical monopoly agreements and 7 relate to abuse of dominant market position. According to the statistics, in only 8 cases illegal gains confiscations were imposed by the authorities on the lawbreakers.

In turn, 101 cases had been investigated by the State Administration for Industry and Commerce ("SAIC") and the local administration for industry and commerce, 87 of which relate to horizontal monopoly agreements and 14 of which relate to abuse of dominant market position. According to the statistics, in 20 cases illegal gains confiscations were imposed.

Thus, while Article 46 of the Anti-Monopoly Law requires authorities to impose illegal gains confiscation and revenue-bases fines at the same time, in the vast majority of cases we do not find the imposition of illegal gains confiscation. NDRC's internal rules (Provisions on Regulating the Authority of Price-related Administrative Penalties), only provide some general aggravating, extenuating or mitigating circumstances to be considered in fine determination. Although the SAIC adopted rules on determining illegal gains (Provisions on Determining the Illegal Gains in Cases with Administrative Penalties), these rules are not tailored for antitrust enforcement.

B. Reasons for the Limited Imposition of Illegal Gains Confiscation

1. Difficult to Estimate

Based on the SAIC's current internal rules, authorities need to calculate the revenue generated from illegal conduct and subtract incremental costs incurred, an approach that is very difficult to be implemented in practice. To give an example, in the compound reserpine *APIs* case in 2011, the NDRC confiscated the illegal gains of two pharmaceutical companies but did not explain how it determined the amount of illegal gains. As mentioned above, in many cases illegal gains were not practically confiscated by the competition authorities.

2. Easy to Challenge

Estimating illegal gains requires a large amount of information and every single piece of incorrect information would lead to an incorrect estimate. Thus the outcome of illegal gains calculation can be challenged in many ways.

C. The Draft Guidelines on the Determination of Illegal Gains and Fines in Relation to Undertakings' Monopoly Conduct[11]

On June 17, 2016, the NDRC published the Draft Guidelines on the Determination of Illegal Gains and Fines in Relation to Undertakings' Monopoly Conduct ("the Draft Guidelines"), which are expected to be introduced formally this year. Once adopted, the Draft Guidelines will represent a significant step towards a more consistent and transparent approach to antitrust fine calculation, bringing the Chinese antitrust enforcement regime closer to its international counterparts. The Guidelines propose a three-step process for fines calculation as follows:

(i) Step one: identify "sales." The Guidelines clarify how the "previous year"[12] sales and the territorial scope of the sales[13] will

11 https://globalcompliancenews.com/china-antitrust-consultation-new-clearer-penalty-guidelines-20160727/.

12 The Draft Guidelines clarify that the previous year is the year prior to the launch of the investigation. If the infringement has terminated before an investigation is launched, the "previous year" is the last year prior to the termination of the infringement.

13 The NDRC and the SAIC generally takes the sales of the products in the geographical area covered by the conduct. If the geographical area concerned is larger than the territory of China, the regulators generally take the China-wide domestic sales of relevant products as the basis for calculating fines.

be determined and how the undertakings will be identified.[14]

(ii) Step two: decide the fine rate based on the circumstances of the conduct. The Draft Guidelines propose a 1-3 percent starting point ("Initial Proportion") depending on the type of conduct. The Initial Proportion will be increased by one percent for each year of the infringement, and 10 percent will be the maximum limitation.

(iii) Step three: final adjustments

The Draft Guidelines grant the antitrust authorities the ultimate discretion to make a final adjustment to the Initial Proportion of fines if they consider the percentage concluded from the above steps does not adequately reflect the severity of the infringement.

Adjustments due to aggravating circumstances

Aggravating circumstances	Adjustment
Playing a leading role in the, coercing or inviting other undertakings to implement the conduct or preventing other undertakings from discontinuing the conduct	+1%
Committing multiple infringements in the same case, or having infringed the AML in the past	+1%
Actively compelling or facilitating administrative authorities or organizations to eliminate or restrict competition through abusing administrative power	+1%
Continuing the conduct after being ordered to stop by the antitrust authorities	+0.5%
Other aggravating circumstances	+0.5%

Adjustments due to mitigating circumstances

Mitigating Circumstances	Adjustment
Being coerced by other undertakings to implement the conduct	-1%
Being forced or coerced by administrative authorities or administrative organizations to implement the conduct	-1%
Cooperating with administrative agencies in the investigation and making meritorious contribution	-1%
Actively eliminating negative consequences of infringements	-1%
Actively mitigating negative consequences of infringements	-0.5%
Voluntarily providing relevant evidence of other undertakings' violation of the AML (outside of the scope of leniency)	-0.5%
Other mitigating circumstances	-0.5%

The percentage after the final adjustment should still be within the following ranges: for severe infringements, the proportion after the final adjustment should not be less than 6 percent; for infringements which do not cause significant damage to competition/ consumer welfare, the proportion after the final adjustment should not exceed 3 percent.

The Draft Guidelines suggest that the final proportion of fines should never be less than one percent, except where an undertaking has received a whole or partial reduction having sought leniency or where the infringement is not severe, lasts no more than one year, involves at least two mitigating circumstances and where there are no aggravating circumstances.

14 The NDRC and the SAIC generally fine the undertakings who directly implement the monopolistic conduct. However, the Draft Guidelines make clear that the NDRC/SAIC may impose fines on, and in respect of, a parent company, provided that the parent company can exercise decisive influence over a firm which has engaged in the conduct.

D. Illegal Gains Calculation

The Draft Guidelines define the illegal gains as the additional profits earned from the monopoly agreements[15] during the period of the illegal conduct.

1. Territorial Scope

In general, antitrust regulators only confiscate illegal gains generated from undertakings' economic activities within the territory of China. What's more, the territorial scope may be narrower, in the case of monopoly that only affects local or regional markets within China.

2. Calculation

According to the Guidelines, if the undertakings obtain additional incomes from the monopoly conduct, Illegal Gains equal to Actual Income minus Hypothetical Income. Actual Income means the incomes actually earned during the period that the monopoly conduct lasts. The amount of actual income can be determined by reference to the undertakings' financial records. Hypothetical Income refers to the income that the undertakings could have obtained in the relevant market if there were no monopoly conduct during the period concerned.

III. LESSONS FROM THE RECENT ECONOMIC LITERATURE AND A RECOMMENDATION

Recent economic literature[16] shows that the designs of monetary penalty structures usually employed at present for antitrust violations, in jurisdictions throughout the world can be significantly improved.

According to the traditional economic view, to obtain efficient deterrence of hard-core cartels, fines should be based on an estimate of illegal gains.[17] Penalties based on illegal gains were early identified for their desirable welfare properties and their adoption was proposed most forcefully by Lande (1982)[18] as appropriate when the enforcing authorities' objective is to deter conduct that does not generate any efficiencies (such as price fixing agreements) in order to avoid the reduction in consumer surplus that results from such conduct. Illegal gains are the cartel's profits over and above the counterfactual level of profits.[19] However, it should be noted that, the welfare properties of these penalties in a second-best world[20] are *not* very good since, for the cartels that form and may remain stable for significant periods of time, they induce cartel prices that are equal to the monopoly level (see *KMU*, 2015 and *BKS*, 2013). Further, it is difficult to estimate accurately illegal-gains based penalties in most cases and their estimation is likely to be subject to quite significant errors. Thus, such penalties have significant implementability problems and can create a significant amount of Legal Uncertainty.[21] Nevertheless, because they are thought to have very good welfare properties through dissuasion of

15 The Guidelines also cover the case of agreements that lead to a monopsony. Also, note that they are meant to apply not only to agreements but also to abuse of dominant market power.

16 See for example, *BKS* (2013); Katsoulacos, Motchenkova & Ulph, (*KMU*, 2015). "Penalizing Cartels: The Case for Basing Penalties on Price Overcharge," *International Journal of Industrial Organization*, 42, pages 70-80; Katsoulacos, Motchenkova & Ulph (*KMU*, 2016), "Penalising on the basis of the severity of the offence: a sophisticated revenue-based penalty regime," see: http://www.cresse.info/default.aspx?articleID=3388 and the extensive references in these articles.

17 Strictly speaking, an estimate of *expected* illegal gains.

18 Lande (1982), "Optimal Sanctions for Antitrust Violations," *The University of Chicago Law Review*, 50, 652-678.

19 In the special case where the counterfactual price is the marginal cost (competitive price), the illegal gains are the same as the cartel profits.

20 Where penalties are lower than their first best-level of illegal gains weighted by the inverse probability that the illegal conduct is detected and penalized and, therefore, cartels do form and survive for long periods of time. Adopting first-best penalties would violate the legal "principle of proportionality" and would create very significant legal uncertainty.

21 Indeed these seem to have impeded their implementation in the past in countries (such as the U.S. and China) where the Law recommends their adoption.

cartel activity they are included, as an additional element of the penalty structures adopted in many countries, though they are very rarely implemented in practice. Thus, according to the current sentencing Guidelines, in the U.S. fines are based on illegal sales (revenue) *and* illegal gains, though in only one case has the imposition of a penalty based on illegal gains been implemented.[22] Similarly, as we saw in the previous section, in China, illegal gains confiscation has been rare up to now.

In contradiction to economists' recommendation that penalties should be based on an estimate of illegal gains, current fining policies in the EU and throughout the world typically base them on affected commerce, i.e. on revenue in the relevant market.[23] The argument usually advanced for this is that revenue-based penalties have the lowest implementability costs and score well in relation to Legal Uncertainty.[24] On the other hand, as the recent theoretical economic literature has emphasized, revenue-based regimes are very bad in terms of their welfare properties inducing, when their "toughness" is set, so as to generate the same deterrence as other regimes,[25] prices *above* the monopoly level as well as a number of other distortions (see *KMU*, 2015; *BKS*, 2013).

The overall welfare effect of a penalty structure depends both on its pure price effect *and* on its deterrence effect.[26] The prediction, when account is taken of both effects, is that an overcharge-based penalty regime outperforms all the other regimes in terms of average prices, consumer surplus and total welfare (*KMU* 2015). However, as specified in *KMU* (2015), the base of an overcharge-based penalty regime is the percentage price overcharge multiplied by the revenue that would have been earned in the "but-for" situation. Implementing such a base therefore requires estimates of both the overcharge and the counterfactual volume of sales. Obtaining reliable estimates of the overcharge may not be a major implementation problem given how often this is required in damages cases[27] and, importantly for our discussion here, estimating illegal gains. However, estimates of the counterfactual volume of sales is likely to be difficult to obtain and very often at the mercy of legal challenge, on the grounds of their being subject to significant estimation errors.

KMU (2016)[28] examine the properties of an alternative hybrid penalty regime in which revenue is still used as a base but which makes the penalty *rate* increasing in the cartel overcharge. They show that this alternative design (which they call "sophisticated revenue-based penalty") can significantly improve the effectiveness in terms of welfare of the currently employed monetary penalties that are based on revenue with fixed penalty rates. Further, this alternative design is superior to penalties based on illegal gains in terms of welfare impact, by inducing lower cartel prices, while it is also superior in terms of the other two assessment criteria relevant to the comparison, being much easier to implement and by reducing legal uncertainty relative to illegal gains-based penalties. The reason is that while the *sophisticated revenue-based penalty* requires that the Agency forms an estimate of the cartel overcharge, this is also a requirement for forming an estimate of the illegal gains-based penalty, while the latter *additionally* requires information that is difficult to obtain and is easily open to dispute. Specifically, for an estimate of the illegal gains-based penalty one must also

22 As asserted in a private communication with Yannis Katsoulacos by Greg Werden.

23 For an extensive, though rather dated review of policies in a large number of countries, see the OECD (2002) report.

24 Penalties are generally calculated as a fraction (the "penalty rate") of a "penalty base" (such as revenues or profits) so the penalty is equal to the product of the penalty base (e.g. revenue) and the penalty rate chosen. Since penalty guidelines only specify that the penalty rate will vary within a range that will depend on a large number of mitigating and aggravating circumstances, there is always some legal uncertainty in predicting the CA's penalty estimate in any specific case. This uncertainty increases as it becomes more difficult to obtain accurate estimates of the "penalty base" and to calculate the appropriate "penalty rate."

25 That is, when they are deterrent-equivalent to other regimes.

26 A number of papers have examined the implications of alternative penalty structures. These include Conor & Lande (2008) "Cartel Overcharges and Optimal Cartel Fines", in S.Waller (ed), *Issues in Competition Law and Policy*, Vol 3, AMA Section of Antitrust Law, Chapter 88, 2203-2218; Harrington (2005) "Optimal Cartel Pricing in the Presence of an Antitrust Authority," *International Economic Review* 46, 145-170; Buccirossi & Spagnolo (2007) "Optimal Fines in the Era of Whistle blowers - Should Price Fixers Still Go to Prison?," in *The Political Economy of Antitrust*, by Goshal & Stennek (Eds.), Elsevier: Amsterdam; Houba et al. (2010, 2012), *BKS* (2013), Katsoulacos & Ulph (2013), *KMU* (2015). In a second-best world many cartels will not be deterred and they may adjust their pricing strategy in response to different penalty structures. So some penalty structures may result in higher cartel prices (and a consequent loss in consumer welfare). The extent of cartel deterrence (and hence the number of cartels that form) is also influenced by different penalty structures – since they affect differently the stability of cartels. This is what is termed the "deterrence effect."

27 See for example Brander & Ross (2006), "Estimating Damages from Price-Fixing," *Canadian Class Action Review*, 3(1), 335-369.

28 Employing the model developed in *KMU* (2015).

calculate how the but-for output and price differ from the output and price corresponding to perfectly competitive situation.[29]

Thus, the suggestion advanced here is that rather than adopting a monetary sanctioning policy combining revenue-based and illegal gains-based penalties, as currently proposed in the NDRC Guidelines in China, both of these penalty structures can be improved by adopting a simpler penalty structure in which the penalty *base* is that of revenue (as under the standard revenue-based regimes) but in which the penalty *rate* is determined by (and is increasing with) the cartel's overcharge rate.[30]

29 See for details *KMU* (2016).

30 This rate can be used as the Initial Proportion which is subject to adjustments due to aggravating and mitigating circumstances.

CHANGES IN THE LANDSCAPE: TRENDS IN GLOBAL MERGER CONTROL

BY JUNYA AE, NICK ALTINI, WERNER BERG, BRIAN BURKE, VANI CHETTY, MARK HAMER, TOM JENKINS, DENISE JUNQUEIRA & LAURA LIU[1]









I. INTRODUCTION

Each time a major deal happens, over 120 competition regulators around the globe may take notice – each with its own assessment criteria and its own time frame. Although navigating numerous merger control regimes can seem a challenge for businesses seeking to remain compliant with competition law, increased cooperation and communication between competition authorities is moving us towards a standardization of approach in many areas. The global landscape for merger assessment is constantly shifting, and businesses need to be aware of how both the differences and similarities of approach by authorities worldwide may affect them.

We have identified a number of global trends currently affecting cross-border deals:

- increasingly strict enforcement of notification requirements;
- revival of coordinated effects as a basis for regulatory intervention; and
- stricter standards for remedies to be considered adequate.

1 The authors are grateful for the contributions of their colleagues Roxane Busey, Rachel Cuff and Grant Murray.

For businesses these trends mean that planning transactions ahead of time in order to ensure merger control compliance becomes ever more important.

II. INCREASED SCRUTINY OF FAILURE TO NOTIFY AND GUN-JUMPING

Most merger control regimes provide for a mandatory and suspensory notification framework. Not notifying a transaction or implementing it before approval ("gun-jumping") carries the risk of fines, and the level of fines is increasing fast. Gun-jumping is being taken increasingly seriously by competition authorities and, in 2016, 11 regulators across four continents imposed total fines of over €100 million.

Some mature regimes have increased their fines: in 2016 the U.S. Federal Trade Commission ("FTC") announced a 2016% increase in the maximum allowable daily fine for violating the U.S. premerger notification statute.[2] Also in 2016 South African Competition Commission imposed a fine some ten times larger than its previous highest fine for a failure to file, and according to the Commission's recently published guidelines the fines may yet go higher.[3] Less established competition authorities are also flexing their muscles, making clear that missing the filing deadline can prove costly. Toray Advanced Material Korea was fined USD $150,000 by Indonesia's competition commission ("KPPU") for being two days late notifying its acquisition of Woongjin Chemical – the first case of the KPPU imposing fines on a foreign company for failure to notify. And it seems that the longer the delay the higher the fine: LG International's 20-day hiatus before notifying its acquisition of PT Binsar Natorang Energi resulted in the KPPU's highest fine for failure to notify, and cost the company EUR 600,000.

Failure to notify a transaction is not necessarily the result of a company's conscious decision to disregard the merger rules – even straightforward revenue or asset thresholds can be difficult to interpret. Nor are overly complex filing thresholds necessarily the hallmark of less experienced competition law regimes – Germany has recently amended its merger control regime so that transaction value criteria can trigger a filing, and similar amendments are in train in Austria[4] and under discussion in jurisdictions including the EU and Sweden. Legislative proposals in Europe so far provide little clarity on calculation methodology, but companies in industries where players commonly have low actual revenues but potentially high future revenues (such as pharma and IT) should be aware that merger control planning is likely to get more difficult.

Establishing whether a filing threshold is met can be complex, but parties may stumble at an even earlier hurdle: is there a notifiable event in the first place? Different competition authorities use diverging definitions of "merger," "acquisition of control" and "joint venture," and this can trip companies up. For example, Canon structured its acquisition of Toshiba Medical Systems as a two-step transaction, and only notified the second step. China's MOFCOM considered the two steps to be closely related and indispensable components of a single transaction, and found that Canon should therefore have filed the first step for approval. Although it considered the transaction unproblematic in substance, MOFCOM imposed a fine of USD $43,000 on Canon – its first public fine for failure to notify imposed for a foreign-to-foreign transaction. The European Commission has recently sent a Statement of Objections to Canon alleging failure to notify in relation to the same transaction, and Japan's JFTC has also issued a warning that the first step of the deal triggered filing requirements in Japan. This makes the Canon case one of the few examples of different competition authorities raising such allegations in the same cross-border transaction.

Companies can run into problems even before the deal is formally concluded. The highest gun-jumping fine ever imposed by India's Competition Commission turned on whether the triggering event for a merger filing was the notification of the deal to the Indian stock exchanges or the subsequent execution of a binding acquisition agreement. The notifying company argued the latter to no avail, and was fined USD $750,000.[5]

2 See: https://www.ftc.gov/news-events/blogs/competition-matters/2016/06/inflation-increases-maximum-civil-penalty-amounts (increasing the maximum allowable fine from $16,000 to $40,000 per day of violation).

3 *Life Healthcare Group Proprietary Limited/Joint Medical Holdings Limited* [April 17, 2016].

4 The new value-based threshold will enter into force on November 1, 2017.

5 *GE/Alstom* [February 16, 2016].

A. A Danger Zone: Post-Notification but Pre-Approval

Once the merger has been notified, companies will be keen to take all necessary steps to ensure a swift and smooth post-closing integration. However, they may be constrained by merger control laws prohibiting the implementation of a transaction after notification has been made but prior to approval being received. Compliance with the "standstill obligation" is essential, but the boundaries between legitimate integration planning and gun-jumping can sometimes be difficult to establish. The French Autorité de la Concurrence imposed a record fine of EUR 80 million on Altice for interfering with the management and commercial policy of target company SFR while the merger control process was still ongoing. In the U.S., authorities traditionally take a hard stance on pre-approval implementation. The Department of Justice fined Duke Energy USD $600,000 because a tolling agreement that took effect before expiration of the statutory waiting period gave the company immediate control over the target's output and the right to receive its day-to-day profits and losses.

The use of "carve-outs" can be especially complicated when it comes to walking the tightrope of legitimate pre-merger integration. When Technicolor acquired Cisco's connected devices business, the parties carved out the Brazilian part of the transaction and continued with the remainder pending CADE's review. CADE objected, and imposed a fine of approximately USD $9 million[6] on the parties – by far the highest fine for gun-jumping in the authority's history. Carve-outs may be possible in some circumstances – for example, the UK's CMA allowed Diebold to complete its 2016 acquisition of Wincor Nixdorf globally, excluding the UK – but competition authorities that permit carve-outs as a matter of practice are in the minority. That list includes Colombia, Mexico, Portugal, Romania, Slovenia and Spain.

B. Unpleasant Surprises

Businesses must beware the pitfalls of jurisdictions where merger control reviews can be initiated on the authority's own initiative, even where the mandatory filing requirements are not met and even where the deal has closed. In China, MOFCOM reviewed *ex-officio* the merger of China's two largest taxi app services in 2015, even though the parties did not trigger the revenue filing thresholds due to the nascent nature of the market.[7] This represented the only such use of these powers by MOFCOM to date. More than a year after the non-reportable deals were concluded, the U.S.'s FTC challenged Valeant's acquisitions of Paragon and of Pelican Products, and Valeant was obliged to divest the businesses.

In the U.S., individual investors may be surprised to learn that they can run afoul of the premerger notification filing requirements. A hedge fund founder agreed to pay $180,000 in civil penalties to resolve FTC allegations that he violated the Hart-Scott-Rodino Act by failing to report his purchases of voting securities in an internet services company. In a separate action, an entrepreneur agreed to pay $720,000 in civil penalties to resolve FTC allegations that he violated the Hart-Scott-Rodino Act by failing to report his purchases of shares in two industrial companies.[8] In certain other jurisdictions, such as Colombia, fines can also be imposed on executives who fail to comply with reporting requirements.

Competition authorities are getting better and more innovative at identifying gun-jumping behavior, making increasing use of methods including proactive monitoring of the press, tip-offs by aggrieved competitors, or indications of a prior deal in a subsequent notification.

6 BRL 30 million.

7 *Ex-officio* reviews in China are usually triggered by concerned stakeholders (in this case a rival taxi hailing service), and MOFCOM has so far shown caution in opening such reviews.

8 See FTC press release, "In Two Separate Actions, FTC Charges Investors with Violations of U.S. Premerger Notification Requirements," (Jan. 17. 2017).

III. THE REVIVAL OF COORDINATED EFFECTS CONCERNS?

Competition authorities worldwide increasingly ask whether a merger would create incentives for market participants to tacitly align their behavior. Such coordinated effects concerns are likely a reaction to continuing consolidation in many industries and the subsequent reduction in the number of credible market competitors.

The U.S. has long viewed coordinated effects as a basis for challenging a merger or acquisition. In its 1992 and 2010 Horizontal Merger Guidelines, the U.S. antitrust agencies identified a number of factors that may be conducive to successful coordination.[9] The Agencies seek to identify how a merger might significantly weaken competitive incentives through an increase in the strength, extent, or likelihood of coordinated conduct. The 2010 Guidelines also expand the definition of coordinated interaction to include "parallel accommodating conduct not pursuant to a prior understanding."[10]

In the EU, coordinated effects concerns have not been the basis for regulatory intervention since the European Commission's defeat in the 2008 *Airtours* case, where the General Court raised the bar for a finding of collective dominance. However, two cases in 2016 may herald the revival of coordinated effects concerns in Europe. In *AB InBev/SAB Miller*, such concerns shaped the remedy design and resulted in divestitures that fully removed the overlap between the merging parties. The Commission found that high market concentration, consistent presence of certain big brewers across the markets and high price transparency facilitated tacit cooperation between brewers. Internal documents from the merging parties indicated that brewers seek to engage in coordinated "follow the leader" type pricing at national level, with retaliation by "price leaders" in low market share segments if competitors did not follow the price increase.

Tacit coordination also arose in *Hutchison/Wind Italy*, where the Commission found that the Italian mobile phone market would be highly transparent, as prices and product characteristics were publicly available. Additional factors that would facilitate transparency included: (i) public signaling by senior executives (e.g. during investor calls), (ii) exchange of information through investment banks and (iii) high-level contacts between mobile network operator executives. The Commission considered that such tacit coordination would be sustainable because competitors who deviated from commonly beneficial market behavior could swiftly be disciplined. To secure the Commission's approval of the transaction, the parties had to offer commitments ensuring the market entry of a new operator in Italy.

Coordinated effects concerns are not unique to the U.S. and the EU, as the following examples demonstrate:

- Brazil: Coordinated effects concerns led CADE to impose in 2016 behavioral remedies in four high-profile cases.[11]

- Japan: The JFTC considered coordinated effects in *Idemitsu-Showa Shell/JX-TonenGeneral* and required commitments – the first case in a decade where concerns were raised exclusively on the basis of coordinated effects.

- South Africa: The Competition Commission prohibited in 2016 the proposed acquisition by packaging manufacturer Corruseal of Boxlee and Pride Pak, based on coordinated effects concerns. In light of ongoing collusion investigations in the affected markets, the Competition Commission found that coordination was likely as increased vertical integration in the industry made it easier to coordinate in the downstream market. Similarly, in June 2017 the Competition Commission bucked the international trend of approval when it prohibited the proposed merger in which Nippon Yusen Kabushiki Kaisha, Mitsui O.S.K. Lines Ltd and Kawasaki Kisen Kaisha Ltd propose to merge their container liner shipping businesses to form a joint venture. This prohibition was premised entirely upon a perceived likelihood of coordinated effects arising based on a history of collusion in an adjacent market.

9 See U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, 2010 HORIZONTAL MERGER GUIDELINES § 7.2.

10 Id. at § 7.

11 Merger cases: *Saint-Gobain/Sicbras*; *JV Itaú-Unibanco/MasterCard*; *Bradesco/HSBC*; *The New Credit Bureau of Brazilian Banks.*

IV. THE QUEST FOR A SUITABLE REMEDY - AND A SUITABLE PURCHASER…

Regulators across the globe increasingly request early identification of a divestment purchaser. Terminology might differ, but such structural remedies generally take one of two forms:

- The divestment purchaser must be identified and approved at the time of clearance (known as "upfront buyer" in the U.S. and "fix-it-first" elsewhere).

- Conditional clearance is granted but closing is delayed until the approval of the purchaser (known as "upfront buyer" outside the U.S.).

Businesses and practitioners expect "fix-it-first" and "upfront buyer" solutions to be used only where there is a material risk that a suitable divestment purchaser will not be found. However, looking at recent behavior of a number of competition authorities we see a different picture:

- EU: One third of European Commission decisions in 2016 requiring a structural remedy involved a "fix-it-first" or "upfront buyer" - a significant proportion for a remedy meant to be the exception rather than the norm.

- China: Three of MOFCOM's four conditional clearance decisions in 2015 and 2016 required a "fix-it-first" solution. MOFCOM has historically shown itself willing to impose behavioral commitments (unlike the U.S., which also required an upfront divestment buyer in all three of these cases), and this seems a clear example of international alignment.

- U.S.: The authorities are increasingly willing to litigate, and in cases such as *Electrolux/GE, Staples/Office Depot* and *Halliburton/Baker Hughes* have rejected proposed divestitures as inadequate and litigated successfully. Other cases, such as *Anthem/Cigna* and *John Deere/Precision Planting*, were challenged in litigation and have since been abandoned. The FTC's second remedy study, published in January 2017, emphasized that the most critical elements of a divestiture remedy are defining the package of divestiture assets and selecting the buyer. Other factors affecting outcome include: implementation of the remedy (including the buyer's ability to conduct adequate due diligence); the transfer and retention of customers; and the respondent's obligation to provide supply, transition services and employee access. The FTC is likely to take these factors into account in future cases.

- South Africa: The Competition Commission often requires remedies even in cases with no or minimal competition concerns, based on statutory public interest considerations which the regulator is obliged to consider. In the *Coca-Cola Bottling* and *AB Inbev/SAB Miller* cases, for example, although the transactions created very limited competition concerns in South Africa, the merging parties committed *inter alia* to a ban on retrenchments, the creation of a considerable skills and business development fund and the localization of production. In the 2015/2016 financial year, some 28 mergers were approved subject to public interest conditions (of which 25 involved employment-related conditions), compared to just 11 over the first decade of competition regulation in South Africa.

Not all competition authorities have demonstrated such an interventionist approach. In Latin America, many authorities are more hesitant to impose remedies in global transactions with a low or moderate local nexus. Since 2014, the overall number of mergers conditionally cleared has decreased in Chile, Colombia and Mexico, and the intervention rate is even lower for global transactions. In both Mexico and Colombia, only one global transaction was made subject to remedies in 2016 (*Boehringer Ingelheim/Sanofi* and *Diebold/Wincor Nixdorf* respectively) but, in both cases, the transaction was also subject to remedies in other jurisdictions. The Colombian competition authority has expressed concern in a recent OECD submission that intervention could lead to merging parties leaving smaller jurisdictions, eliminating the parties as effective competitors altogether. On the other side of the globe, even Japan's active Fair Trade Commission has shown restraint, requiring a remedy in only one foreign-to-foreign transaction in its 2016 financial year. Again, this transaction was also subject to remedies elsewhere.

Overall, many competition authorities seem to adopt a "wait and see" approach for controversial global transactions. They will first observe how the deal is treated in the U.S. and the EU, if necessary postponing their decision and, in some instances, requiring a "me-too" remedy. However, truly global remedy packages, where a single set of assets or behavioral commitments address competition concerns in all jurisdictions, remain the exception. One example was the resolution of the *NXP Semiconductors N.V.* and *Freescale Semiconductors Ltd* deal in 2016 which was reviewed by the antitrust authorities in the U.S., EU, South Korea and China.[12]

"Upfront buyer" requirements can lead to a substantial delay in the transaction timetable, as well as adding an additional layer of complexity to the process. When planning a deal, parties must factor in that a "one-size-fits-all" remedy solution is unlikely to be found unless (i) the transaction involves a worldwide market with a clear-cut overlap, and (ii) an identified purchaser is willing to buy global assets or businesses. This is a high standard to meet.

V. LOOKING FORWARD

Gun-jumping or failure to file is increasingly likely to be detected due to use of sophisticated monitoring tools and *ex-post facto* reviews, as well as continuing international cooperation. Authorities are willing to impose high fines even for technical violations of notification requirements in non-problematic cases. Consolidation across industries has led to a revival of coordinated effects concerns and upfront scrutiny of potential divestment purchasers.

Stepping back and looking at the wider competition landscape, it remains to be seen to what extent the rise of protectionist rhetoric in major economies around the globe will influence and re-shape the mandate of competition authorities. Governments in jurisdictions including China and South Africa permit their competition authorities to go beyond pure competition concerns and to take into account public policy considerations, and have been criticized for the uncertainty, delay and bias these considerations infuse into the process. Will the U.S. and the UK, two long-standing champions of free trade, now go down the same path? In the last decade, international cooperation between competition authorities has focused on achieving non-conflicting outcomes when reviewing the same transaction. If the protectionist trend were to prevail, businesses and their advisors could easily find themselves entangled in a cross-border tug-of-war of conflicting industry policy considerations.

12 *NXP Semiconductors N.V. and Freescale Semiconductors Ltd*; FTC DKT. C-4560, January 21, 2016, where divestiture of the RF power amplifier business was required.

THE PATH TOWARDS A MORE EFFICIENT ANTITRUST ENFORCEMENT IN ARGENTINA

BY MIGUEL DEL PINO & SANTIAGO DEL RIO [1]

I. INTRODUCTION

The Argentine Antitrust Commission (the "Commission") has recently taken two significant steps towards updating the entire antitrust system in Argentina.

First, it has remitted a draft bill for the enactment of a new Antitrust Law (the "Bill") to the Argentine Congress, after a consultation process which took place over the last half of last year. The Bill is a necessary step towards remodeling the Argentine antitrust enforcement, addressing several long-time issues which have either been ignored or not sufficient covered by past Administrations.

Second, it has recently circulated for comments a white paper on its new Merger Control Guidelines, which had not been updated since 2001. In particular, these Guidelines follow a new trend by the Antitrust Commission which seeks to have a more professional and efficient approach for merger review in Argentina.

II. INSTITUTIONAL REORGANIZATION

In 1999, the currently in force Antitrust Law set out the creation of the National Tribunal for the Defense of Competition (the "Antitrust Tribunal") within the scope of the Ministry of Economy, which would be the ultimate antitrust regulator in Argentina. However, the Antitrust Tribunal was never created by the Executive Power, which led to the Argentine Supreme Court setting out a double tier for the enforcement of the Antitrust Law until the Antitrust Tribunal was to be created. This double tier structure followed the settings of the prior antitrust regulations, by means of which the regulator that had been created by the former antitrust regulations, that is, the Commission, performed a technical review on the mergers and investigations and issued a recommendation to the Secretary of Domestic Trade of the Ministry of Economy (the "Secretary of Trade"), the latter being the body that ultimately

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decided upon antitrust matters (among other issues, such as domestic economy matters).

Pursuant to the Bill, this system will now change in favor of a new Antitrust Authority, which will be composed of four divisions, namely: (i) the Antitrust Tribunal; (ii) the Anticompetitive Conducts' Secretariat; and (iii) the Merger Control Secretariat.

Regarding the Antitrust Tribunal, this authority will be comprised of five members, appointed by the Executive Power after a pre-selection carried out by a qualified jury from the Ministry of Production, the National Treasury Procurer and members of the Legislative Branch. The roster of the new authority will have to include at least two economists and two attorneys. This Tribunal will be in charge of imposing the sanctions established in the Bill, resolving preliminary defenses, deciding on the approval of mergers and carrying out market investigations that may be deemed pertinent. In addition to this, this Tribunal will impose the fees that individuals and/or companies will have to pay at the moment of notifying mergers. This decision-taking role is the one that is currently being held by the Secretary of Trade.

The current functions of the Commission will be taken over by two bodies. The Anticompetitive Conducts' Secretariat will be created with the main purpose of receiving and processing investigations on anticompetitive conducts in order to give the Antitrust Tribunal recommendations regarding the sanctions that would have to be applied. For its part, the Merger Control Secretariat will have as its main objective receiving and processing the advisory opinion and merger dockets that are filed before the Authority. Furthermore, it will have the authority to decide on the approval of those mergers that qualify for a fast-track review process, the requirements of which will be determined by the Antitrust Tribunal.

Finally, the fostering of the Competition Secretariat seems to be the most novel inclusion in this scheme, entailing a branch of the Antitrust Authority with a wide range of faculties, such as the possibility of intervening in merger control cases, defending or appealing decisions issued by the Antitrust Tribunal, or requesting the initiation of investigations before the Antitrust Tribunal. This Secretariat, which would have a standing similar to that of a Prosecutor's Office, would operate within the framework of the Secretary of Trade and would be appointed by the latter's hierarchical authority, namely the Ministry of Industry. While the Antitrust Authority would no longer depend upon the Secretary of Trade, there would still be an influence from said body, with a free agent being able to intervene in antitrust matters.

This is an important step towards an overhauling of the entire system, having specific divisions with clearly allocated responsibilities and tasks. It remains to be seen the extent of the separation between this Antitrust Authority and the Secretary of Trade and, in particular, the degree of independence that the Antitrust Authority will have as regards the Executive Power.

III. CARTEL DEVELOPMENTS: HARD CORE CARTELS AND LENIENCY PROGRAM

One of the most serious shortcomings as regards the enforcement of antitrust in Argentina has been the severe disadvantage that cartel prosecution has had when compared to the activity on both unilateral actions as well as merger reviews. Due to several factors, including a rampaging inflationary context which placed unilateral pricing matters as a priority for the enforcers as well as a diminishing value for the Argentine Peso which triggered an increase in merger control notifications, the Commission did not have sufficient resources to uncover and effectively prosecute cartels. In fact, the most relevant cartel investigations that the Commission has undertaken date back to 2005 with the *Cement* and *Liquid Oxygen* cases.

Under the current Antitrust Law, there are no *per se* anticompetitive conducts, since it is stated that actual or potential harm to the general economic interest must be determined in order to consider the conduct as anticompetitive. The Bill contains the same rule, yet it includes a provision stating that certain conducts will be presumed as harmful to the general economic interest, namely: (i) price fixing; (ii) the setting of production or commercialization quotas or the restriction of said activities with the same intention; (iii) market, client or supply allocation; and (iv) bid rigging. The Bill sets out that these conducts will be deemed as anticompetitive and thus, will be considered as null.

In order to gather evidence for an effective prosecution of cartels, the Bill includes a leniency program (the "Program"), setting out two different scenarios for infringing parties, namely an exemption one and a reduction one, both based on a "race-to-the-door" structure.

Pursuant to the Bill, infringing parties must comply with the following requirements in order to obtain an exemption of the sanctions set out by the Antitrust Law: (i) to be the first party, among the participants of the conduct, that provides the Antitrust Authority with information and evidence, either in the event that the authority has not initiated an investigation or if it has initiated an investigation, but has not been able to gather sufficient evidence; (ii) must immediately cease the performance of the infringing conduct, unless the Antitrust Authority deems otherwise in order to preserve the investigation; (iii) must collaborate until the end of the investigation; and (iv) must not destroy, forge or hide evidence of the anticompetitive conduct, nor make public the fact that it has filed for the Program, unless such communication is to other antitrust regulator.

Those parties that would not be the first ones to apply for the Program could request a reduction of the sanctions, if they are able to meet the remaining requirements and provide the Antitrust Authority with useful information for the investigation. The Bill sets out that the reduction could range from 20 percent to 80 percent of the sanction. The reduction ratios are to be determined by the Antitrust Authority by taking into account the chronological order of the filing.

The Bill also includes a "leniency plus" provision, by means of which those parties that would not be able to request an exemption regarding an anticompetitive conduct, but that could provide information on a second instance of anticompetitive conduct, can obtain an exemption on the latter, while a one third reduction in the former. Additionally, the Bill specifically sets out that there cannot be a joint enforcement by two parties of the Program, the sole exception being if a company and its directors or other members of its staff request the enforcement of the program.

IV. GREATER FINES FOR ANTICOMPETITIVE CONDUCT AND A FOCUS ON DAMAGES

The most important shortcoming of the current Antitrust Law is that all its amounts have been set in Argentine Pesos, a currency which in the last 17 years since its enactment has undergone several devaluations as well as inflationary processes. As such, the fines for anticompetitive conducts which used to range from USD $10,000 to $150,000,000 are now equal to $580 and $8,800,000, respectively. This led to a devaluation of the deterrence effect of these fines, given that the benefits incurred by the anticompetitive conduct could greatly surpass these amounts.

The Bill no longer has a fine set out in Argentine Pesos and now states that infringing parties can be fined as follows: (i) 30 percent of the volume of business of the products or services involved in the anticompetitive conduct over the last year, multiplied by the number of years over which the conduct took place; (ii) 30 percent of the local volume of business of the infringing group over the last fiscal year; or (iii) twice the amount of the economic benefit obtained by the anticompetitive conduct; the deciding factor being the highest fine possible under these items.

In the event that the fine could not be determined by using these factors, then a fine of up to 200,000,000 Indexable Units (which are created by the Bill) can be imposed. The amount of Indexable Units is expected to be set out following the valuation of the U.S. Dollar and, as such, this fine would have a maximum amount of $200,000,000.

This increase in fines is complemented by a welcome change as regards its payment. The Bill eliminates the *solve et repete* system which had been incorporated to the Antitrust Law by a 2014 amendment, which entailed that fines had to be paid in order to have access to a judicial appeal. As such, fines will only have to be paid upon confirmation from the Courts, as was the case with the original drafting of the Antitrust Law.

One of the most important changes of the Bill is a new chapter devoted to damages, which includes several changes to the current system.

The Bill now sets out that once a resolution is issued by the Antitrust Authority, the damages follow on litigation will be carried out by means of an executive summary proceeding (namely, the most rapid of all proceedings in Argentine procedural law) and that the Court will base its decision on the Antitrust Authority's decision. In addition to said damages, the Bill also sets out that a civil fine in favor of the injured party may also be granted, depending on the gravity and circumstances of the case. When more than one person or company has carried out the action, they will all be jointly liable to the payment of the damages or fines.

Furthermore, a specific provision regulates the scenario posed as regards leniency applicants, in the sense that it sets out that they "may be exempted or their liability reduced" as regards damages and fines as set out in that specific chapter. It remains to be seen whether such language will be clarified prior to its enactment, but it could be interpreted that the exemption or reduction would depend on the degree of the overall type of leniency immunity granted to the company. The same Section sets out an exemption to said rule, for the following cases: (i) as regards its direct or indirect buyers or suppliers; and (ii) any other injured parties only when the full reparation of the damages of the conduct could not be obtained from the other conspiring companies in the same conduct.

V. MERGER CONTROL DEVELOPMENTS: CHANGES BY THE BILL AND NEW GUIDELINES

One of the most important modifications introduced by the Bill is the creation of a new merger control system, which: (i) greatly increases the amounts for both the notification threshold and the *de minimis* exemption; (ii) seeks to reduce review timeframes; and (iii) sets out a suspensive system, as opposed to the current one.

The notification threshold, which used to amount to $200,000,000 now equals approximately $11,700,000. This had led to a downpour of non-material mergers having to be filed for clearance, the majority of which would not have fallen under the merger control regime should the original intention of the legislator be followed. The Bill modifies the notification threshold, using Indexable Units which would be continuously updated. Pursuant the Bill, the new threshold would be met if the acquiring group and target should surpass a combined turnover of 150,000,000 Indexable Units, which as of today would amount to approximately $150,000,000, thus increasing the threshold to an amount closer to the one that had originally been envisaged.

The same updating takes places as regards the *de minimis* exemption, which would now be applicable if: (i) local amount of the transaction and local amount of the assets being transferred do not each surpass 20,000,000 Indexable Units (approximately $20,000,000); and (ii) if the previous condition is met, the acquiring group or target must not have carried out transactions in the same relevant market for 20,000,000 Indexable Units (approximately $20,000,000) in the last 12 months or 60,000,000 Housing Units (approximately $60,000,000) in the last 36 months.

The Bill also sets up a suspensive regime in which the parties would not be able to close the transaction prior to its approval. This is the most relevant departure that the Bill has as regards the current system, in which parties can close the transaction and file for notification up to one week afterwards. The Bill now sets out fines for gun-jumping, which had hitherto never existed in Argentine merger control proceedings. However, it must be noted that pursuant to its provisional settings, the Bill sets out that the suspensive regime will become effective as of one year after the enactment of the law, so as to provide sufficient time for the Antitrust Authority to clear its abundant workload on merger control cases.

Further to this suspensive system, the Bill defines a review timeframe of 45 working days plus an additional 120 working days-term. The current Antitrust Law also had a 45 working days review timeframe which over the passing of time was ignored, reaching average review timeframes of several years even in non-material transactions.

Prior to the takeover by the new Administration, average review timeframes were approximately 30 months. The following chart shows the reduction in review terms undertaken since 2016.

Statistics	2016 (all)	2016 (Filed after December 2015)	2017 (January-June)	2017 (January-June) (Filed after December 2016)
Average delay (months)	23,16	8,38	27, 31	7,15

Source: Internal estimations based on resolutions published on www.cndc.gov.ar

Upon the takeover of the new Administration, there has been a speeding up of proceedings, most notably when comparing new cases against "legacy" cases which may have been under study for several years.
This increase in the effectiveness of the review would be further fostered by the new suspensive system, which would preclude the Antitrust Authority from delaying the issuance of a resolution.

In that regard, the Bill sets out that the Antitrust Authority may set up a fast-track system for those transactions which would not raise competition concerns. The current Commission is using an informal fast track system as of today, focusing its attention on cases that truly warrant a more detailed review, as opposed to the past practice of analyzing all transactions in depth.

Additionally, the Bill also sets out a mechanism for third parties to file their comments on the merger, which are non-binding for the Antitrust Authority nor is there an obligation for the Antitrust Authority to comment on them. This is a major departure from the current Antitrust Law, given that it currently does not allow for third parties to participate in any manner in the process, unless being summoned as witnesses. It is expected that this process will also help enrich the analysis carried out in merger control reviews.

The Commission has been working on updating its merger control review processes, in order to further the type of economic analysis carried out. The Commission has recently unveiled a white paper for comments on its new Merger Control Guidelines, which had not been updated since 2001. These new Guidelines provide a much need reference for practitioners in their day-to-day interactions with the Commission, of which the following matters can be highlighted.

First, the Guidelines clearly set out that those transactions with a combined market share of 20 percent will be considered as non-problematic, which triggers the application of the fast-track procedure. Unlike past practice, this indicates that these transactions will be cleared in a rapid manner and will not be subject to intensive review by the Commission.

This approach is further complemented with clear rules on the usage of the Herfindhal-Hirschmann Index ("HHI"), which used to be referenced but with no specific rules. Pursuant the Guidelines, those transactions that have a post-transaction HHI below 2000 will be considered as non-relevant, while those that surpass such amount yet the delta between the prior and post scenarios is below 150 points will be considered as non-problematic as well. Furthermore, it is stated that if the post-transaction market shares are lower than 30% percent and if: (i) the post-transaction HHI is less than 3000; or (ii) have a delta of less than 250 points, then the transaction will also be deemed as non-relevant.

Second, the Guidelines now provide for a more fulsome approach as regards the techniques used by the Commission. They now incorporate the notion of Upward Pricing Pressure as a method in order to determine possible unilateral actions post-transaction as well as including a specific review on coordinated effects. Other factors that are now included as relevant comprise the competition from imported products, countervailing buyer power, the creation of a portfolio effect and the failing firm approach to a transaction.

Finally, the Guidelines also provide a commentary on the possible review of ancillary restraints, following the current practice by the new Administration of not setting out specific terms for their duration, but rather to analyze them on a case-by-case basis. Although this approach would seem to be a bit more extensive than the one under the previous Administration, it remains to be seen whether the Commission will include a clear set of rules for parties to appraise the type of review that may eventually be carried out.

In short, the Guidelines provide clearer rules for parties interested in carrying out a merger control notification in Argentina, which will allow them to fully assess the type of review that they will be subject to as well as have a better estimate regarding the proposed timeline.

VI. CLOSING REMARKS

The enforcement of antitrust rules in Argentina has shown severe shortcomings over the last years, triggered by several factors, such as a distortion of the reasons for the use of antitrust, the rapidly increasing amount of merger control cases and the corresponding decrease of resources allocated to the effective prosecution of cartels as well as the lack of a consensus on basic issues such as the enforcing agency for the antitrust rules.

This Bill seeks to address the majority of the problems raised over the last decade, by setting an independent authority, increasing the interest and tools necessary for cartel prosecution, increasing fines, implementing a leniency program, fostering private litigation and alleviating the burden of the current excessively bureaucratic process in merger control proceedings. This effort is complemented by measures such as the Merger Control Guidelines, which provide a much needed guidance to analyze and enforce antitrust rules in Argentina.

It is still early to determine the extent to which these efforts will impact the enforcement of antitrust in Argentina, but the current scenario shows a much more proactive approach than what has been observed over the last decade.

EXCESSIVE PRICING: TOWARDS A WORKABLE AND OBJECTIVE RULE

BY EDUARDO SAAVEDRA & JAVIER TAPIA [1]

I. INTRODUCTION

As some authors have acknowledged, exploitation is the most intuitive and direct form of abusing a dominant position.[2] A firm exerts its market power by increasing the price it charges for a product or service significantly above competitive levels and, by doing so, it increases its profits. However, the control of excessive prices using competition law has traditionally been a controversial and less accepted form of control of market power than tackling exclusionary behavior. We argue the policy remains an important tool for competition authorities, especially in markets where regulation might be weak or blurred, monopolies remain in place and entry is difficult due to factual, legal or economic causes.

Indeed, from the competition law perspective, the relevant analysis must not focus on the fairness (in abstract) of the price charged. Even a dominant firm is allowed to charge prices as high as possible for its products, unless there are strong reasons justifying a restriction. The relevant analysis consists of establishing a measure or parameter to measure whether a price is excessive. Most of the controversy surrounding excessive pricing policy dwells precisely on the parameter. Perhaps for this reason, in some jurisdictions, such as South Africa, Turkey or Korea,[3] it is defined statutorily. In most countries, however, the measure is left to the case-law.

In this short note, we aim to advance towards the creation of a workable and objective rule for determining when a price should be deemed excessive – minimizing, at the same time, the risk of damaging innovation or research and development ("R&D"). We propose a test that combines different benchmarks to set a threshold. In a nutshell, if the price a super-dominant firm actually

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2 Bishop & Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet & Maxwell, 3rd ed., 2010, p. 237.

3 Elhauge & Geradin, *Global Antitrust Law and Economics*, 2nd ed., 2011, p. 413-415.

charges is below the threshold, there should be no review of the price. Conversely, if the price a super-dominant firm charges is above the threshold, the firm must justify why it is charging a price that exceeds such a level. The threshold is the maximum between two alternative prices: the optimal price estimated from a utilitarian planner that maximizes total welfare, and the price the dominant firm actually charges in a static equilibrium considering a previously defined market share.

The rule aims to advance the practical application of an excessive pricing policy, which is, so far, hardly accepted both by scholars and authorities. On the one hand, tackling excessive pricing using competition policy does not rank high in many authors' preferences. It is a practice deemed interventionist or at least extremely difficult to implement, either because of the difficulty of computing the "right price" or the unsuitable remedies available. On the other hand, it is not an enforcers' favorite either. Indeed, excessive pricing is out of the realm of U.S. antitrust law, unlike the other exploitative abuse: price discrimination. Conversely, in Europe and other jurisdictions, such as Chile and South Africa, laws sanction excessive pricing as an abuse of dominance. Nevertheless, competition authorities have attacked excessive prices very rarely. In most jurisdictions, the number of cases remains low and for the most part dated.[4]

Auspiciously, we might be observing a change in the trend. For instance, the practice is taking central stage in Europe again, after AG Wahl issued a non-binding opinion in a case concerning a request for a preliminary ruling from a Latvian court on abuse of dominance through excessive pricing (on April 6, 2017).[5] In addition, the European Commission launched a formal investigation into Aspen Pharma's pricing of five cancer drugs (on May 15, 2017).[6] Whether this is a real drift remains to be seen. However, AG Wahl's opinion is in line with our idea of looking for a thorough approach that allows dealing with these kinds of cases in a workable and objective manner, without damaging innovation.

II. THE TEST FOR ASSESSING EXCESSIVE PRICES

To deal with excessive pricing cases, it has become common to use a three-step test. Each of them is directed, respectively, to: (i) assess whether the firm is dominant; (ii) determine whether the price actually charged by that firm exceeds a certain threshold – i.e. whether it presents a significant difference with a benchmark, competitive price; and (iii) define whether there are any legitimate (economic) justifications for setting the price above the competitive level.

The test comes from the 1978 EU case *United Brands*,[7] where the European Court of Justice ("ECJ") regarded as contrary to what is now Article 102 TFEU the application of a price which had no reasonable relation to the economic value of the product supplied, and therefore was deemed excessive. In that case the ECJ compared the profit margin demanded by the dominant firm and the cost of providing the good or service concerned. Since then, several subsequent decisions have used a similar approach.

In Chile, despite the fact there were previous cases on exploitative abuses (including excessive pricing cases), the three-leg test was only explicitly applied for the first time in 2014, in a case known as *Campomar* (judgment 140/14).[8] In that case, a group of condominium landlords brought an antitrust action against a real estate developer alleging the latter was abusing its dominant position by charging excessive prices to the former for their drinking water supply. After stating expressly that excessive pricing is an offense under Chilean Law,[9] the Tribunal established the test, although without mentioning the third limb, which remained implicit. In

4 Among other jurisdictions, cases may be found in South Africa, the Netherlands, the UK, the EU and Chile.

5 Case C-177/16, ***Biedrība 'Autortiesību un komunicēšanās konsultāciju aģentūra – Latvijas Autoru apvienība' v. Konkurences padome***, English version available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=189662&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=609171.

6 The Commission's press release can be found at: http://europa.eu/rapid/press-release_IP-17-1323_en.htm.

7 Judgment of February 14, 1978, *United Brands and United Brands Continental* v. *Commission*, 27/76, EU:C:1978:22.

8 For an analysis of the judgment, see Vázquez, "Excessive Pricing: A View from Chile," Working Paper CCLP(L) 41, Center for Competition Law and Policy, Oxford University, 2015.

9 Before this judgement the point was unclear, with few precedents accepting excessive pricing as an offense and one rejecting it. The decision in *Campomar* was not unanimous. Two judges stated that excessive pricing is not an offense in Chilean competition law. As a disclaimer, we were in the majority. The Supreme

the end, the complaint was dismissed because the landlords did have reasonable alternatives for their water supply and the plaintiff did not evidence the barriers to entry in the relevant market –i.e. dominance was not proved.

III. REFINING THE APPROACH: TOWARDS A WORKABLE AND OBJECTIVE RULE

The three-step test can be qualified in a number of forms, in order to make it workable in practice and, at the same time, imposing some restrictions on the possibility of bringing actions accusing excessive pricing. The control of excessive prices must be selective and carried out in a restrictive manner. Our approach is, in this sense, explicitly pro-defendant. Competition authorities should look at a price only when it is *extremely* excessive.

A. First Step: Looking for "Super-Dominance"

Being a unilateral offense, any assessment of excessive pricing must start defining the relevant market and its structure, in order to determine whether the defendant has a dominant position and the barriers to entry existent in that market. In principle, this is not different from any other abuse of dominance case.

However, the first limb of the test allows narrowing the scope of possible cases to review from scratch. First, the threshold for dominance should be higher than the one used for other cases – i.e. the requirement is one of "super-dominance." Despite the fact the term is difficult to define or not accepted in many jurisdictions (including Chilean law), it allows us to summarize in a word the need for being stricter in the dominance assessment when dealing with excessive pricing cases.[10] For our purposes here, we define it simply as a firm that has more than 75 percent of market share. However, the idea is to determine whether the plaintiff has credible alternatives to the product or service the super-dominant firm offers.

A higher threshold for dominance ensures that only markets where there are extremely high barriers to entry will be subject to the second part of the assessment. The ultimate reason for this is to avoid tackling innovation or risk investment. However, unlike other works,[11] we do not assess at this stage whether the super-dominant position comes from innovative products or services. This limb focuses merely on market shares and entry barriers. Only after we carry out the first two steps of the test, do we then put the burden on the firm to argue that the price it charges can be justified on innovation.

B. Second Step: Determining the Excessive Price

The second limb of the test deals with the pricing conduct of the super-dominant firm. From an economic perspective, it is possible to assess whether prices are excessively high considering several benchmarks. Among the most common ones are the margin price-average variable cost or the comparison of prices charged historically by the firm, or charged to different classes of customers.

Each of these methods has been subject to criticisms that make unadvisable their separated use. Conversely, the common recommendation is to use them simultaneously (combined), as long as the benchmark is reasonable and provides useful information on the price concerned and its relative position *vis-à-vis* the competitive price. This was the method advised in Chile in *Campomar*, in the UK case *NAPP*, and by AG Wahl in his aforementioned opinion.

However, we are not aware of any actual proposal specifying how such combination of methods should be applied in practice. In this section, we propose a test that combines different benchmarks to set a threshold. The price the super-dominant firm actually charges should be reviewed depending on if it is below or above the threshold. As mentioned, the threshold we propose is the maximum between two alternative prices. On the one hand, there is the optimal price estimated from a utilitarian planner that

Court (that has the power to review the Competition Tribunals' judgment in full appeal) later affirmed the judgement.

10 Note that, on this, our approach is similar to Conditions 1 and 2 proposed by Motta & de Streel, "Excessive Pricing in Competition Law: Never Say Never?," in *The Pros and Cons of High Prices*, Konkurrensverket (Swedish Competition Authority), Kalmar, 2007, p. 22.

11 Ibid.

maximizes total welfare. We call this price p^*, which depends on the firm's average variable, fixed and sunk costs. These parameters can be obtained from the firm's own accounts or public sources of information. On the other hand, there is the price the dominant firm actually charges in a static equilibrium. We call this price p^d, which depends on several economic parameters such as marginal costs, demand elasticity or the competitors' supply elasticity.

Since both prices depends on different parameters, they can have different values. Up to the 75 percent the dominant firm may charge any price p^d freely, even if it is above its average total costs. Over that market share, the comparison must be done with p^*, unless the latter is lower than p^d. Otherwise, a given price actually charged below p^d might be legal at 75 percent, but illegal over that market share if such happens to be above p^*. Therefore, for reasons of fairness or regulatory symmetry, the threshold cannot be p^* if $p^d > p^*$.

A simplified example may clarify the idea. Let's assume a firm has 85 percent of the market. Using similar numbers as Kahai, Kaserman & Mayo (1996)[12], we obtain that p^d is 1.89[13]. Assuming that average variable and marginal costs are similar, the ratio p^* is the inverse of the ratio of variable to total costs of the super-dominant firm.[14] Then, assuming that 70 percent of this firm's costs are variable, $p^* = 1.43$, which clearly implies that p^d is higher than p^*. If the price actually charged by the super-dominant firm is between both numbers (say, 1.68), it cannot be considered as excessive, because if the firm were merely dominant (i.e. it had a market share below 75 percent), the price of 1.89 had been considered legal. Then a price lower than 1.68 cannot be considered as unlawful, regardless of the actual firm's market share.

We now proceed to formalize the rule. Let's first assume that the firm is dominant (*not* super-dominant) at the margin. As we have mentioned, in this case the firm should be able to charge any price, regardless of the source of its market power. To state this idea in a simple way, we assume the other competing firms in the market (the fringe) are less efficient. Therefore, the dominant firm acts as a monopoly of the residual demand[15] and, accordingly, the price it charges in a static equilibrium is given by the following:

$$p^d = c' \cdot \frac{\eta + s \cdot \varepsilon}{\eta + s \cdot \varepsilon - (1 - s)} \qquad (1)$$

Where c' is the marginal cost, η is the demand elasticity, ε the supply elasticity of the fringe, and s is the fringe's market share. Therefore, if the market share to become super-dominant is 75 percent, $s = 0{,}25$. As a result, the price that is deemed excessive must be, at least, higher than the price of the dominant firm when its market share is exactly 75 percent.

As a caveat, it must be taken into account that in equilibrium $\eta > 1 - s \cdot (1 + \varepsilon)$. Thus, the acceptable range of demand elasticity may even fall under the inelastic part of the demand, because the condition would be $\eta > 0{,}75 - 0{,}25 \cdot \varepsilon$. It is straightforward to see that the higher the supply elasticity of the rivals, the lower the minimum value of a demand elasticity in equilibrium, so the demand of the market can be elastic or inelastic.

Let's now assume that the dominant firm participates in a regulated industry. In this case, what would be the acceptable margin over the operational costs, so that the firm can cover its fixed and sunk costs? To solve this question, we assume a utilitarian central planner that solves the following problem in order to estimate the efficient price of a firm that sells a single product in a given moment of time:

12 Kahai, Kaserman & Mayo, "Is the 'Dominant Firm' Dominant? An Empirical Analysis of AT&T's Market Power," *Journal of Law and Economics* 39: 499-517, 1996. The numbers are used for the long-distance telecoms market in the US.

13 This number assumes that demand elasticity is 0.49, the fringe's supply elasticity is 4.4, and the fringe's market share is 0.25. Then apply Equation (1) below and assume marginal cost equal to 1.

14 See Equation (3) below and assume average variable cost equal to 1.

15 The model of price-leadership of a dominant firm is commonly used in competition cases. For a discussion about how suitable it is as benchmark, see Rassenti & Wilson, "How Applicable is the Dominant Firm Model of Price Leadership?," *Experimental Economics* 7(3): 271-288, 2004.

$$Max_Q \int [P(Q)dQ] - c(Q)$$
$$subject\ to\ \pi(Q) = 0$$

where $P(Q)$ is the inverse demand function; $\int [P(Q)dQ]$ is the gross consumer surplus; $c(Q)$ the function of total costs; and $\pi(Q) = P(Q) \cdot Q - c(Q) - F$ the super-dominant firm's profits, being F a measure of its annual fixed and sunk costs.[16] The problem to solve can be stated as a Langrangean, where μ is the shadow cost of a dollar of rent for the firm:

$$L = \int [P(Q)dQ] - c(Q) + \mu \cdot [P(Q) \cdot Q - c(Q) - F]$$

The first order condition in this case is:

$$\frac{\partial L}{\partial Q} : P(Q) - c' + \mu \cdot \left[P(Q) + Q \cdot \frac{\partial P}{\partial Q} - c' \right] = 0$$

All functions are evaluated at the optimal production arising from this problem, that we will call Q^*. Then, $P(Q^*) \equiv p^*$. The first order condition can then be rewritten as:

$$(p^* - c') \cdot (1 + \mu) = \mu \cdot Q \cdot \frac{-1}{\frac{\partial Q}{\partial P}}$$

If the elasticity of demand is defined as:

$$\eta \equiv - \frac{\partial Q}{\partial P} \frac{P(Q)}{Q} \text{ . Also, if } \theta \equiv \frac{\mu}{1 + \mu} \text{ ,then } \frac{(p^* - c')}{p^*} = \theta \cdot \frac{1}{\eta}$$

Using some algebra, the optimal price depends on c', η y θ:

$$p^* = c' \cdot \left[\frac{\eta}{\eta - \theta} \right] \quad (2)$$

If the functional form of the inverse demand is known, it is also possible to know the direct demand function:

$$Q^* = P^{-1}(p^*).$$

However, the parameter θ is not exogenous. It depends on the size of the fixed costs and other variables. Let's take the restriction $\pi(Q^*) \equiv p^* \cdot Q^* - c(Q^*) - F = 0$; or,

$$c' \cdot \left[\frac{\eta}{\eta - \theta} \right] \cdot Q^* - c(Q^*) - F = 0$$

16 The planner's problem remains the same if it faces rivals in the market – indeed, as long as the dominant firm makes its decisions regardless those of its rivals'.

Let's now divide both terms by Q^*. We define C_{avg} and F_{avg} as the average variable, and fix and costs, respectively. Applying some algebra, we can solve for $(\eta - \theta)$, resulting in:

$$(\eta - \theta) = c' \cdot \eta \cdot \left[\frac{1}{C_{avg} + F_{avg}} \right]$$

Now we replace this result in Equation (2):

$$p^* = C_{avg} + F_{avg} \quad (3)$$

To some extent, this is an obvious result. It is just stating that the efficient price is the one that covers exactly the total average costs (that is, the average variable and fixed costs of the operation plus the average sunk costs).

However, note that this information is easier to estimate than the price resulting straight from Equation (1). Information of average costs may be obtained from the firm's own accounts, so it is unnecessary to know economic parameters such as marginal costs, demand elasticity or the competitors' supply elasticity.

Moreover, in practice it is possible to obtain a good proxy of the costs of relatively "big" firms. These are normally open corporations and their accounting is audited. Operational or exploitation costs include both fixed and variable costs. Conversely, sunk costs are normally unknown and cannot be derived from the firm's accounts. Nevertheless, a reasonable proxy is the annual value of the capital invested, that is, the industry's cost of capital multiplied by the capitalized investment costs in the firm's balance sheet. As a consequence, a general rule can be stated as

$$C_{avg} + F_{avg} \approx Exploitation\ Costs + ko \cdot Investments,$$

where ko is the firm's cost of capital, the sole variable that needs to be estimated or taken from a benchmark (i.e. the same market in a different country).

In sum, the threshold for maximum prices allowed is the following:

$$Threshold = max\{p^*, p^d\}$$

In other words, the threshold is the maximum value between the prices arising from Equations (1) and (3). If the price the firm actually charges is below the threshold, there should be no review of the price. Conversely, if the price charged is over the threshold, the firm must justify why it is charging a price that exceeds both its total average costs and the price that a super-dominant firm should charge.

The decision to use p^d instead of p^*as threshold would be correct if, and only if, if, $p^d > p^*$. Since the fringe's supply elasticity is generally unknown, the following restriction arises after using Equations (1) and (3) and some algebra:

$$\varepsilon \leq \frac{(1 - s)}{s} \cdot \frac{1}{\varphi} - \frac{1}{s} \cdot \eta \qquad (4)$$

where $\varphi \equiv Favg/(Cavg+Favg)$ is the proportion of fixed and sunk costs to total costs of the super-dominant firm.[17]

17 Equation (4) assumes the ratio between the marginal and average variable costs is equal to one. This assumption simplifies the result, but it is not always true in the short run. It may be expected that this ratio is generally lower than one. Let $\gamma \equiv Cavg / c'$, then condition (4) should be $\varepsilon \leq (1-s)/s \cdot [\gamma/(\varphi-(1-\gamma)-1/s \cdot \eta$, and we must assume that.

As can be seen from Table 1, the resulting value is highly dependent on the percentage of fixed and sunk costs of the dominant firm. This is relevant. Since we are using publicly available information or information that is, at least, easy to contrast with public information, Table 1 makes the analysis easier.

Table 1 shows that if most of the costs of the firm are variable, then the right comparison must be between the actual price and p^d. It is unlikely that the fringe's supply elasticity is above 4 (see first column from the left). As fixed and sunk costs become more important, to use p^d instead of p^* requires to show that the total demand is mainly inelastic. Finally, in cases where fixed and sunk costs are more relevant than variable costs, such as in infrastructure services or networks, it is highly likely that p^* is the right threshold (see the column at the extreme right).

Table 1. Maximum Fringe's Supply Elasticity to use p^d instead of p^* (considering $s = 0.25$)

Total Demand Elasticity	% Fix costs over total costs			
	15%	30%	45%	60%
0.5	18,00	8,00	4,67	3,00
0.75	17,00	7,00	3,67	2,00
1	16,00	6,00	2,67	1,00
1.25	15,00	5,00	1,67	0,00
1.5	14,00	4,00	0,67	Negative
1.75	13,00	3,00	Negative	Negative
2	12,00	2,00	Negative	Negative
2.25	11,00	1,00	Negative	Negative
2.5	10,00	0,00	Negative	Negative
2.75	9,00	Negative	Negative	Negative
3	8,00	Negative	Negative	Negative

Source: Authors' elaboration.

Therefore, only cases that fall in the grey cells in Table 1 require a deeper analysis. In particular, it is necessary to estimate the fringe's supply elasticity in order to determine whether the threshold is p^d or p^*.

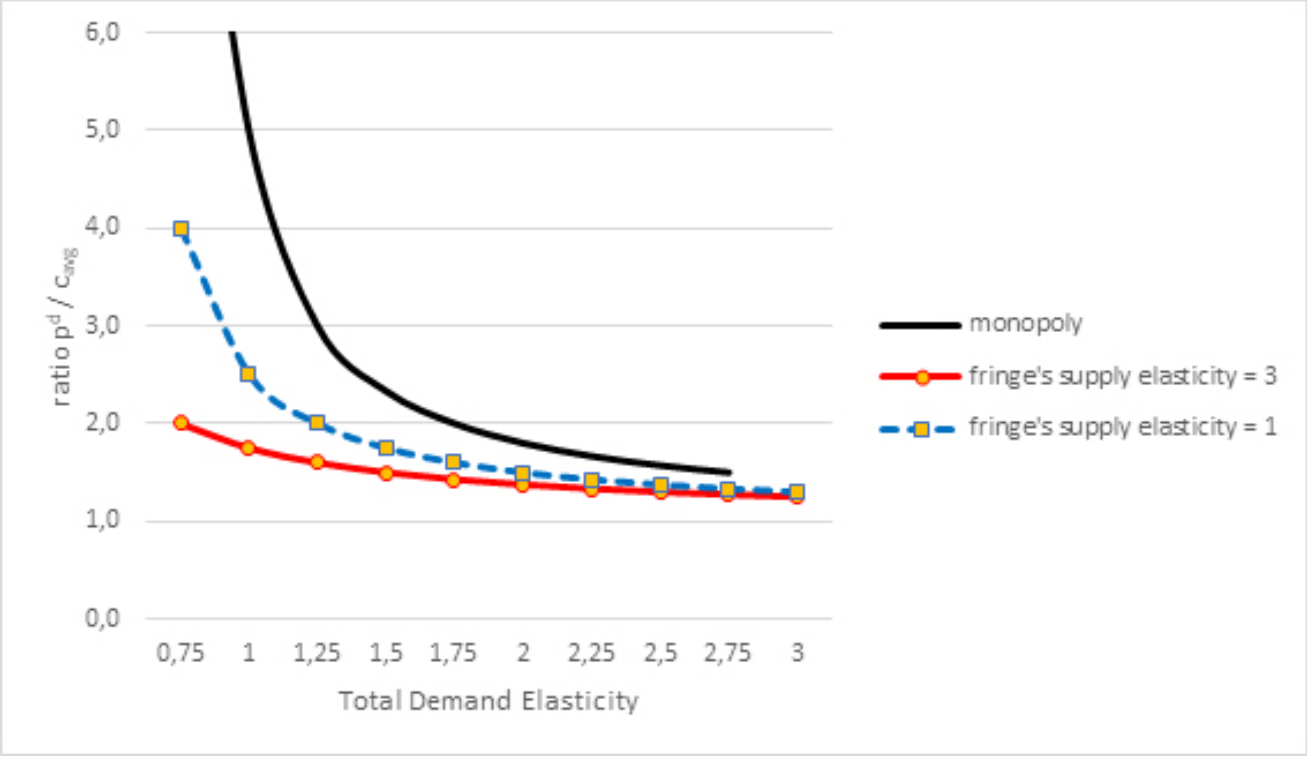
Finally, let's assume that the right comparison should be done between the price actually charged and the threshold p^d, and that the average variable cost is close enough to the marginal cost. Then, the ratio between the threshold and the average variable cost depends on several values, such as demand and the supply of the fringe's elasticities. This ratio is shown is table 2 and Figure 1. For comparative purposes, we also show the optimal price a monopoly would charge.

Table 2. Ratio p^d/C_{avg}, Maximum Acceptable (considering s = 0.25)

Total Demand Elasticity	Monopoly Pricing	Fringe's Supply Elasticity				
		0	1	2	3	4
0.75	∞	∞	4.00	2.50	2.00	1.75
1	∞	4.00	2.50	2.00	1.75	1.60
1.25	5.00	2.50	2.00	1.75	1.60	1.50
1.50	3.00	2.00	1.75	1.60	1.50	1.43
1.75	2.33	1.75	1.60	1.50	1.43	1.38
2	2.00	1.60	1.50	1.43	1.38	1.33
2.25	1.80	1.50	1.43	1.38	1.33	1.30
2.50	1.67	1.43	1.38	1.33	1.30	1.27
2.75	1.57	1.38	1.33	1.30	1.27	1.25
3	1.50	1.33	1.30	1.27	1.25	1.23

Source: Authors' elaboration.

Figure 1. Maximum Acceptable Overpricing of a Dominant Firm (considering s = 0.25)



Source: Estimations made from Table 2.

For any level of demand elasticity higher than 1, the price above costs charged by a monopoly is substantially higher than the price a dominant firm, that at the margin becomes super-dominant ($s = 0.25$), would charge. This difference increases as long as the fringe's supply is more elastic, although for demands more elastic than 1.5 the increase is less relevant.

C. Third Step: Possible Justifications

Excessive prices should be punished only when they do not reflect reasonable innovations or risk investments. Therefore, once it has been established *prima facie* that the price is excessive, the super-dominant firm may have the opportunity to justify why it is charging a price over the threshold (being the latter either p^d or p^*). In this section we highlight three possible justifications and analyze their plausibility.

A first justification is linked to the valuation of fixed and sunk investments. The firm might argue that it has invested in physical assets the IFRS accounting method does not reflect (whatever the reason). Similarly, it might argue it has invested on R&D but that these investments are not "mature" yet, so there are no patents protecting the investment. Lastly, the firm could also state it has invested on publicity to differentiate its product from those of competitors, so the investment adds value. These and other arguments of higher fixed costs are plausible in so far as the firm is able to demonstrate they are related to the product or service concerned.

A second possible justification is that the firm is multiproduct – that is, it commercializes several product or services, giving rise to both economies of scope and demand interdependence. From the economies of scope perspective, the firm might try to assign all fixed costs to the product concerned. This is incorrect. The analysis should be directed to the group of products that share common costs. From the interdependence of demand viewpoint, bear in mind that some products are in more demand than others. Hence the efficient pricing decision would be to under-marginalize those products that foster other demands, recouping its margins charging higher prices on the other products. Such commercial pricing policy may explain prices set above the threshold. When analyzed as a whole, this behavior may not be considered exploitative. In the presence of demand interdependency, a reasonable argument consists of explaining and quantifying the spillovers from one market to the other. For example, instead of carrying out the analysis product by product, the average price may be analyzed along with the average costs of the firm.

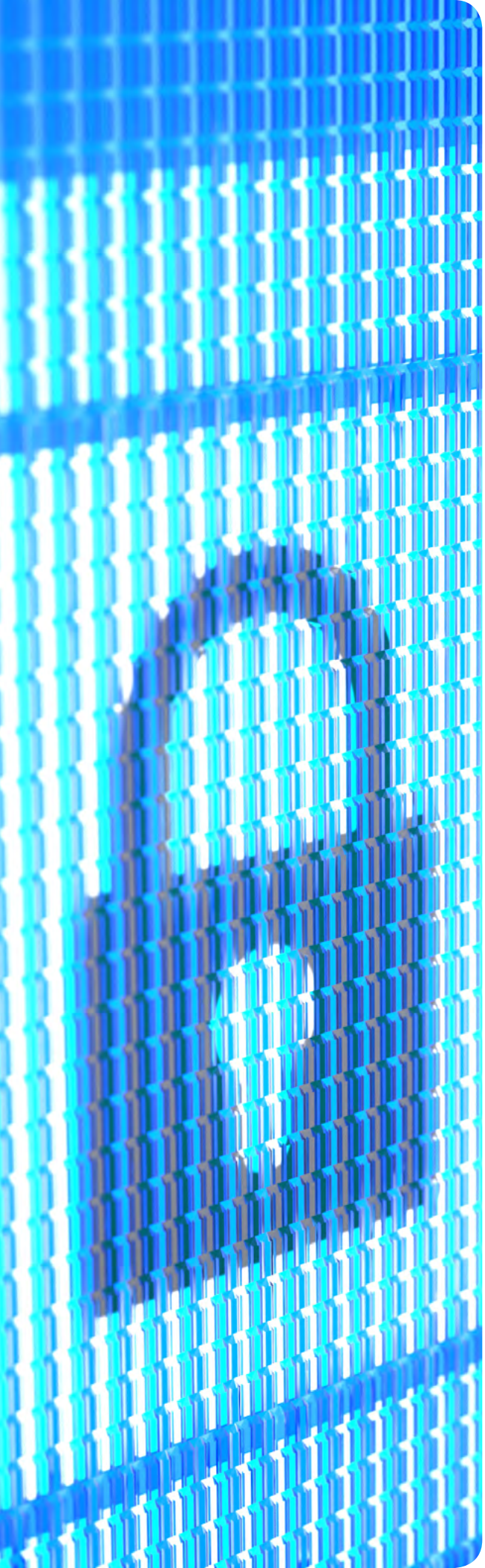
A similar situation occurs when the firm has launched a new product to the market, but at a loss. It is expected, however, that the loss is recovered by charging prices above the costs in the future. Such a situation is plausible as long as the firm demonstrates there are demand spillovers over time – i.e. demand grows as more consumers become aware of the product. Also, there may be a process of "learning by doing" on the firm's productive processes, so its costs will be lower the more it has sold the product in the past.

Finally, a similar defense might be to argue that there are spillovers in the market due to externalities in related markets. In this case the firm qualifies as a platform[18] and the market as two- or multi-sided. In these markets, the platform may adopt its pricing policy so that one side of the market subsidizes the other. It would be possible, then, to observe higher prices by unit than the threshold. In this situation, the platform has to demonstrate that the average revenue of all its activities does not exceed the average costs in all its markets. If this is not possible (since we are interested in unit, not fixed prices), the firm may still prove that the revenue resulting from unit prices fulfils such condition.

IV. CONCLUDING LESSONS

We have highlighted the importance of controlling excessive prices using competition policy. Such control is feasible and workable. We have proposed a three-step rule that combines the analysis of prices and costs of a super-dominant firm in order to assess when a price should be deemed too high. Future research may explore this and other alternatives.

18 On platforms, two references are Evans & Schmalensee, *Matchmakers. The New Economics of Multisided Platforms*, Harvard Business Review Press, 2016; and Rochet & Tirole, "Two-Sided Markets: A Progress Report," *RAND Journal of Economics* 37(3): 645-67, 2006.



COMPETITION IN DISSIMILARITY: LESSONS IN PRIVACY FROM THE FACEBOOK / WHATSAPP MERGER

BY SAMSON ESAYAS [1]

I. INTRODUCTION

In recent years, privacy has attracted considerable attention in competition law discussions, particularly where companies in data-rich industries seek a merger or acquisition. Prime examples in this regard include mergers involving Google/DoubleClick, Facebook/WhatsApp and the recent acquisition of LinkedIn by Microsoft.[2] These data-mergers raise novel competition law questions including whether digital platforms compete on privacy and how such competition can be factored into merger assessments. In a thought provoking dissenting opinion to the Federal Trade Commission's ("FTC") decision in *Google/DoubleClick* and a subsequent co-authored law journal article, then Commissioner Pamela Harbour insisted on defining "privacy related markets" when companies that control massive personal data seek to merge.[3] Noting that the conventional analysis overlooks the privacy interests in data-mergers, Harbour argued, defining "a privacy-based relevant product market" provides the hook to make privacy "cognizable" under competition law.[4] This allows competition authorities to consider whether a merger or achieving a dominant position changes the incentives to compete on privacy

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2 See *Google/DoubleClick* (Case No COMP/M.4731) Commission Decision C(2008) 927 [2008]. *Facebook/WhatsApp* (Case No COMP/M.7217) Commission Decision C(2014) 7239 [2014]. See also European Commission - Press release, Mergers: Commission approves acquisition of LinkedIn by Microsoft, subject to conditions (Brussels, December 6, 2016) (hereinafter *Microsoft/LinkedIn*).

3 'Dissenting Statment of Commissioner Pamela Jones Harbour in the Matter of Google/ DoubleClick F.T.C. File No. 071-070', (2007) at 10. See also Pamela Harbour and Tara Koslov, 'Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets', *Antitrust Law Journal,* (2010).

4 Dissenting Statment of Commissioner Pamela Jones Harbour (n 3), p. 10.

and privacy policies.[5]

To a certain extent, the above argument seems to have gained some traction in later decisions of the European Commission ("EC"). Although the Commission did not define a separate market for "privacy," both in the *Facebook/WhatsApp* and *Microsoft/LinkedIn* mergers, the Commission recognized privacy as a form of non-price competition parameter.[6] In the most recent decision involving *Microsoft/LinkedIn*, the EC stated that privacy "can be taken into account in the competition assessment to the extent that consumers see it as *a significant factor of quality*" and concluded that "data privacy was an important parameter of competition between professional social networks on the market, which could have been negatively affected by the transaction."[7] Similarly, in the *Facebook/WhatsApp* merger, the Commission stated that in markets for consumer communications,[8] privacy and data security constitute key parameters of competition.[9]

This note comments on the Commission's decision in the *Facebook/WhatsApp* merger regarding the competition in privacy and privacy policies between the two firms. Although the decision dates back to 2014, there has been reinvigorated interest in the last few months following WhatsApp's change of privacy policy, despite public promises to the contrary, to share data with Facebook and also collect data from other members of the Facebook family of companies.[10] The decision is particularly interesting because it was the first of its kind to recognize privacy as a non-price competition parameter with regards to digital services. In that decision, although the Commission identifies privacy as a key parameter of competition in the market for consumer communications,[11] its consideration of privacy comes only in relation to its analysis of the advertising market. Investigating the impact of the merger on the advertising market, the Commission assessed how privacy considerations constrain the merged entity from introducing targeted advertisement in WhatsApp. [12]

The Commission, however, failed to assess the impact of the merger on the incentives of the parties to compete on privacy and privacy polices (conditions for collecting, storing and processing data) in the market for consumer communications. What is striking is that the Commission used the differences in privacy policies as a factor that makes the messaging services of the two companies complementary rather than competitors.[13] In concluding that Facebook Messenger and WhatsApp are complementary services, not competitors, the Commission mentioned the differences relating, among others, to "the privacy policy (contrary to WhatsApp, Facebook Messenger enables Facebook to collect data regarding its users that it uses for the purposes of its advertising activities)."[14] The Commission further added that the "only factors on the basis of which WhatsApp and Facebook Messenger were considered close competitors by certain respondents are the *communications functionalities* offered and *the size of their respective*

5 See also Harbour & Koslov (n 3), p. 794.

6 *Facebook/WhatsApp*, para 174.

7 *Microsoft/LinkedIn* (n 2).

8 In that decision, the Commission analyzed three markets, namely, consumer communications services, social networking services and online advertising services. See *Facebook/WhatsApp*, para 34, 62 and 79.

9 Ibid. para 87.

10 See WhatsApp Blog, 'Looking ahead for WhatsApp' (WhatsApp, August 25, 2016). See also WhatsApp Privacy Policy, available at https://www.whatsapp.com/legal. On December 20, 2016, the Commission issued statement of objection to Facebook for providing allegedly misleading or incorrect information about the merger. See European Commission - Press release Mergers: Commission alleges Facebook provided misleading information about WhatsApp takeover (Brussels, December 20, 2016). However, the Commission provided a caveat that the investigation doesn't concern privacy, data protection or consumer protection issues. The Italian Competition Authority has also opened an investigation against WhatsApp. December, See Reuters, 'Italy antitrust agency probes WhatsApp messaging service' (October 28, 2016). The Hamburg Commissioner for Data Protection and Freedom of Information has issued an administrative order to prevent this transfer of data. See Press Release, 'Administrative order against the mass synchronisation of data between Facebook and WhatsApp' (September 27, 2016) available at (link).

11 *Facebook/WhatsApp*, para 87.

12 Ibid. para 174.

13 Ibid. para 105.

14 Ibid. para 102.

networks."[15] One question that comes to mind is: if privacy is a competition parameter, isn't dissimilarity in privacy policy one way where such competition could be manifested?

The Commission's approach in the merger is based on the understanding that firms with identical privacy policies compete more fiercely than firms with dissimilar privacy policies.[16] However, this approach has flaws. To begin with, if privacy and data security are competition parameters, one way this competition can be manifested is through deploying privacy enhancing technology (e.g. instant deletion of photos, end-to-end encryption) and privacy policies (offering better conditions of data collection and processing). If so, competition in privacy and privacy policy is more sequential than simultaneous, meaning that it can occur through dissimilarity where the adoption of a certain technology, policy or a change thereof by an entity, if found attractive by consumers for offering better privacy, drives others to follow suit. There is some research showing such sequential change in privacy policy among competitors.[17] Thus, when it comes to privacy and privacy policies, dissimilarity either in the technology or policy can be just the beginning of a competition that exerts competitive pressure on others, rather than make the firms complementary. In the context of the merger, this implies that the Commission might have underestimated the competitive constraints that WhatsApp, by opting for a different privacy policy and luring users from Facebook, imposes on Facebook to compete on privacy technology and privacy policies.

Furthermore, when a service attempts to draw users from an established network by offering superior privacy, the existence of an established network such as Facebook, *albeit* with a different privacy policy, can still discipline the former's behavior. Given that WhatsApp was trying to induce users of Facebook's social network to use its messaging service by offering better privacy,[18] its competitive concern, if it were to change its privacy policy, would not only be that it would lose its users to messaging services with similar privacy policies, which might not happen because of the size of the networks, but also that it might lose its competitive edge over Facebook. Thus, despite the dissimilarity, Facebook, as an established network, imposes competitive constraints on WhatsApp's behavior on privacy policy, which might have been overlooked by the Commission. Although, in the absence of empirical evidence, it is difficult to attribute WhatsApp's change in privacy policy directly to the merger, the subsequent change in policy does provide a useful insight in understanding how two messaging services with different privacy approaches could constrain each other's behavior. However, none of these arguments should imply that the Commission would have reached at a different conclusion had it factored in the above arguments, rather the aim is to highlight some lessons that can be taken on board for future similar decisions.

The remainder of the note is structured as follows. First, I highlight how competition in privacy and privacy policy might occur through dissimilarity and how WhatsApp, through its dissimilarity imposes competitive pressure on Facebook to compete on privacy technology and privacy policies. Secondly, I discuss how Facebook, as an established network, constrains WhatsApp's behavior on privacy and privacy policies. Finally, I examine whether the Commission's assessment of privacy as a constraint to competition in the advertising market is adequate to subsume the privacy interests of users in the market for consumer communications and draw some lessons going forward.

II. WHATSAPP'S COMPETITIVE CONSTRAINT ON FACEBOOK

In the merger, the Commission recognized that consumer communication services such as WhatsApp and Facebook Messenger compete for consumers primarily on non-price parameters, including "privacy and security, the importance of which varies from user to user but which are becoming increasingly valued, as shown by the introduction of consumer communications apps specifically addressing privacy and security issues."[19] Despite this, the Commission used the differences in privacy policies as a factor that

15 Ibid. para 103, and 172. See also footnotes. Even with regard to the communications functionalities, the Commission indicated that "WhatsApp is not the closest competitor to Facebook Messenger (let alone to Facebook's social networking site)."

16 See Darren Tucker, 'The Proper Role of Privacy in Merger Review', *CPI Antitrust Chronicle,* 2 (2015), p. 6 (arguing that a merger leads to anticompetitive privacy effects if large share of customers regard the merging firms as offering the best products due to their privacy).

17 See Harbour & Koslov, (n 3) p. 793-794.

18 See Stucke & Grunes, *Big Data and Competition Policy* (Oxford University Press, 2016), p. 132.

19 *Facebook/WhatsApp*, para 87.

makes the messaging services of the two companies complementary rather than competitors.[20] The Commission's stance could be partially related to the understanding that firms with identical privacy policies compete more fiercely than firms with dissimilar privacy policies. For example, Tucker argues that privacy considerations are "cognizable" in mergers only where "the merging firms are significant rivals due to their competition on privacy; and a large share of customers regard the merging parties as offering the best products as a result of their approaches to privacy."[21] This implies that when entities exhibit significant differences in their value to privacy and how they handle personal data of individuals, they are not considered to be competitors. This seems to be the approach adopted by the EC in the *Facebook/WhatsApp* merger. However, this is only partially true when it comes to competition in privacy.[22]

To begin with, from an economic stand point, privacy remains a competitive dimension regardless of whether the specific entity provides little or more of it.[23] Whether the entities concerned collect massive amounts of consumer data or little data, they all try to assure consumers that they, consumers, are in control of their data and that the data is secure, which shows that competition, *albeit* to different degrees, exists among entities that collect consumer information. There is some research showing that companies react to each other's behavior on privacy policy.[24] In 2008, Google, Yahoo and Microsoft responded to each other's changes on privacy policy in shortening the retention period for the data they collect.[25] Similarly, Google's decision to anonymize search data after a certain period is believed to spur a similar move by Microsoft and Yahoo!.[26] In this sense, privacy policies are subject to constant change and the dissimilarity in privacy policy can be just the beginning of a competition that exerts competitive pressure on others to follow suit, rather than make the firms complementary.

Competition on privacy could also occur in the form of developing or deploying underlying technologies used to protect privacy such as encryption i.e. competition in innovation.[27] As noted by the Commission, unlike Facebook, WhatsApp provides an end-to-end encryption of messages and does not store consumers' information on its servers. This privacy protective feature together with the growing popularity of WhatsApp could be seen to impose a competitive pressure on Facebook to follow suit. Commenting on a similar subject, former FTC Commissioner Harbour and her legal advisor, Koslov argued as follows:

> Absent pressure from competitors [*such as WhatsApp*] who might provide more attractive alternatives to privacy-prioritizing consumers, a dominant firm [*such as Facebook*] might rationally choose to innovate less vigorously around privacy or, perhaps, to dole out privacy-protective technologies to the marketplace more slowly.[28]

In this sense, WhatsApp imposes competitive constraints on Facebook to try to compete on privacy enhancing technologies, and thus is not merely complementary to Facebook. In fact, in a move that imitated WhatsApp, Facebook recently introduced an end-to-end encryption, *albeit* with a limited functionality, to its Messenger service. The main objective for such a change, according to Facebook's vice president of messaging products, is "to make Messenger your primary messaging platform…"[29] Although this fact could be taken to argue that the merger did not reduce Facebook's incentive to compete on privacy enhancing technologies, it

20 Ibid. para 105.

21 Tucker (n 16), p. 5.

22 I do not dispute the claim that a merger of firms that draw customers due to their superior privacy can lead to reduced competition, particularly if the market for such services is already concentrated. But in today's market reality dominated by business models that heavily relay on collecting and analysis massive amount of personal data, a merger between two privacy friendly services could be positive for privacy because the merged firm could benefit from network effects and be able to impose better competitive constraints on the established firms.

23 Stucke & Grunes, (n 18), p. 131.

24 Harbour & Koslov, (n 3) p. 793-794.

25 Ibid. p. 793.

26 Ibid. p. 794.

27 Ibid.

28 Ibid. p. 795 [addition mine].

29 'Facebook Messenger adds end-to-end encryption in a bid to become your primary messaging app' (*TechCrunch*, July 8, 2016).

demonstrates that, even after the merger, Facebook still competes with WhatsApp to become the primary messaging platform by offering similar data security levels offered by other platforms such as WhatsApp. Additionally, it is questionable that Facebook would compete as vigorously if WhatsApp had remained a separate entity. Facebook being in charge of matters now; it can effectively neutralize WhatsApp's vigor and innovation in privacy enhancing technology and offering better data privacy conditions.[30] The change in WhatsApp's privacy policy to share data with Facebook family companies is perhaps a testimony to such reduced vigor to compete on privacy and privacy policies. More importantly, Facebook's introduction of end-to-end encryption shows that competition in privacy enhancing technology can be manifested sequentially.

The Commission should have investigated the impact of the merger on the incentives of the parties to compete on privacy technology and privacy policy.[31] One lesson from this is that competition in privacy and privacy policy is more sequential than simultaneous, meaning that it can occur through dissimilarity where the adoption of a certain technology, policy or a change thereof by an entity, if found attractive by consumers for offering better privacy, drives others to follow suit.

III. FACEBOOK'S COMPETITIVE CONSTRAINT ON WHATSAPP

Another source of critique to the Commission's stance in *Facebook/WhatsApp* relates to the competitive constraints that Facebook, as an established network, imposes on WhatsApp privacy policy. If privacy is an important parameter of competition for a company, which was the case with WhatsApp, the existence of an established network such as Facebook with a different privacy policy can still discipline the former's behavior on privacy. This is particularly the case if the firm that offers increased privacy is using that feature to displace or lure users of the incumbent network. In such cases, the existence of the incumbent network (however different its privacy policy might be) can serve as a competitive constraint because any change that reduces the privacy features could lead to losing the competitive edge over the incumbent.

As the Commission itself pointed out, 80-90 percent of WhatsApp users were users of Facebook's social network and "were therefore already within the reach of Facebook Messenger."[32] The Commission further noted that because of its integration with the core aspects of Facebook's social network, the user experience in Facebook Messenger is far richer than WhatsApp.[33] Moreover, at the time of the merger, WhatsApp users in many countries were paying a subscription fee of USD $1 while they can use Facebook Messenger for free.[34] This means that all other things being equal; one would expect Facebook Messenger to be more attractive for users than WhatsApp. However, as was indicated by the Commission, WhatsApp had more users (approximately 600 million users worldwide) than Facebook Messenger (approximately 250-350 million users).[35] Then the question is why WhatsApp was more attractive to Facebook's social network users than Facebook Messenger?

Needless to say that the restrictive data collection practice is one of WhatsApp's key competitive advantages over Facebook Messenger. As indicated by the Commission, contrary to Facebook, WhatsApp only stores limited information about its users (namely, user name, picture, status message, phone number and the phone numbers in the user's phone book) and does not offer targeted advertisement. By contrast, Facebook collects information about users including but not limited to their real names, gender, birthdate, birth place, religion, political affiliations, "likes" and social media contacts. Facebook also tracks users browsing behavior through millions of websites that have Facebook plugins such as "like" and "share." Furthermore, using the data, Facebook offers targeted advertisement and shares the information with third parties. All in all, WhatsApp presented itself as a clear alternative to Facebook on how it handles user privacy and data by offering users an ad-free experience and superior privacy protection at nominal yearly

30 Costa-Cabral and Lynskey, 'Family ties: the intersection between data protection and competition in EU Law', *Common Market Law Review,* 54 (2017), p. 38.

31 Ibid. p. 37-38.

32 *Facebook/WhatsApp*, para 105 and 70-80.

33 Ibid. para 104.

34 At the time, WhatsApp charged an annual subscription fee in Italy, the UK, Canada and the U.S. and up until first half of 2014 in Germany and Spain. See ibid. para 90-91.

35 Ibid. para 84.

subscription fee.[36] Arguably, this is the key feature that led to WhatsApp acquiring 600 million users even in a shorter time than Facebook itself managed. [37]

In this sense, it is fair to say that the existence of Facebook as the more established and leading communication service provider has, to some extent, imposed competitive constraints on WhatsApp's privacy policy, which is its key disruptive element to gain popularity. This is because in order to remain competitive with Facebook (to keep Facebook's social network users using WhatsApp's messaging service), WhatsApp had to offer something that Facebook did not. Because if WhatsApp had to start collecting personal data, its unique feature that attracted users of Facebook's social network would disappear and its customers might spend less time using its services and more time on other services, including Facebook Messenger.[38] In other words, as a late follower, WhatsApp had to offer something to lure Facebook users and it used privacy as a draw to Facebook users. As noted by Stucke and Grunes "Facebook sought users who spend more time on its texting app Messenger than WhatsApp. WhatsApp, to induce Facebook social network users to switch from messenger, offered greater privacy protections."[39]

By so doing, WhatsApp has managed to attract the majority of its users (80-90 percent) from Facebook. Thus, WhatsApp's competitive concern, if it were to change its privacy policy and data handling practices, would not only be that it would lose its users to messaging service with similar privacy policies, which might not happen because of the size of the networks, but also that it might lose its competitive edge over Facebook. To the extent this is valid, one possible explanation for WhatsApp's post-merger behavior to degrade privacy – by changing it privacy policy to share data with Facebook and also collect data from other Facebook family of companies – could well be due to the merger lifting the competitive constrain that Facebook placed on WhatsApp. This is because the merged entity can recapture some of the consumer loss due to the privacy degradation to WhatsApp through an increase in usage of Facebook Messenger.[40] Thus, the Commission should have investigated the potential degradation in WhatsApp's privacy conditions post-merger and whether privacy sensitive users have adequate substitutes if this happens.[41]

IV. CONSIDERING PRIVACY HALF-HEARTEDLY: LESSONS GOING FORWARD

The retort to the above arguments can be that the Commission did in fact, *albeit* from the adverting side, assess the potential degradation in WhatsApp's privacy conditions and even identified messaging services that WhatsApp users could substitute in case of degradation. As briefly noted above, in investigating whether WhatsApp could introduce targeted advertisement, the Commission concluded that data privacy concerns would constrain WhatsApp from introducing targeted advertisement because WhatsApp has to change its privacy policy and start collecting more data from users.[42] According to the Commission, the introduction of advertisements in WhatsApp could lead to its users switching to ad free services such as Viber.[43] Moreover, the Commission indicated that the

36 The ideology behind the services also sits in clear contrast. Following the announcement of the acquisition, WhatsApp cofounder Jan Koum stated that "Respect for your privacy is coded into our DNA, and we built WhatsApp around the goal of knowing as little about you as possible". See WhatsApp Blog, 'Setting the Record Straight' (March 17, 2014) available at (link). Conversely, Facebook founder, Mark Zuckerberg remarked that "privacy is no longer a social norm." According to him, "people have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people." See Johnson, 'Privacy no longer a social norm, says Facebook founder' (*The Guardian*, January 11, 2010).

37 See Zarsky, 'The privacy-innovation conundrum', *Lewis & Clark Law Review,* 19/1 (2015), p. 167 (noting that the privacy sentiment is WhatsApp's main draw to its popularity).

38 See Waehrer, 'Online services and the analysis of competitive merger effects in privacy protections and other quality dimensions', (Available at SSRN, 2015), p. 13 (arguing that if services compete in qulaity, such as privacy, "the implication is that for any service an increase in its own quality level (all else equal) increases user demand for the service").

39 Stucke & Grunes (n 18), p. 132.

40 Waehrer (n 38), p. 14 (noting that services competing in qulaity can, post-merger, reduce the qulaity if "a decrease in quality by service 1 results in the merged firm recapturing some of the customers lost to service 1 through an increase in usage of service 2").

41 See Costa-Cabral & Lynskey (n 30), p. 37-38.

42 *Facebook/WhatsApp*, para 174.

43 Ibid.

introduction of ads might lead to abandoning the end-end encryption in WhatsApp, which might create dissatisfaction among users that value their privacy.[44] In this regard, the Commission referred to a submission showing that, following the announcement of the acquisition by Facebook, many German WhatsApp users have downloaded alternative messaging services such as Threema and Telegram.[45] Threema advertises itself as a service designed "to protect the users' privacy – an app that stores as little as possible and prevents surveillance and data misuse."[46] Similarly, as indicated by the Commission, Telegram offers increased privacy protection such as end-to-end encryption, and there is no behavioral advertisements.[47]

To a certain extent, this shows that the Commission did investigate the potential degradation in privacy conditions in WhatsApp and the alternative messaging services for users in case that happens. Then, the question is whether this analysis is adequate to subsume the privacy interests of users on the consumer communications market. The answer is, probably not. To begin with, it is questionable that the Commission intended to analyze the potential impact of the merger on the privacy and privacy policy. Even if it intended to do so, the assessment was incomplete.

On the one hand, the Commission focused on messaging services that have similar privacy policies but with little or no regard to their sizes. The fact Threema and Telegram offer similar privacy protections does not necessarily mean that they can adequately constrain WhatsApp's post-merger behavior on privacy policy. When people make decisions about joining a messaging app, their primary criteria is whether they can reach their family, friends and acquaintances rather than just privacy policy.[48] Thus, the size of the networks is crucial. This means whether Telegram or Threema can constrain WhatsApp's behavior on privacy policy depends not only by their privacy policy but also their size. The Commission identified that size as a key utility in communications services. According to the Commission, "the size of the user base and the number of a user's friends/relatives on the same consumer communications app is of important or critical value to customers of consumer communications apps." [49] In this regard, the Commission noted that WhatsApp and Facebook were, at the time, the number one and number two messaging service providers with a respective user base of 600 million and close to 250-350 worldwide.[50] By contrast, at the time of the merger, Threema had only 400,000 users and was mainly available in Germany whereas, according to TechCrunch, Telegram had around 50 million monthly active users.[51] If the Commission had intended to assess the substitutability of these services in case WhatsApp changes its privacy policies, it should have factored in the size of the networks.

Even assuming that these services are substitutes regardless of their size, the Commission's assessment remains limited. This is because the switch by some German WhatsApp users to these services alone does not provide sufficient indication that these services offer alternatives for privacy sensitive consumers. In assessing substitutability of two products where money changes hands, the test is not only whether an increase in price leads consumers switching to substitutes but also whether such switch in consumers makes the price increase unprofitable.[52] Although the absence of monetary price in the case makes it difficult to replicate this test, the lack of a comparable criterion could lead to an overly broad market. The assessment gets even more complicated because even if the change in privacy policy to introduce targeted ads leads to consumers deserting WhatsApp, it does not necessarily entail loss of revenue or is unprofitable. This is because the revenue generated from the advertisement might be superior to the loss of consumer resulting from the change of privacy policy. In this sense, the Commission only looked at the change of privacy policy as something that is inherently 'unprofitable' to WhatsApp without counter balancing the possible gains from the advertising sides – thus made

44 Ibid.

45 Ibid.

46 Threema Press Release, 'Threema: The Best Selling Secure Messenger' (*Threema Press-Info*, Dec. 22, 2015) available at (link).

47 *Facebook/WhatsApp*, para 116 and footnote 79.

48 Stucke & Grunes (n 18), p. 132.

49 *Facebook/WhatsApp*, para 129.

50 Ibid. para 128.

51 See Butcher, 'Telegram Claims 50M Monthly Active Users, Seems To Be Attracting Teams' (*TechCrunch*, Dec. 8, 2014).

52 The price increase is unprofitable if the marginal profit from the price increase does not make up the loss sustained due to customers deserting to substitutes.

the basic error of accounting for only one-side in two-sided markets. To some extent, this emanates from the lack of a minimum threshold relevant for understanding when the loss of consumers from a service provided at "zero" price becomes unprofitable and constrains the firm's behavior.

The approach adopted by the Chinese Supreme Court in *Qhioo v. Tencent* could shed some light on this issue. In that case, the Court analyzed whether non-integrated Instant Messaging ("IM"), similar to WhatsApp, can be considered to be substitutable Integrated IM service. The Court established what is referred to as the "majority and important rule."[53] This concept underlines that in defining the relevant market through demand substitution, the analysis need to be made whether there are "adequate users who would regard a specific good as an alternative…based on the core demand of *majority* users and from the perspective of the key attributes of goods."[54] More specifically, the Court underlined that in assessing the substitutability of products offered at "zero" price, one has to ask whether a "majority" of users regard a certain product as a close substitute to the target product.[55] In these cases, the Court relied on statistical data to rule on the substitutability of Integrated and Non-Integrated IM services.[56] In the *Facebook/ WhatsApp* merger, the Commission should have asked a similar question, i.e. whether, given their sizes and their privacy policies, an adequate number of users consider Telegram and Threema as close substitutes with WhatsApp.

Absent some threshold to assess unprofitability, the competitive constraints imposed by such networks could easily be overestimated. Although it is difficult, without empirical evidence, to attribute WhatsApp's change in privacy policy directly to the merger, there are two likely scenarios that can logically explain WhatsApp's post-merger behavior to change its privacy policy and share consumer data with Facebook. One possible explanation for such change could be that the merged entity would not lose enough customers to messaging apps with superior privacy such as Threema and Telegram due to their sizes. Alternatively, the loss of customers to WhatsApp, as noted above, is compensated by increase in usage of Facebook messaging. Or a combination of both.

The main point is that although services with similar privacy policies impose competitive constrains, given the size of its user base, Facebook imposes equally important, if not more important competitive constrains on WhatsApp privacy policies. Similarly, by opting for a different privacy policy and luring users from Facebook, WhatsApp imposes constraints on Facebook to compete on privacy technology and privacy policies. Thus, in future mergers, the Commission should focus on the competitive constrains that entities impose on each other through providing more attractive alternatives to privacy-prioritizing consumers, and through the size of the networks. Alternatively, as proposed by Evans, when services are provided for free, the proposed relevant markets would need to also include complementary products.[57]

53 Wei, 'Relevant Market Definition and Market Dominance Identification in 3Q War', *Competition Pol'y Int'l,* 11 (2015), p. 66.

54 Ibid.

55 Ibid.

56 Ibid. p. 67.

57 'Antitrust Economics of Free', *Competition Policy International, Spring,* (2011), p. 21.

REJECTING THE ORDOLIBERAL STANDARD OF CONSUMER CHOICE AND MAKING CONSUMER WELFARE THE HALLMARK OF AN ANTITRUST ATLANTICISM

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I. INTRODUCTION

For the past three decades, the European Commission has made notable steps towards enforcing its competition law provisions using an economic standard of consumer welfare.[2] Notwithstanding the Commission's 2008 Guidance,[3] however, the protection of consumer choice or the "freedom to choose" appears to have been integral to the judgments of European courts in *Intel,*[4] *TeliaSonera Sverige,*[5] *Deutsche Telecom,*[6] and *France Telecom.*[7] As commentators continue to highlight,[8] this emphasis on the importance of choice suggests a break from the framework of consumer welfare used in the United States and a going-backward toward the ordoliberal paradigm that factored heavily into the formation of European competition law.[9]

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1 Associate, Wilson Sonsini Goodrich & Rosati. The author is grateful for helpful comments from Franklin Rubinstein, Steve Salop, Koren Wong-Ervin, and Josh Wright.

2 See Korah, *Guidance on the Commission's Enforcement Priorities in Applying Article 82 to Abusive Exclusionary Conduct by Dominant Undertakings: From Protecting Freedom to Enter a Market to an Efficient Allocation of Resources to Increase Consumer Welfare*, *in* European Competition Law: The Impact of the Commission's Guidance on Article 102 8 (L.F. Pace ed., 2011).

3 Commission Communication — Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, 2009 O.J. (C45) 7 (Dec. 3, 2008) [hereinafter Commission Guidance].

4 Case T-286/09, *Intel Corp. v. Comm'n*, [2014] ECR II-0000, ¶ 31.

5 Case C-52/09, *TeliaSonera Sverige*, [2011] ECR I-527, ¶ 28.

6 Case C-280/08, *Deutsche Telekom v. Comm'n*, [2010] ECR I-9555, ¶ 175.

7 Case C-202/07, *France Telecom v. Comm'n*, [2009] ECR I-2369, ¶ 112.

8 *See, e.g.*, Blair & Sokol, *Welfare Standards in U.S. and E.U. Antitrust Enforcement*, 81 Fordham L. Rev. 2497, 2052 (2013).

9 See Gerber, Law and Competition in 20th Century Europe: Protecting Prometheus (1998).

Despite its persistent centrality to European competition law, ordoliberalism has not been generally understood by the American antitrust bar.[10] This short article will present the main tenets of an ordoliberal-consumer-choice approach to antitrust enforcement in a way that is digestible to practitioners schooled in the law and economics tradition. While an elegant and noteworthy conception of political economy, ordoliberalism and its standard of consumer choice constitute an anachronistic and highly controversial enforcement approach that is woefully ill-suited to the dynamism and globalization that typify the modern political economy.

II. ORDOLIBERALISM

In the early 20th century, critiques of capitalism enjoyed collective dominance in the market for Western theories of political economy. Two critiques were prevalent in the United States. One critique, espoused by the progressives, was *political* in nature. Private capital, they argued, had grown too powerful in its ability to subvert democratic processes and had to be checked by appropriate legislation.[11] Another more moderate view that was ultimately incorporated into the New Deal could be instead characterized as a *social* critique of capitalism that focused on the poor working conditions and poverty that had befallen many in the working class. Across the Atlantic, in Germany, two other schools of political economy gained notoriety. One of these schools, located in Frankfurt, saw in capitalism an essential *economic* irrationality that called for the creation for a new social rationality to support a non-market form of economic activity.[12]

But it was Germany's Freiburg School that would define ordoliberalism. The Freiburg School, for whom Walter Eucken was its foremost economic exponent, interpreted the social theorist Max Weber as understanding capitalism to embody a *social* irrationality,[13] whereby the bureaucratic rationalization of capitalist forces alienated man's ethical and spiritual faculties – reducing him, as Weber famously portrayed, to an "Iron Cage."[14] Starting from this premise of capitalism's social irrationality, ordoliberals like Eucken sought to construct a new form of economic market rationality that would offset the alienating effects of capitalism's social irrationality and, as such, constitute a third way between *laissez faire* and socialism in understanding the relation between the market and the state.[15]

For Eucken, the question of what methodology should be used to determine the ordoliberal relation between the market and the state – namely, market *order* – was paramount. Eucken's desiderata were twofold: first, that the knowledge associated with ordoliberal market order be normative, contrary to positivism; and, second, that it be objective, contrary to historicism.[16] To avoid these Scylla and Charybdis, Eucken looked to the phenomenological methodology of philosopher Edmund Husserl as the basis for

10 Gerber, *Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the "New" Europe*, 42 Am. J. Comp. L. 25-26 (1994) [hereinafter *Constitutionalizing the Economy*].

11 These concerns were not alien to the passage of the Sherman Act. See Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 Hastings L.J. 71, 96-101 (1982).

12 Foucault, The Birth of Biopolitics 105-106 (Senellart et al. eds., Burchell trans., 2008) (1979) [hereinafter Biopolitics].

13 Id.

14 Weber, The Protestant Work Ethic and the Spirit of Capitalism 61, 123 (Parsons trans., Routledge Classics) (1905) [hereinafter Protestant Work Ethic]. The reader will note that, on this analysis, the "rationalization" of capitalism itself entails a social "irrationality." To grasp how, one must recognize Weber's distinction between "procedural" and "substantive" rationality. For Weber, the procedural or means-to-ends rational calculations that characterize capitalism threaten the substantive rationality whereby individuals determine their behavior consistent with more ultimate human values or ends. See, e.g. Ritzer, *The Weberian Theory of Rationalization and the McDonaldization of Contemporary Society*, in Illuminating Social Life: Classical and Contemporary Theory Revisited 42-43 (P. Kivisto ed., 2013).

15 See Biopolitics, at 106; see also Ahlborn & Grave, *Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective*, 2 Competition Pol'y Int'l 197, 198 (2006) [hereinafter *Eucken and Ordoliberalism*].

16 Goldschmidt & Rauchenschwandtner, *The Philosophy of the Social Market Economy: Michel Foucault's Analysis of Ordoliberalism*, Freiburg discussion papers on constitutional economics, No. 07/4, at 14-15 (2007), available at: https://ideas.repec.org/p/zbw/aluord/074.html [hereinafter *Social Market Economy*]. Put simply, positivism holds that knowledge is limited to empirical facts about the world and does not include knowledge of moral values; historicism, by contrast, holds that the moral knowledge is relative to its cultural context.

grounding the ordoliberal *eidos* or principle of politico-economic order.[17] In Husserlian jargon,[18] the method of "phenomenological reduction" is achieved by both directing one's intentionality from the mental representations or images of physical objects in the world to more general mental "essences" – and thus achieving normativity – as well as "bracketing" these mental objects of intentionality and instead reflecting upon the act of intentionality itself – and thus achieving objectivity. In Husserl's phenomenological reduction, Eucken believed to have found a sufficient basis for grounding the normative and objective economic science that would unveil the ordoliberal *eidos.*[19]

Eucken would tie this notion of *eidos* or market *order* inextricably with Kant's moral theory of autonomy.[20] For Kant, human beings are ends in themselves whose autonomy consists not only in being free from the moral influence or rules imposed by others, but in determining the moral laws that bind them.[21] This latter notion of positive autonomy led Eucken to conceive of ordoliberal market order as one where individuals had a dignity, which in turn entailed a positive liberty of self-determination to participate in political and economic life.[22] In economic society, Eucken recognized that the central threat to this positive liberty and right of self-determination was market power.[23] For Eucken, competition was therefore understood fundamentally a means of *disempowering* market power – with its original aim, in theory, the atomistic ideal of perfect or complete competition.[24] Through complete competition, ordoliberal market order would thus wholly negate market power and protect individual autonomy.

A second ordoliberal conception of competition as a disempowering force would permit market power as long as dominant firms act "as-if" they were in a competitive market.[25] The "as-if" principle distinguishes between performance competition – conduct "that made products more attractive to consumers" – and impediment competition – conduct "designed to impede a rivals capacity to perform."[26] Whereas the "as-if" principle condones performance competition, impediment competition implies a power to exclude rivals inconsistent with the ordoliberal ideal.[27] Ordoliberal disempowerment can also take the form of "workable competition" in a way similar to that of the Harvard School.[28] On this view, ordoliberalism would not be opposed to market power, but only proscribe *conduct*

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17 See Biopolitics, at 103-04, 120; see also *Social Market Economy*, at 11-15; *Constitutionalizing the Economy*, at 40.

18 For a short overview of Husserl's method of phenomenological reduction, see Follesdal, *Husserl's Reductions and the Role They Play in His Phenomenology*, in A Companion to Phenomenology and Existentialism 106 (Dreyfus, Wrathall eds., 2006).

19 Klump & Worsdorfer, *On the Affiliation of Phenomenology and Ordoliberalism: Links between Edmund Husserl, Rudolf and Walter Eucken*, 18(4) The European Journal of the History of Economic Thought 551, 556-67 (2011); see also *Social Market Economy*, at 10-12 (noting that "Eucken, when reconnecting his method to the phenomenological approach, also finds an objective theory of science, an objective…that corresponds to his search for a more 'crisis-proof science' and for the 'true' basis of science.").

20 Worsdorfer, *On the Economic Ethics of Walter Eucken*, *in* 60 Years of Social Market Economy, Formation, Development and Perspectives of a Peacemaking Formula 21 (Konrad Adenauer Stiftung ed., 2013), available at: http://www.kas.de/wf/doc/kas_20040-544-2-30.pdf?100630164654 [hereinafter *Economic Ethics*]; see also *Constitutionalizing the Economy*, at 39.

21 For a short overview of Kantian ethics, see Wood, *The Supreme Principle of Morality*, *in* The Cambridge Companion to Kant and Modern Philosophy 342 (Guyer ed., 2006).

22 *Economic Ethics,* at 25-27; see also Adolphson, *Article 102 TFEU, Aimed at Serving the Ordoliberal Agenda or Consumers?*, Jurisdisk Fakulteten – Institutionen Uppsala Universitet, at 14 (2001), ("[A]ccording to ordoliberalism, the conception of 'economic freedom' was to be understood as having the character of a positive liberty; all citizens should be able to enter and compete on markets."), available at: http://www.konkurrensverket.se/globalassets/forskning/uppsatser/ulf_adolphson_106-2011.pdf.

23 *Economic Ethics*, at 29.

24 Id. at 27; see also *Eucken and Ordoliberalism*, at 200.

25 *Constitutionalizing the Economy*, at 52-53.

26 Id.

27 Id. But see Mestmacker, *The Development of German and European Competition Law with Special Reference to the EU Commission's Article 82 Guidance of 2008*, in European Competition Law: The Impact of the Commission's Guidance on Article 102 25, 39-44 (L.F. Pace ed., 2011).

28 Unlike ordoliberalism, the Harvard School's emphasis on market structure is relevant with respect to its implications for economic welfare, rather than autonomy.

that "artificially" results in increased concentration and therefore offends individual dignity and autonomy.[29]

Moving from principles to standards, consumer choice exemplifies the ordoliberal conception of protecting competition as a disempowering force – to whatever degree – to secure the dignity and autonomy of individuals.[30] To do this, contemporary consumer choice standards seek to ensure that the number of suppliers from which consumers are able to purchase goods is not improperly reduced by way of the actions of other firms.[31] While there is surely an intimate relation between consumer choice and the number of producers in the market, it is the autonomy of consumers that is the operative and logically prior principle.[32] As a result, the ordoliberal standard of consumer choice does not protect competitors for their own sake, but rather all "[m]arket participants, including competitors, are protected for the sake of the proper functioning of the competitive process."[33]

While the ordoliberal standard of consumer choice appears to be the principal value of European competition law, contemporary enforcement appears to reflect a certain degree of value pluralism with respect to its policy goals. As highlighted by the *Intel* judgement,[34] it may be that *both* consumer choice and consumer welfare are relevant to determining whether business conduct violates Article 102.[35] Whereas conduct that artificially increases market concentration appears to raise a presumption that consumer choice is unlawfully reduced, to the extent that the Commission would consider artificial increases in market concentration to raise a presumption of harm to consumer welfare, it would need take the extra step of establishing such a connection using the empirical economic methodologies common to a modern consumer welfare approach.

III. WHY CHOOSE CONSUMER CHOICE?

The demands of ordoliberalism as a theory of political economy are substantial. To begin with its sociological theory of alienation, of all the critiques of capitalism considered above – Progressivism, The Frankfurt School, The New Deal – ordoliberalism's is surely the most abstract. Political power, class-based economic analysis, and concerns about absolute poverty all touch upon concrete and identifiable questions of human life in the world. But what is one to make of the claim that capitalist society alienates Eucken's flavor of substantive rationality[36] which – following Weber – serves as a major basis for participation in economic life?[37] Of course, that man even has this particular type of rational capacity, *or* that it should be understood as alienated by capitalism, make ordoliberalism's

29 See Case T-219/99, *British Airways v. Comm'n*, [2003] ECR II-5917, ¶ 264 ("Article [102 FTEU] does not require it to be demonstrated that the conduct in question had any actual or direct effect on consumers. Competition law concentrates on protecting the market structure from artificial distortions…"); see also Behrens, *The ordoliberal concept of 'Abuse' of a Dominant Position and its Impact on Article 102 TFEU*, Europa-Kolleg Hamburg, Institute for European Integration, No. 7/15, at 16 (2015), available at: https://www.econstor.eu/bitstream/10419/120873/1/834998815.pdf [hereinafter *Ordoliberal Abuse*].

30 See Behrens, *The Consumer Choice Paradigm in German Ordoliberalism and Its Impact Upon EU Competition Law*, Europa-Kolleg Hamburg, Institute for European Integration, Discussion Paper No. 1/14, at 4-5 (2014), available at: https://www.econstor.eu/bitstream/10419/95925/1/780714202.pdf (noting that the European Court of Justice has expressly shunned a consumer welfare standard in favor of a consumer choice standard which emphasizes "the relevance of market structure for the effectiveness of competition and 'consumer choice'") [hereinafter *Consumer Choice*].

31 *See* Case C-52/09, *TeliaSonera Sverige*, [2011] ECR I-527, ¶ 28; see also *Consumer Choice*, at 23 ("Consumers' freedom (or: consumers' sovereignty for that matter) to cho[o]se between alternative products or services offered on the market is dependent upon the degree of decentralization of production.").

32 *Consumer Choice*, at 23.

33 Id.

34 See Case T-286/09, *Intel Corp. v. Comm'n*, [2014] ECR II-0000, ¶ 31 ("Intel's anti-competitive conduct thereby resulted in a reduction of consumer choice and in lower incentives to innovate.").

35 See generally Commission Guidance.

36 For the ordoliberals, this alienation was theological in nature. See *Economic Ethics*, at 30-35 (describing the "social crisis of the present" ordoliberals faced where "the loss of religious of ways of life and the suppression of religion in public has led to a sustained crisis in meaning and orientation" such that the ordoliberal task was to create "a new social way of life [is] necessary, which will allow the spiritual crisis to be overcome and the ethical-religious vacuum to be filled").

37 Protestant Work Ethic, at 14-19 (writing that "[i]f we should ask *why* should 'money be made out of men', Benjamin Franklin himself, although he was a colorless deist, answers in his autobiography with a quotation from the Bible…'Seest though a man diligent in his business? He shall stand before kings' (Prov. Xxii 29)"). Eucken himself apparently wrote "I could not exist, nor work, if I did not have a clue of God's existence." *Economic Ethics*, at 33.

foundation unsupportable at worst, and downright old-fashioned at best.[38] And, even if the capitalism of Eucken's time *did* act as an alienating force against, as it were, the human soul, modern capitalism is defined not by Smith's pin-maker, but by dynamic forces that would seem to resemble precisely the sort of value-rich and creative rationality that Eucken feared to be at risk from capitalistic rationality.

Even if ordoliberalism's sociological problematic is assumed, the possibility of any sort of objective and normative conception of order being grounded in Husserlian phenomenology is an extremely contestable notion. Whatever the ultimate "truth," teleological worldviews like Husserl's seem to have convinced only, at most, very few contemporary philosophers in either Europe or the United States. The phenomenological methodology underlying the objective science deployed by Eucken and the ordoliberals affirms the existence of mental objects. By contrast, many contemporary philosophers approach philosophy of mind from the perspective of physicalism.[39] On this view, all objects are either physical or ultimately reducible to the physical. If such physicalism is true, the implications of Husserl's methodology – namely, the existence of mental objects – are manifestly untenable, leaving ordoliberalism devoid of the methodological basis for its project of constructing market order.[40]

Even when granting ordoliberalism both its sociological and methodological priors, ordoliberalism's affinity for Kantian moral theory only accentuates its abstract and other-worldly character. As has been noted, Kant's conception of the individual as not only the subject but the *source* of the moral law that binds him may itself be nonsensical.[41] Yet, without the idea of Kantian self-legislation, Eucken's notions of dignity and positive political liberty, which provide the basis for conceiving of competition as disempowerment, would seem to lose complete foundation. Furthermore, by embracing Kantianism ordoliberalism again evinces its affinity for abstract rational principles rather than, as on the consumer welfare model, limiting its task to satisfying the broad set of real and concrete economic desires of human beings in the world.

Should one find no unease with any of ordoliberalism's sociological, methodological, and moral priors, the ordoliberal conception of complete competition as disempowerment would, as with ordoliberal sociology, seem to be the byproduct of an earlier economic era. As opposed to the static model, dynamic Schumpeterian competition recognizes market power as an *inherent* part of the competitive process. An ordoliberal market order requiring complete competition would therefore be fundamentally inapposite to the dynamic processes that characterize business conduct in the New Economy.[42] Even when considering its "as-if" variant, ordoliberalism still conceives of complete competition as its hypothetical ideal, and therefore in the very same kind of disempowering and antiquated terms that juxtapose competition with market power.

If ordoliberal disempowerment is to be understood in terms of "workable" competition that *is* consistent with market power and Schumpeterian competition, such coherence appears to depend upon the distinction between conduct that "artificially" results in increased concentration from that which is "natural" market behavior.[43] For this reason, contemporary ordoliberalism overlooks that markets are not only constructed,[44] but that markets and the human behaviors that constitute economic activity are *evolutionary* phenomena that cannot be defined in terms of any fixed natural criterion.[45] Indeed, *a fortiori*, the ordoliberal rejection of natural

38 See *Economic Ethics*, at 15 (noting that Eucken "emphasized the need for an ethical-religious reformation" and that Eucken strove not just "for an ordoliberal post-war economic and social system, but also a Christian-based ordoliberal one").

39 See Bourget & Chalmers, *What Do Philosophers Believe?* 170(3) Philosophical Studies 465, 479 (2014) (finding that most of the philosophers surveyed are physicalists).

40 Biopolitics, at 120.

41 See, e.g. Anscombe, *Modern Moral Philosophy*, 33 Philosophy 1 (1958) (criticizing the Kantian account of self-legislation as "absurd [because] it is always 1-0. The concept of legislation requires superior power in the legislator.").

42 See *Eucken and Ordoliberalism*, at 212-13.

43 See, e.g., *Ordoliberal Abuse*, at 16.

44 In contrast with classical liberalism, ordoliberalism does not see market rationality as "natural." For the ordoliberals, market order must be created by the state, which enables markets to flourish by providing the necessary legal framework and setting the "rules of the game." See Biopolitics, at 119-20.

45 See generally Hayek, The Fatal Conceit: The Errors of Socialism (1988). Criticizing ordoliberalism on this ground does not require one to accept Hayek's belief in

market order, discussed *supra*, may itself foreclose the possibility of defining the rules of the game in naturalistic terms.[46] Even if an ordoliberal "economic natural law" did exist, the ability to practically determine which particular conduct was proscribed by it, and why, would seem to suffer from all of the thorny problems attributable to natural law theories in the moral context.

Finally, an ordoliberal framework that attempts to accommodate both consumer choice and consumer welfare as policy goals faces serious conceptual and practical problems. Autonomy and welfare are likely incommensurable values when understood as common goals of an ordoliberal competition policy.[47] In the context of weighing desirables, "incommensurability" has been defined as a relation between values that do not share a common measure. Put another way, values for which the relation of incommensurability holds cannot be converted into a common numerical value.[48] As such, any enforcement framework considering the effects of business conduct on both consumer choice and consumer welfare may, therefore, be unable to evaluate conduct that, as an example, increases innovation but reduces consumer choice.[49] While it may be that consumer choice and consumer welfare are nonetheless comparable goods,[50] such a framework would still appear to be vague at best and, if there is no comparability, incoherent at worst.

IV. CONCLUSION

While a consumer choice standard may be defended on grounds other than ordoliberalism,[51] divorced of this broader framework consumer choice may be merely salt that has lost its savor. Like ordoliberalism and consumer choice, American neoliberalism and consumer welfare are obviously not without their discontents. Proponents of consumer choice or consumer welfare should take great care not to "beg the question" against each other in their ongoing and important debate. Both are sophisticated systems of political economy that embody, at root, crucial differences. Ultimately, the decision of which theory of political economy and paradigm for competition policy should govern economic activity is a choice that policymakers must carefully make.

The ordoliberal variety of consumer choice, however, embodies a highly controversial comprehensive worldview that makes it less desirable than an economic welfare standard from the standpoint of representing any sort of international consensus. The reality of economic activity *in the world* is that business is global and being scrutinized by an increasingly growing number of competition regimes with different cultural histories – both Western and non-Western – and, therefore, invariably different views about the proper role of competition policy. The best standard for convergence, in light of this reality, is one which relies upon fewer definitive answers about larger moral and philosophical questions – not one that, as with ordoliberalism's specific form of Western political economy, operates as though it has them all. By *this* standard, ordoliberalism's rightful preeminence belongs in the history of economic thought and not in contemporary competition law jurisprudence or enforcement.

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spontaneous order. Indeed, some have argued that Hayek's writings on cultural evolution and spontaneous order are actually in tension with one another. See Vanberg, *Hayek's Legacy and the Future of Liberal Thought: Rational Liberalism vs. Evolutionary Agnosticism*, 5 Journal des Economistes et des Etudes Humaines 451 (1994).

46 If correct, to the extent that an ordoliberal understanding of effective competition requires a natural criterion to identify anticompetitive conduct, ordoliberalism may *not* be readily separable from principles of complete or "as-if" competition.

47 See generally Sunstein, *Incommensurability & Valuation in Law*, 92 Mich. L. Rev. 779, 849-51 (1993). To give an example, a career as a lawyer and a career as a musician have been identified as being incommensurable. There is no common basis to determine each career's value relative to the other. See Raz, The Morality of Freedom 332, 341 (1986).

48 Luban, *Incommensurable Values, Rational Choice, and Moral Absolutes*, 38 Clev. St. L. Rev. 65, 66-67 (1990).

49 See Wright & Ginsburg, *The Goals of Antitrust: Welfare Trumps Choice*, 81 Fordham L. Rev. 2405, 2411 (noting that "economic theory and empirical evidence are replete with examples of business conduct that simultaneously reduces choice and increases welfare").

50 Sunstein, supra note 47, at 798.

51 See Lande & Averitt, *Using the "Consumer Choice" Approach to Antitrust Law*, 74 Antitrust L.J. 175 (2007).


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