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(Disruptive) Innovation

CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

In this edition of the Chronicle, we address innovation. Fostering innovation to the benefit of consumers is widely accepted to be one of the key goals of antitrust rules. But innovation as a parameter of competition is difficult to assess.

Unlike price, which can be directly quantified, innovation is by its nature speculative, and its potential effects are probabilistic at best. This is all the more so for so-called "disruptive" technological innovation that has the potential to undermine incumbents, or even redefine entire sectors of the economy.

The questions are manifold: Would permitting a merger between two innovative rivals end up in the mothballing of one or both of their innovations? Or would it pooling their innovative capacity lead to even greater innovation? Would condemning a dominant firm's innovative business practices stifle innovation to the benefit of less innovative competitors? Or would allowing it prevent the emergence of competitors that could in turn rival the incumbent?

As discussed in the timely contributions to this Chronicle, answering these questions requires the competition community to understand how competition plays out in innovative industries, develop appropriate tools to assess it, and develop optimum rules and remedies to ensure good outcomes for consumers and society at large.

Lastly, please take the opportunity to visit the CPI website and listen to our selection of Chronicle articles in audio form from such esteemed authors as Maureen Ohlhausen, Herbert Hovenkamp, Richard Gilbert, Nicholas Banasevic, Randal Picker, Giorgio Monti, Alison Jones, and William Kovacic among others. This is a convenient way for our readers to keep up with our recent and past articles on the go, in the gym, or at the beach.

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

Sincerely,

CPI Team

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There has been a long and extended empirical literature examining the impact of competition on innovation. I argue that as innovation is the way firms compete, this question does not make a lot of sense and it is not surprising the empirical literature has not found stable results. I argue we should be asking what affect does (digital) innovation have on the creation of new products and better processes – both of which are good for well-being. We should also be asking whether this form of innovation also accelerates the tendency toward larger firms and more concentrated markets – neither of which may be good for income equity and civil society.

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The current academic and policy initiatives to address competition concerns arising from digital platforms rely on a model of competition *for* the market. That model is presented as a better account of market processes around these platforms than the traditional model of competition *in* the market. Yet competition for the market has not taken hold in enforcement despite having been around for more than 20 years. This contribution puts forward a model of competition *on* the market, where market definition is a competitive parameter and is therefore endogenous to the competitive process. Competition *on* the market is based on the disruptive innovation literature. If introduced in the analysis, competition on the market could reveal Type I error risks (over-protection of sustaining innovation in *Microsoft*, *Intel* and *Google Search* (*Shopping*) and of Type II (failure to block the *Facebook/Whatsapp* merger).

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Observers contend that concentrated power in digital markets threatens free speech. At the root of this anxiety is that private companies have accrued unprecedented control over the flow of information, turning free speech into an emerging antitrust issue. Support for increasing antitrust enforcement in the marketplace of ideas has notably come from politicians, litigants, popular commentators, and even the Department of Justice. The obstacle is that courts have so far been hostile to antitrust lawsuits intended to promote free speech. This contribution explores whether antitrust should foster free speech given the emerging challenges of digital markets. It finds that the economic value of ideas and speech in the information age requires a reexamination of antitrust's consumer welfare standard, though the enterprise should resist promoting political, social, and other forms of non-commercial expression.

SUMMARIES

Disruptors and Discontented Incumbents: An Antitrust Story Retold

By Alexander Elbittar, Patricio González, Rubén Guerrero, Elisa V. Mariscal & Kiyoshi Tsuru

Disruptors in new economy industries typically enter markets that have yet to be delineated. They are the undertakings pushing the industry to change services, products, technology, customs and uses in a way that redefines what has been done until then. Notwithstanding, throughout history it has been observed that incumbents have attempted to prevent this changing landscape. The objective of this document is to shed light on the current competition policy and regulatory discussion by observing the facts, the speed of intervention, and the effects of the entry of Roku into the Mexican market. We conclude that although the interruption is not a new phenomenon, what has changed substantially between the different cases is the speed at which these changes occur and the difficulty in identifying innovations that can substantially change the rules of the game. Therefore, a vision that regulators and competition authorities might want to adopt is the need to protect the dynamic development of the market. As a result, it is necessary that they adapt the current analysis tools and processes, better avoid or stop holders who slow down the development and incursion into the market of new products.

Ridesharing Platforms and the Long Tail of Mobility

By Rossi Abi-Rafeh & Emil Palikot

Uber and Lyft are the poster children of digitally-enabled ride-sharing companies. But these intra-urban on-demand services are not the only ones disrupting how people move. Intercity, longer distance travel has also seen changes due to algorithmic enabling: It's a different market space where competition is with buses, trains and flights rather than taxis, and where platforms provide access to the long tail of transport supply and demand: more diverse locations and frequency than competitors. In this article, we provide a brief description of the digitally enabled intercity travel business, how it started, and its current state. We highlight some of the differences with the woes of ride-hailing. Particularly, we highlight how the service has not shifted to professionals, and argue that driver supply is the main bottleneck for these platforms, and dissect some of the ways these platforms incentivize different types of drivers. We conclude by pin-pointing some aspects that competition policy should be aware of in this market segment, particularly with current mergers among bus companies.

WHAT'S NEXT?

For March 2020, we will feature Chronicles focused on issues related to (1) **LeadershIP EU**; and (2) **China Edition**.

ANNOUNCEMENTS

CPI wants to hear from our subscribers. In 2020, 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 CHRONICLES APRIL 2020

For April 2020, we will feature Chronicles focused on issues related to (1) **Sports**; and (2) **Remedies**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited 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 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 on any topic related to competition and regulation, however, priority will be given to articles addressing the abovementioned topics. Co-authors are always welcome.

CPI TALKS…

…with Chairman Amir Nabil Ibrahim

In this month's edition of CPI Talks we have the pleasure of speaking with Mr. Amir Nabil Ibrahim, the Chairman of the Egyptian Competition Authority ("ECA").

Thank you, Chairman Ibrahim, for sharing your time for this interview with CPI.

1. **What are the sectors in the Egyptian economy in which you see a lot of potential welfare gains from ECA's interventions? What are the sectors (e.g. technology, healthcare, etc.) where monopolies are known to operate or in which mergers take place at a high rate?**

Digital markets have recently proven to be among the most powerful, dynamic sectors of the economy. The Egyptian economy benefits greatly from these markets, as they attract many users and many employment opportunities. At the same time, increasing concentration through mergers or acquisitions often takes place on these markets, making them prone to monopolization.

Given these characteristics, and given the importance of the digital sector to the Egyptian economy, the ECA finds that it is often necessary to intervene to prevent potentially anti-competitive behavior. This can take the form of intervening against cartel behavior, abuses of dominance, or anti-competitive mergers or acquisitions that may lead to irreversible harm on these nascent markets; as well as using the expertise gained from these interventions to advocate for changes in relevant laws when necessary.

The ECA's intervention in this sector aims to ensure that products and services stay affordable and of high quality for consumers and that new entrants are encouraged to compete. Encouraging new entrants specifically would create more start-ups in Egypt and, presumably, the region as a whole, attracting investment from foreign and local entities. This would not only vitalize the start-up scene, but also create employment opportunities in Egypt and in the region.

A recent example of such intervention is the ECA's *ex ante* assessment of the acquisition of Careem by Uber. The ECA issued interim measures in October 2018, ordering the ride-hailing service-providers to notify the ECA before the occurrence of any such transaction. The Parties complied, triggering an assessment of the transaction by the ECA, as well as an ongoing positive dialogue between the ECA and the Parties. The assessment was recently finalized through commitments ensuring that, post-transaction, consumers (both riders and drivers) would not be harmed through price increases or decreases in quality and innovation. The commitments also encourage market entry, as they ensure that the incumbent, for the first time in the ride-hailing sector, will share data with new entrants, allowing them to compete more effectively.

Similarly, in the case of the delivery service provider Glovo, the ECA intervened upon finding out that a minority shareholder in Glovo, Delivery Hero, used its rights in a way that led to the elimination of effective competition. The ECA's intervention led to the re-entry of Glovo to the Egyptian market, keeping it as a competitor and preserving jobs for around 3,000 employees, while allowing more space for the new competitors to grow.

The ECA is also of the view that intervention in other, more traditional, sectors is increasingly necessary. These sectors, among others, include the pharmaceutical and health care sector, the automotive sector, and the agriculture sector. Such intervention, whether in the form of investigations or advocacy, ensures that these sectors remain competitive and open for investment, despite any legislative or institutional changes (be they local or international) that may affect them.

2. What are the challenges that the ECA faces that are specific to Egypt or other economies in the region that are not well tackled by Western-centered antitrust analysis or literature? Are there any analytical tools you would like to have at your disposal but do not have the time to develop?

The ECA believes that competition enforcement must take account of global trends. For that reason, the ECA often relies on and refers to international best practices, especially from the EU, in its research and analysis.

However, it is also necessary for the ECA to take into account the specifics of the Egyptian economy, in order to ensure that its application of competition law and policy reflects any characteristics or challenges that may be unique to the Egyptian market.

One of the most prominent and unique challenges that the Egyptian market is prone to, and that is especially felt by local players, is the difficulty of accessing funding in the face of international players with greater exposure and prominence. Superior access to funds can be regarded as a barrier to entry, especially for local players, as the reputation and prevalence of international players will often make them more attractive for international investors. This may often lead to a reduction in the number of potential competitors on the market and an increase in the market power of existing incumbents. For that reason, the ECA finds it especially necessary to take this barrier to entry into account when assessing and investigating behavior on the Egyptian market. The existence of this barrier makes it all the more necessary to ensure the vitality of the competitive process, which should only open markets and encourage more investment, strengthening players and pushing the competitive process further.

Another, more general, issue is the lack of awareness of the importance of competition law and its relationship with investment. However, the ECA addresses this lack of awareness by offering programs to educate both students and professionals. For example, the ECA hosts law and economics students at its annual Competition Authority Simulation ("CAS") program, giving them the opportunity to learn about competition law and to apply the information gained to real-life simulations. The ECA also contributes to the competition module taught to master's students at the Université Paris 1 Panthéon-Sorbonne program at Cairo University. As regards professionals, the ECA often hosts workshops and delivers talks on competition law and policy for different governmental entities. More generally, the ECA's communications team uses press outreach to advocate for the importance of competition law, and publishes non-confidential reports and explanatory infographics and videos concerning its high-profile decisions. These initiatives make the role of ECA clearer to the public, and clarify the importance of maintaining the competitive process.

3. Antitrust enforcement is a quasi-judicial process in Egypt, as it is in many other countries (notably in Europe). According to international human rights norms, quasi-judicial processes can be appropriate for the enforcement of civil law provisions (such as competition rules) but this is critically dependent on there being sufficient independence for decision making bodies from external interference. Is administrative independence for antitrust authorities sufficiently guaranteed in Egypt (and neighboring countries) at present? What reforms would you suggest in this regard?

Independence is indeed one of the core pillars of the ECA's existence. It is for that reason that the Egyptian Competition Law ("ECL") has been amended to ensure greater independence for the ECA. As it currently stands, the ECA has the autonomy to issue decisions, through its Board of Directors, in the form of Interim Measures (under Article 20 ECL), or in the form of choosing to refer a case to the public prosecutor.

Moreover, the government has recently approved further amendments, which have now been submitted to the parliament and should be issued soon. These amendments would give the ECA greater decision-making powers through a number of means, including by limiting government and business representation on the Board of Directors. These measures will give the ECA greater independence, allowing it to exercise its powers and make decisions accordingly.

4. **Merger control is one of the pillars of effective antitrust enforcement. Different jurisdictions adopt different approaches and thresholds for the notification and review of mergers, tailored to the specificities of their economies, balancing the need for effective enforcement against the need to conserve the resources of both enforcers and merging companies. What are your views on the relative merits of pre- or post-merger notification regimes? Specifically, relating to Egypt, do you believe that the law ought to be reformed (as discussed in 2018) to bring in a new pre-merger notification regime, or *ex ante* powers as you have previously suggested?**

The ECA is indeed proposing a pre-merger notification regime as part of the amendments under discussion. This would allow the ECA to more effectively monitor markets, prevent the creation and abuse of dominant positions, to contribute to the lowering of barriers to entry, and thereby increase the potential for investment.

The ECL currently gives ECA *ex post* notification powers. Article 19 provides that undertakings must notify the ECA of mergers or acquisitions within a 30 day deadline if the turnover of one of the undertakings (or of both combined) exceeds EGP 100,000,000.

However, the proposed amendments would require undertakings to notify the ECA *before* the occurrence of mergers, acquisitions, joint ventures, or, in some cases, the acquisition of minority shareholdings (subject to a certain threshold).

That being said, even in the absence of *ex ante* notification powers, the current substantive provisions of the ECL (namely Articles 6, 7, and 8), as well as the powers to issue Interim Measures granted under Article 20, give ECA adequate power and jurisdiction to intervene and investigate mergers and acquisitions before their occurrence and before any anti-competitive harm resulting from them materializes.

5. **The recent high-profile acquisition by Uber of the regional ride-sharing platform Careem attracted the attention of authorities in various countries. In particular, the ECA publicly warned the companies against implementing any potentially anticompetitive agreement between competitors, and engaged with the parties to assess the potential competitive impact of the transaction. What is to be learned from this experience for merger control in Egypt (and the broader region), and any potential review of the relevant rules? In hindsight, what do you think the effects of this merger have been? For example, is the ECA preparing a retrospective study on the effects on prices/innovation in the transportation sector?**

The ECA, as well as other competition authorities in the region, have indeed recently studied and investigated the acquisition of Careem by Uber. In particular, the ECA issued Interim Measures in October 2018, obliging the Parties to notify the ECA of any merger or acquisition they may wish to carry out. The Parties complied with this obligation, on which basis the ECA began its investigation. The investigation concluded with the ECA's approval of the transaction subject to commitments. The investigation produced a number of lessons for the case team and for the ECA as a whole. These included the challenges of market definition in new and dynamic sectors, and the importance of studying and understanding non-traditional barriers to entry and theories of harm.

One of the first challenges the ECA faced when conducting this investigation was defining the relevant market, given the nascent nature of ride-hailing, its dependence on non-traditional assets, such as data, and the controversies surrounding defining such markets. To understand this debate, the case team studied many recent papers and studies conducted by both academics and other competition authorities around the world. These included the 2018 report by the Digital Competition Expert Panel, as well as market studies and reports by the Bundeskartellamt, the Autorité de la Concurrence, the Competition and Markets Authority, and the Australian Competition and Consumer Commission. This analysis was also guided by a study of the specifics of the Egyptian market: the team was careful to conduct meetings with different stakeholders in the broader digital sector, to analyze a consumer survey (carried out by the Information and Decision Support Center on behalf of the ECA), as well as to study the legal and institutional framework that governs transport in Egypt. Through this approach, the ECA was able to define the market in question in a way it found to realistically and thoroughly reflect the Egyptian transportation sector as a whole.

Similarly, analyzing the barriers to entry on the relevant market, as well as the theories of harm that may result from the transaction, rested on a study of international academic literature as well as local specifics. This study revealed that the ECA, again, had to take into consideration assets that, traditionally, would not be considered as key facilities – such as data. Data was shown to be a key barrier to entry, and was the subject of one of the key commitments imposed on the Parties.

In light of the above-mentioned processes and lessons, and after a number of commitments proposals by the Parties, the ECA decided, on December 19, 2019, to clear the transaction subject to conditions that would benefit consumers (both riders and drivers), ensure competition on adjacent markets, and encourage entry. These commitments include caps on price increases and on surge occurrence, caps on the commission the Parties can deduct from trip fares, as well as commitments to introduce new safety and innovation features in Egypt. The Parties also committed to adjust their pricing on adjacent markets, namely app-booked high capacity vehicles, in order to cease any pricing below cost, allowing competitors on that market to compete more effectively. Finally, to encourage entry, the Parties committed to share mapping and anonymized trip data with new entrants, and to encourage users to port their data to competing applications – which is unprecedented in the ride-hailing sector. The Parties also committed to change the Careem logo and marketing to indicate its relationship with Uber, reducing consumer confusion and marketing and advertising costs for potential competitors.

As the decision has only been issued recently, the ECA has yet to observe the effects of the commitments. Nevertheless, we trust that the commitments, which were only implemented after a thorough study of the market and after multiple proposals from the Parties, will benefit the market and ensure that it will become more competitive.

6. *Uber/Careem* also raise broader issues regarding the role of competition enforcement in fostering innovation and startups in the North Africa and Middle Eastern region. Do you believe that there may be an enforcement "gap" in terms of the (potential) acquisition by multinationals of national or regional startups? What role do you see competition authorities playing in fostering innovation?

In the study of the acquisition of Careem by Uber, the ECA realized the importance of addressing innovation as a key component of digital markets. The above-mentioned study of academic literature revealed the importance of non-price factors, such as quality and innovation, in nascent digital markets – even in markets that do not adhere to the zero-price model, such as ride-hailing. This finding was supported by the ECA's consumer survey, which revealed that consumers take into account non-price factors (even more than price factors) when choosing between transportation methods. This meant that the ECA had to consider theories such as decreased innovation and quality in its theories of harm, leading to the imposition of commitments that will lead to increased innovation on the Egyptian market.

In a more general sense, the experience revealed to ECA the importance of accounting for innovation on digital markets; any intervention by competition authorities must aim at enhancing and harvesting innovation, avoiding any over-enforcement that may deter innovation. This was indeed the ECA's approach in assessing the *Uber/Careem* transaction. For example, the above-mentioned commitment pertaining to the app-booked high capacity vehicle market, first and foremost aimed at protecting the innovation that had led to the creation of this market – a new market that was created in Egypt, by local start-up Swvl, and has been expanding to other countries in Africa and Asia, through the efforts of Swvl and by Uber and Careem themselves. This commitment ensures not only that existing innovation is protected, but that start-ups are encouraged to try new, innovative ideas without the fear of being ejected by international players with superior access to funds. Competition authorities must be mindful of their role with respect to start-ups and smaller competitors, reaching out to them and explaining the role of competition law in protecting their right to enter the market and to expand.

7. Similarly, the *Uber/Careem* case highlights the need for coordination between competition authorities in the region. In particular, technological developments provide for competition not only between national players, but also between global and regional players that may raise similar concerns across various neighboring countries. What efforts should the ECA and other regional authorities take to coordinate their enforcement standards in light of such developments?

The *Uber/Careem* transaction did indeed highlight the importance of cooperation between competition authorities in the region and beyond. Given the global presence of the undertakings in question, the ECA recognized the importance of cooperating with other authorities around the world. In the process of the investigation, the ECA received confidentiality waivers from the Parties, allowing us to cooperate with authorities that were also investigating the transaction, such as the General Authority for Competition (Saudi Arabia), the Competition Commission of Pakistan, and the COMESA Competition Commission. The ECA also cooperated more generally with other authorities that were not studying the transaction in question but that have experience in the sector, such as the Bundeskartellamt. Similarly, by publishing our report (in English), we hope that other competition authorities around the world will reach out to the ECA when they analyze similar transactions.

International cooperation in this investigation enhanced the ECA's investigation, creating more opportunities for capacity-building and brainstorming, as well as enhancing cross-border relationships. Some of the authorities the ECA has cooperated with have come to similar conclusions, meaning that the ECA looks forward to cooperating with them further. More generally, and from this positive experience, the ECA will surely, in the future, cooperate with authorities both with respect to specific transactions and by sharing expertise and knowledge.

THE NEXUS BETWEEN INNOVATION AND COMPETITION: WILL THE NEW DIGITAL TECHNOLOGIES CHANGE THE RELATIONSHIP?

BY ELIZABETH WEBSTER[1]

1 Swinburne University of Technology. From a conference held in April 2019 at the University of Melbourne.

I. INTRODUCTION

As topics for discussion, innovation and competition have long been intertwined. Will innovation produce the behemoths that choke competition and lead to the dominance of fewer and fewer firms? Does ruthless competition between near-identical firms smother the profits needed for risk taking? Will the shift from mechanical and electronic platforms towards digital ones exacerbate these trends?

In this article, I examine how the competition – innovation debate has progressed and suggest that the (voluminous) research which tests whether lack of competition holds back innovation is possibly asking the wrong question. I then look briefly at whether the recent new wave of digital innovation is creating larger firms and more concentrated markets.

II. HOW ECONOMISTS CONCEPTUALIZE COMPETITION

Competition, between firms for customers and scarce inputs and workers for jobs, is the fundamental force allowing economists to predict the direction of economic change resulting from a given modification in conditions. By extrapolation, competition transforms economies as changes in one market places strains on others.[2] This pivotal role of competition harks back to Adam Smith's 1776 tract, which illuminated the role prices played in guiding people's behavior. Since then, considerable attention has been given by the economics profession to defining, measuring and identifying competition.

So what is competition? Competition is a race. For firms this largely means a race to win more customers through cheaper, better or more accessible products. Faster races make for more efficient and dynamic product offerings, or so the theory goes. Fast races depend on the internal drive of participants and external pressures. In a winner takes all race, competition is expected to be more extreme than in a race where all participants get a prize.

III. INNOVATION AS A WAY TO COMPETE

Innovation – i.e. change – is the route to these cheaper, better and more accessible products. The process of outmaneuvering rivals may cut prices down to the unit cost level, but beyond this, more efficient forms of production are needed to reduce prices. And, by definition, this improved efficiency depends on either new-to-the-firm or new-to-the-world innovation.

A. Measures of Competition

Economists have struggled to measure the speed of competition in a meaningful way. A logical metric would be a (weighted) count of the activities of firms to create these cheaper, better and more accessible products. However, records of these activities are hard to obtain in a systematic and unbiased way, even in our current information-cum-big-data age.

Therefore, other, more expedient, measures of competition dominate the literature. Two common measures actually represent drivers of competition – the number of sellers in a market (or market concentration) and barriers to market entry. The logic behind the market concentration metric is that fewer market participants enable a level of (tacit) collusion over prices.[3] The Herfindahl Index and CR4 metric are the prime examples here. The logic behind the barriers-to-entry measures is that an anticipation of losing customers motivates firms to act first. A third measure – the ratio of price to unit cost – is a supposed outcome of this rivalry. But price-cost margins largely assume competition is just price competition which, as discussed above, is a narrow, and uninteresting, view.[4]

2 Landes, D. (1969), *The Unbound Prometheus*, Cambridge University Press.

3 Smith, A., (1976) [1776], The Wealth of Nations: An inquiry into the nature and causes of the Wealth of Nations. The University of Chicago Press, Chicago.

4 It seems plausible to assume that the focus in economics on the "miracle of the price system" has subsequently led economists to narrowly define competition as merely price competition.

B. Is there Evidence that more Vigorous Competition invokes Innovation?

There has been a multitude of studies to assess the effects of competition on innovation. In the main, these studies devolve into an estimation of the effect of market concentration, or barriers to entry, on R&D or patenting. There appear to be no studies examining the effect of price-cost margins on innovation (the closest being the effect of cash flow on R&D spending, see Cohen 2010).[5]

An argument posed by Schumpeter (1934, 1942) and subsequently explored by Mason (1951), Horowitz (1964) and later others,[6] was that by permitting higher profits, concentration (i.e. collusion) would both provide the funds for investment into innovative activities, and, lock-in future returns from executed innovations. A variant of this theory proffered by Cohen & Klepper (1996) is that large firms have an advantage performing radical innovation because they can afford to fail.[7] They are not bankrupted by a single unsuccessful innovation. However plausible these theories, the empirical results have been ambiguous

The barriers-to-entry definition of competition has also been explored. Blair (1948),[8] Geroski (1989),[9] and Acs & Audretsch (1991)[10] were among the earliest writers to ascertain the positive effect of weak barriers to entry on innovation but with a cautious note that they are probably codetermined.

The doyen of innovation and competition, Wesley Cohen (2010), concluded after reviewing the literature, that high or low R&D intensity can occur in both high and low concentrated markets depending on third factors, and, it is likely that competition and innovation are simultaneously determined.

These studies are however hampered because there are few fully satisfactory off-the-shelf measures of competition. Using market concentration as a reliable proxy for the speed of the race often flies in the face of common sense. Mobile phones, computers, microchips, and automobiles are considered some of the most concentrated yet innovative markets. Similarly, the rivalry driven by weak barriers-to-entry, as found in hospitality and retail trade, may merely play out as price cutting activities.

Surprisingly, the quantity of literature questioning the reverse causation, i.e. the role innovation plays in creating concentrated markets or barriers-to-entry, is thin and even passé (i.e. see the 1940s concentration of capital literature by Paul Sweezy and colleagues). If firms vie for profits, surely a good strategy would be to invest in new products, processes and the means of accessing consumers, so that the firm can increase its distance between themselves and their nearest rivals?

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5 Cohen, W.M. & Klepper, S., (1996), A reprise of size and R & D. The Economic Journal, 106, 925-951. There is little *a priori* reason why price-cost margins would reflect the speed of the race to improve long-term efficiency, create new products and improve market access.

6 Schumpeter, J.A. (1942), *Capitalism, Socialism and Democracy*, 3rd edition, London: George Allen & Unwin, 1976. Mason, E.S., 1951. Schumpeter on monopoly and the large firm. *The Review of Economics and Statistics*, pp.139-144. Horowitz, I., 1962. Firm size and research activity. *Southern Economic Journal*, pp.298-301.

7 Cohen, W.M. & Klepper, S., (1996), A reprise of size and R & D. *The Economic Journal*, 106, 925-951.

8 Blair, J.M., (1948), Technology and size. *The American Economic Review*, 38(2), pp. 121-152.

9 Geroski, P.A., (1989), Entry, innovation and productivity growth. *The Review of Economics and Statistics,* pp. 572-578.

10 Acs, Z. J. & Audretsch, D.B. (1991), 'Innovation as a Means of Entry: An Overview', in Schwalbach, J. & Geroski, P. eds., 1991. *Entry and market contestability: an international comparison*. Basil Blackwell, Oxford.

IV. RE-PHRASING THE QUESTION

The literature which has tried to draw a causal link from market concentration to innovation has reached the end of its natural life. If we were to be uncharitable, we would say it has been an unfortunate distraction from bigger issues.

If we accept that innovation is the only long-term way firms compete, then it does not make sense to treat competition and innovation as separate and distinct concepts. Rather than worrying about recording the effect on, or consequences of, an intractable concept such as competition, I argue that we should be focusing on the effect of innovation on our societal end-goals, of householder well-being, and the health of civil society.[11]

In the remainder of this article, I give a preliminary discussion on how digital technology might affect these social goals in part by providing cheaper, better and more accessible products. I focus on whether digital innovation represents a break from past forms of innovation and, if so, how.

V. DIGITIZATION IS…

"…the conversion of text, pictures, or sound into a digital form that can be processed by a computer."[12] The technology was created at Bell Labs in the 1940s and involved combining transistors, which can record millions of zeros and ones, with the mathematics articulated by Shannon's Information Theory (Gertner 2013).[13] Digital technologies can store information, automate physical processes, and make calculations and pattern recognition activities hitherto beyond human ability.

Digitization has loomed large in public discourse because of its non-rivalrous and non-excludable character. Non-rivalry occurs because once the original product has been made, users can make copies, at minimal cost, that are both identical to the original and transferable between media. Non-excludability occurs because it is technically impossible, in most cases, to prevent other parties from making these copies.

However, this new technology may not be as radical as we imagine. Non-rivalrous and non-excludable goods have been with us for ever – the most basic example being knowledge. Similarly, the question of whether we should artificially curtail the use of non-rivalrous and non-excludable products has also been with us for a long time. In the case of knowledge, this took the form of the patent, copyright and publishing debates. It is received wisdom that limiting the ability to reproduce non-rivalrous non-excludable products is needed to provide an inducement to invest in their creation. Any short-term deadweight loss caused by this curtailment, is outweighed by the social gain of a (perpetual) new product. Against this view are numerous examples, illuminated by Moser, Mokyr, Mowery, Trajtenberg, Rosenberg, and Bresnahan from history, which show that early access to non-rivalrous intermediate products (in the main by not artificially restricting use via patents), is important for extracting their full social value.

It would be hard to objectively prove that non-rivalrous inputs are of greater value to the functioning of our economies than in earlier epochs, but it is easy to show that investment into digital technologies has risen dramatically since they first appeared in the 1950s (Brynjolfsson & Kahin, 2002;[14] Katz & Koutroumpis, 2013).[15]

But digitization is not just another form of knowledge in three important respects. In the past, knowledge (which is non-rivalrous and often non-excludable) had often to be embodied in physical goods, such as machinery (which are rivalrous and excludable). Digitized knowledge, on the other hand, is embodied in code which is also non-rivalrous and non-excludable. Hence, market failures associated with expropriation of its innovation profits will loom larger. Secondly, the value of many digital technologies depends on their interoperability and network externalities. Some markets are winner-takes-all, and when the winner does emerge, there is an extreme imbalance of power and a potential threat to civil society. The latter may take the form of excessive income inequality and political interference.

11 Many of the problems from large anti-competitive firms arise from their power to interfere in politics, create artificial barriers to entry via political influence, restrict the flow of knowledge and information via golden handcuffs, and non-compliance with tax laws.

12 See https://www.lexico.com/definition/digitization.

13 Although there were forerunners of the ideas such as Babbage's analytical engine and the telegraph. See Gertner, J. (2013), *The Idea Factory: Bell Labs and the Great Age of American Innovation*, New York: Penguin.

14 Brynjolfsson, E. & Kahin, B. eds., 2002. *Understanding the digital economy: data, tools, and research.* MIT press.

15 Katz, R.L. & Koutroumpis, P., *Measuring digitization: A growth and welfare multiplier, Technovation,* Volume 33, Issues 10–11, October–November 2013, pp. 314-319.

And thirdly, digital technologies are not just another technology. According to Bresnahan & Trajtenberg (1995), digitization is a general-purpose technology, like the steam engine and electricity.[16] It enables and enhances other technologies. There is a widespread view that patents on the steam engine and electric light held back development (see the discussion in Selgin & Turner 2011).[17] However, the problem may be the rules around the operation of patents rather than patents *per se*. Howells (2008), for example, examined the innovation-blocking patents in the automobile, radio, aviation, and electric lighting industries and concluded that diffusion and development was limited by the administration of patents (meaning internal patent office processes, elongated infringement cases, and inefficient licensing) rather than the existence of the patent.[18]

VI. DIGITIZATION IS THE CONDUIT FOR CHEAPER, BETTER AND MORE ACCESSIBLE PRODUCTS

The research literature on the effects of digitization, via neural network algorithms, robotics, sensors and ICT, among other things, is largely dominated by case studies and selected products and industries. Anecdotally, we all know of examples where digital technology is replacing routine service activities, such as interpreting X-rays, monitoring quality, assembling products, selecting job applicants, handling customer support phone calls, and driving cars. In addition, many old products, such as TV, phones and cars, are shifting from electronic to digital platforms.

There are few representative studies on the effects of digitalization but one relevant study by Bessen & Righi (2019) has found that major IT investments lead, on average, to large increases in demand for the firms' products.[19] Other than this, it is difficult to find representative studies that support the proposition that these new technologies have led to lower unit costs and prices. Perhaps it is too early.

Similarly, we can all point to products that would not exist were it not for digital technologies, such as big data, mobile phones, computer games, word processors *inter alia*.

And finally, the emerging literature on global value chains and online purchasing is testament to how digitization has extended the reach of producers into new and distant markets (Athukorala, Talgaswatta & Majeed, 2017).[20] History has shown that where the costs of communication, transport and logistics, in terms of speed, quality and reliability, widens markets, it leads to reinforcing second-round effects. This is well illustrated by Mokyr (2010), who argued that by making Britain one market, the 18th century canals and improved sea and road routes enabled the early fruits of the industrial revolution to quickly reap economies of scale.[21]

Correlation is not causation, but it can be suggestive. If the opportunity offered by digital technologies motivates firms to introduce cheaper, better and more accessible products more quickly than otherwise, then we would expect to see a positive relationship between digitization and a change in GDP per capita. We do not have this information but in Figure 1 Katz & Koutroumpis (2013) show that there is a very strong positive relationship between digitization and GDP per capita levels across countries.

16 Bresnahan, T.F. & Trajtenberg, M., 1995. General purpose technologies 'Engines of growth'?. *Journal of Econometrics*, 65, 83-108.

17 Selgin, G. & Turner, J.L., 2011. *Strong steam, weak patents, or the myth of Watt's innovation-blocking monopoly, exploded*, The Journal of Law and Economics, 54, 841-861.

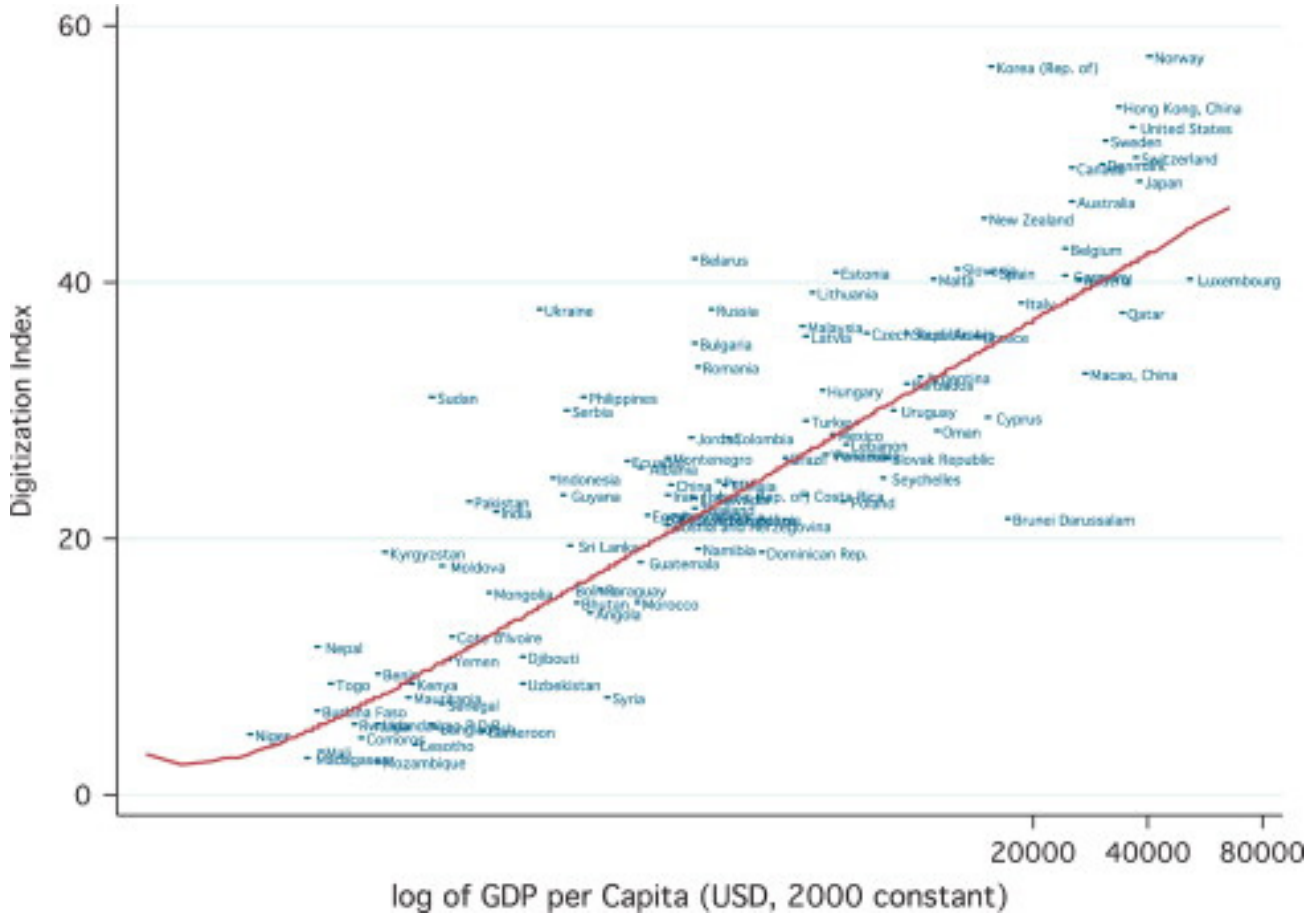
18 Howells, J., 2008. Patents and Downstream Innovation Suppression–Facts or Fiction? - A Critique of the Use of Historical Sources in Support of the Thesis that Broad Patent Scope Enables the Suppression or Hindrance of Downstream Useful-Technology Development. Centre for Organizational Renewal and Evolution, Working Paper-2008–01. Available at http://www.pucsp.br/icim/ingles/downloads/pdf_proceedings_2008/11.pdf.

19 Bessen, J.E. and Righi, C., 2019. Shocking Technology: What Happens When Firms Make Large IT Investments?. *Boston Univ. School of Law, Law and Economics Research Paper*, (19-6).

20 Athukorala, P.C., Talgaswatta, T. & Majeed, O., (2017), Global production sharing: Exploring Australia's competitive edge. *The World Economy*, 40(10), pp. 2172-2192.

21 Mokyr, J., (2010), *The Enlightened economy an economic history of Britain 1700-1850*. Yale University Press.

Figure 1: Digitization index with log of GDP per capita in 2010.



Source: Katz & Koutroumpis (2013).

VII. POLICIES TO AMELIORATE THE NEGATIVE EFFECTS

Regardless of the likely benefits from digitization, the question we must now pose is: Are the existing institutions for managing non-rivalrous and non-excludable products fit for purpose in the new digital age?

Patents and copyright, being the legal frameworks designed to increase incentives to create ideas via raising the excludability of information and knowledge, have well known contraindications. They can generate monopoly power, and in certain circumstances, can hinder diffusion and development. Complementary policies, to ensure patents and copyright do not both strengthen market concentration and delay development and diffusion, should be reinforced. Consideration should be given to increasing the use and prevalence of licenses-of-right, standards on inter-operability, open networks, FRAND, and more transparent, faster examination systems. As an enabling technology, it is important to encourage both diffusion and ongoing development of digital technologies.

It may be inefficient to block natural monopolies (where the size of the market only permits one firm to operate at the most efficient level). However, their ill effects may be mitigated by complementary policies to check the abuses of power such as technical inefficiency, extreme executive salaries and monopoly pricing. Solutions need be pragmatic, and might include public ownership, regulation and quid-pro quo deals such as those done between the US Government and AT&T (Bell Labs), IBM, and Du Pont in the 1950s.

Copyright needs a complete re-think. The most obvious reform would be to reduce the term to 20 years. With time discounting, any revenue beyond 20 years is not going to affect the incentive to be creative. It is just a payment for effort in the distant past.

The collation and dissemination of information and data is one industry to clearly benefit from the digital revolution. A growing number of organizations collate data and make it available at low cost to users. By reducing the information barriers to entry to clients, it offers a marvelous service. Usually however, this industry is a natural monopoly, which makes it suitable for public ownership (national and university statistical services). However, the blooming private sector (e.g. Google, DataStream, Connect4, LinkedIn, Bureau Van Dijk) suggests some public oversight is needed. The issue is how close are the next best substitutes and are these private providers using price to exclude small or less well-resourced customers. These questions have yet to be fully explored.

And finally, as with all economic restructuring, the value of programs to enable displaced workers to transition to new industries and occupations should be objectivity evaluated and improved to minimize disruption to the digital casualties and enhance the health of civil society.

PLATFORMS, DISRUPTIVE INNOVATION, AND COMPETITION ON THE MARKET

in

on

for

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I. INTRODUCTION

In both Europe and North America, recent years have seen increased academic interest in the application of competition law to the leading firms of our time, coupled with mounting political pressure to enforce the law against them. A number of expert panels were convened to produce reports to guide the work of enforcement agencies. To name but the main ones, the European Commission produced *Competition policy for the digital era*,[2] the UK government commissioned *Unlocking digital competition*,[3] and both these reports fed into the work of a U.S.-based panel, the Stigler Committee on Digital Platforms.[4]

Some common threads run through these reports. They start from the observation that the workings of the "digital economy" have led to the emergence of a stable and small set of large players that appear to hold overwhelming economic power. Among the factors that led to that outcome are massive economies of scale (that can drive retail prices to zero), network effects (including the leveraging of multi-sided effects to create platforms) and the rise of data as a key competitive feature (where control over large datasets confers a competitive edge). An alternative form of competition emerges, namely competition *for* the market, instead of competition *in* the market. The reports then investigate whether competition law is adequate to deal with this form of competition, and put forward various recommendations in this respect, which will not be discussed here.

This short piece aims to suggest that the concept of competition for the market is not sufficient to account for the competitive forces at play in the "digital economy." It offers a richer concept of competition *on* the market, which could allow for a more solid competition law analysis.

II. COMPETITION IN THE MARKET AND COMPETITION FOR THE MARKET

The idea of competition for the market is not new.[5] It has surfaced regularly in academic commentary and competition law enforcement since the *Microsoft* case, and the dawn of what was then called the "new economy."

Yet as an empirical matter, there are few genuine examples of competition for the market outside of the area of public procurement and utilities, where this model originated. In the literature, the canonical example comes for software applications, at the turn of the 80s: for word processing, WordPerfect (having itself ousted WordStar) was replaced by Microsoft Word; for spreadsheets, Microsoft Excel displaced Lotus 1-2-3; Quicken overtook Managing Your Money for personal finance, and QuarkXPress took the lead from Adobe PageMaker for desktop publishing.[6]

More recently, the ascent of the Google search engine in the early 2000s (on the ashes of AltaVista, which itself had replaced Lycos) can also be seen as an instance of competition for the market. Few other examples fit the model of competition for the market. In particular, in the two cases where that model was central to the argument of a defendant, it did not fit the facts. Originally, in *Microsoft*, competition for the market was invoked by Microsoft in its defense on both sides of the Atlantic, to no avail.

This is not surprising, since on the market for PC operating systems, which was at the heart of the case, Windows had been enjoying a long dominance run (5-10 years). That run can be extended to almost 20 years if one considers that Windows replaced Microsoft's own MS-DOS: in a way, Microsoft was competing with itself for the market. Similarly, in the EU *Google Search* (*Shopping*) case, despite Google's insistence that "competition is just one click away," its market position remained untouched ever since it took over from AltaVista around 2002. Even if the Google search engine faces competition, no competitor has been able to supplant Google in the last 18 years. Neither PC operating systems nor search engines really evidence competition for the market.

2 J. Crémer, Y.-A. de Montjoye & H. Schweitzer, *Competition policy for the digital era* (Luxembourg: Publications Office of the EU, 2019).

3 Digital Competition Expert Panel, *Unlocking digital competition* (London: HM Treasury, 2019).

4 Stigler Committee on Digital Platforms, *Final Report* (September 2019), available at https://research.chicagobooth.edu/stigler/media/news/committee-on-digital-platforms-final-report.

5 The distinction between competition *in* and *for* the market has an ancient lineage. Harold Demsetz, "Why Regulate Utilities" (1968) 11 J Law Econ 55 at 57, traces it back to Edwin Chadwick, "Results of Different Principles of Legislation and Administration in Europe; of Competition for the Field, as compared with the Competition within the Field of Service" (1859) 22 J Royal Statistical Society 381.

6 See David S. Evans & Richard Schmalensee, "Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries" (2002) 2 NBER Innovation Policy & the Economy 1.

This may explain why authorities are reluctant to espouse the model of competition for the market. In essence, this model implies that the relevant market is doomed to remain under the grip of a dominant player, with the hope that, from time to time, the incumbent loses its position to an entrant that then becomes the new dominant firm. Politically, this cannot be very appealing to an enforcement authority, since it would amount to accepting that the relevant market will continue to be affected by the conduct of whichever firm is dominant at any given moment. Discipline is meted out at irregular intervals through the threat of entry and eventual displacement, without much of a role for the enforcement authority. Unless there is a quick succession of dominant players (or at least frequent challenges to the dominant player), there is a real risk that, while the incumbent is not being displaced, a steady stream of competitive harm could occur and remain unchecked. This is politically hard to defend for any authority, and indeed this is at the root of the current effort to beef up enforcement in the digital economy.

More fundamentally, the model of competition for the market fails because it does not take dynamic effects to their logical end. Competition for the market introduces an element of dynamism, with the succession of dominant players over time, but that dynamism is inserted within the essentially static framework of a relevant market that is defined once and for all at the start of the analysis. In a model of competition for the market, the relevant market is an exogenous constant, just like it is in the more conventional model of competition in the market.

III. COMPETITION ON THE MARKET

Competition *on* the market is rooted in disruptive innovation. The literature on disruptive innovation[7] teaches us, when it comes to competition law analysis, that market definition becomes an endogenous variable in a dynamic context.[8] Disruption can take two forms, namely consumer or architecture disruption. The former occurs when the disruptor, starting from the low end, succeeds in shifting the value network to its advantage (as streaming did to the DVD sector).

The latter involves a replacement of the dominant design, as occurred when the iPhone ushered in the era of smartphones and prompted the demise of many basic and feature phone makers. Both consumer and architecture disruptions can translate into a change in relevant market definition for the purposes of competition law. When streaming takes over from DVDs and Blu-ray, the market for home video recording and viewing changes. When the iPhone enters the fray, a new smartphone market takes hold, emerging from the earlier market for mobile devices.

In other cases, relevant market definition might not change, but the position of the relevant market with respect to neighboring markets is affected in such a way that the competitive assessment is bound to change. Let us examine the market for PC operating systems, as it was defined in the *Microsoft* cases on both sides of the Atlantic. As mentioned at the outset, if a case arose today, there is a fair chance that the market would still be defined as PC operating systems, and Microsoft would still hold a commanding position.[9]

Yet with the onset of web-oriented computing and cloud computing, the operating system has moved to the sidelines: the experience of most users does not center on the operating system, the way it did earlier. Similarly, the applications industry is no longer as dependent on the decisions made in relation to Windows as they used to be. In other words, the operating system has become commoditized, and the creation of value – and the market power – has moved to web-based content, applications, and service providers. This is not a substitution effect that would be reflected in relevant market definition, but rather a rebalancing amongst complements, in the wake of what would qualify as architectural disruption.

A look at these instances of disruptive innovation shows us that the models of competition in and for the market do not provide a complete account of static and dynamic competition. Once the relevant market is no longer exogenously given and held constant, a third model of competition *on* the market emerges. Firms then compete not on parameters such as price or quality, but on their ability to cast the market to their advantage. The market itself is a competitive parameter, hence competition *on* the market: firms engage into competition in order to disrupt the existing market structure, by shifting the value network or replacing the dominant architectural design. Firms jostle to exert influence on the market boundaries, and as a consequence market definition for the purposes of antitrust and competition law becomes endogenous: firms compete precisely to influence it.

7 Disruptive innovation was first defined and studied by C. Christensen, starting with *The Innovator's Dilemma* (Boston: Harvard Business School Press, 1997). Since then, the literature on disruptive innovation has grown: see J. Gans, *The Disruption Dilemma* (Cambridge: MIT Press, 2016) for the most recent and authoritative account, from which the discussion here is drawn. At the same time, the term has descended into everyday language, where it is very loosely used.

8 As noted by D.J. Teece, *Dynamic Capabilities and Strategic Management: Organizing for Innovation and Growth* (Oxford: OUP, 2009) at 15.

9 Even if MacOS systems are included, Microsoft Windows still holds around 80 percent of the market for PC operating systems as of December 2019 (with a larger share of the installed base). By now, many consultancies report on a broader operating system market that includes all devices: PCs, tablets and smartphones. On that market, Windows's share is much smaller, since in the meantime Android-based devices represent an installed base at least comparable to Windows's, and the majority of new device shipments.

The difference between competition *in*, *for* and *on* the market becomes clearer once firm strategy and competitive mechanisms are brought in the picture. Firms competing *in* the market try to find the right combination of price, quality, quantity and service that will enable them to gain a modicum of market power in order to reap some profit. Competition in the market is not purely static: firms will frequently innovate in order to try to gain an advantage over their rivals. Such innovation is mostly of the sustaining kind, i.e. innovation taking place within the established value network or the dominant design. Firms competing *for* the market do not behave much differently; they also look for the right combination along competitive parameters, except that the competitive mechanism runs differently. The prize is not so much some amount of profit in a competitive market, but a commanding market position that enables the firm to reap a far larger profit.[10] Given scale effects, competition *for* the market requires an entrant to significantly exceed the performance of the incumbent on key competitive parameters, in order to overcome the inertia induced by network effects and convince customers to switch.[11] This may explain why competition for the market is rarely observed in practice. For both competition *in* and *for* the market, firms are in frontal competition, in a rivalrous relationship: they take customers away from one another.[12]

In contrast, competition *on* the market is driven by a different strategy, that of disruptive innovation. The disruptor is not competing with the incumbent frontally, but rather sideways. Competition *on* the market involves firms trying to find an unexploited niche on the demand side (in the case of customer disruption) or an alternative architecture (in the case of architecture disruption). In both cases, the essence of competition is entrepreneurship (in the Austrian sense) and invention: the entrant has an inventive insight, and it tries to bring that invention to the market, gain acceptance and turn it into an innovation with disruptive consequences. Precisely because the incumbent is operating successfully within a sustaining innovation framework, the incumbent is blindsided, and disruption occurs.

The reward for the successful disruptor is a position of strength within the new value network or the new dominant design, ideally a bottleneck position where the disruptor can extract a situation rent from the market. The incumbent does not necessarily shrink or vanish, rather it is sidelined; if the incumbent held a bottleneck position, it loses that position and the rents that come with it. This was the fate of Microsoft and Intel in the examples given above. If a metaphor can be risked, competition *on* the market is akin to sumo wrestling, where the dohyo ¯o ¯o ¯ (ring) stands for the position of strength sought by the firms: firms try to push one another out of that position of strength. The losing firm, while kicked out of the ring, remains standing and can mount a rematch.

The following table provides an overview of how competition *on* the market differs from competition *in* or *for* the market.

	Competition *in* the market	Competition *for* the market	Competition *on* the market
Market picture	One market	One market	A number of markets (substitutes or complements)
Market definition	Exogenous and constant	Exogenous and constant	Endogenous and variable
Competitive statics	A number of firms on a market	A dominant firm on a market	A number of larger/smaller players with a base in one or more markets
Competitive dynamics	Many firms compete	Succession of dominant firms	Firms compete for a position of strength
Type of competition	Frontal competition	Frontal competition	Sideways competition
Firm objective	Gain some market power to make profit	Gain dominant position and exploit it	Take position of strength and extract situation rent
Modus operandi	Firms take customers away from one another	Entrant takes market away from incumbent and becomes new incumbent	Incumbent is sidelined, entrant takes position of strength (bottleneck)
Competitive parameters	Price, quality, service, innovation	Price, quality, service, innovation	Value network or architecture
Type of innovation	Sustaining innovation	Sustaining innovation	Disruptive innovation

10 Subject to constraints from potential entry.

11 Unless of course customers multi-home, in which case competition for the market begins to resemble competition in the market.

12 Of course, the market can also grow, so this is not a strictly zero-sum game. Nevertheless, rivalry is of the essence.

IV. IMPLICATIONS FOR COMPETITION POLICY

In principle, the presence of competition *on* the market should be taken into account in competition law analysis. This section briefly surveys the possible implications of including competition on the market in the analysis. In line with the standard error-cost approach, two outcomes are conceivable: extending the analysis to include competition *on* the market could either point to a risk of Type I errors (false positives, where intervention should not have taken place) or Type II errors (false negatives, where intervention should have taken place but did not).

As a preliminary matter, given that competition on the market relies on disruptive innovation, one can hardly expect competition enforcers to see it. After all, disruption is by definition blindsiding even successful and well-run incumbent firms, and innovation is a stochastic process. Accordingly, the question is not so much whether the enforcement authority can anticipate or detect disruptive innovation – it cannot – but whether it can ascertain the extent to which a given industry is prone to disruptive innovation, i.e. whether competition *on* the market is likely to take place.

A. Type I Errors

Any careful student of major competition cases in the ICT sector will have the uneasy feeling that something is amiss. The competitive threats duly identified by the authorities after long and careful investigations have been removed, by and large, but not as a result of the remedies imposed upon the defendants. In the *Microsoft* cases, the defensive leveraging strategy that foreclosed Netscape was rendered irrelevant when the rise of Google and other Internet giants turned the operating system into a sideshow. The offensive leveraging strategy on media players that the European Commission penalized was also neutralized by the advent of MP3 players and iTunes and other media software. In *Intel*, competition enforcement did not change the fortunes of Intel and AMD nearly as much as the shift from PCs to smartphones and tablets, where Intel was much weaker. In the newer *Google Search (Shopping)* case, it can also be argued that any threat that the Google Shopping service could pose is kept in check by more integrated platforms such as Amazon. In these three cases, competition *on* the market was or is more effective than competition law enforcement in keeping dominant players in check.

This should not be read as implying that competition law enforcement is useless, but rather as a call for prudence in enforcement in cases where innovation plays a central role in the competitive process. The more economically sophisticated the analysis becomes, the more it is likely to fall prey to the weaknesses of economics and overemphasize static competition. In such cases, dynamic analysis will at most look at sustaining innovation, and authorities could commit Type I errors by over-protecting sustaining innovation. For instance, in *Microsoft*, the reasoning of the European Commission shows that it is enforcing competition law in the hope of having competitors, within the value network and the dominant design, i.e. other producers of server operating systems or media players. Similarly, in *Google Search* (*Shopping*), the Commission is essentially protecting the ability of rival comparative shopping providers to continue offering that type of service, with some sustaining innovation.

B. Type II Errors

In comparison, including competition *on* the market in the analysis reveals a larger and more concrete risk of Type II error, especially in merger control. Indeed, competition *on* the market is not just a consequence of the interplay between existing digital platforms; for such competition to occur, it must also be possible for entrants to attempt disruptive strategies, and eventually succeed. To recall the sumo metaphor, for competition to remain lively, new wrestlers must be able to join the league. Existing literature makes it clear that, to the extent incumbent firms can do anything to prevent or address competition on the market in the form of disruptive innovation, the most promising strategies include trying to gain control over complementary assets that any entrant would need in order to attempt a disruption strategy, or buying the potential disruptor outright.[13]

In fact, a competition on the market analysis could have provided the rationale to avoid one of the most misguided decisions in recent years, namely the clearance of the *Facebook/WhatsApp* merger on both sides of the Atlantic. The FTC and the European Commission approved the transaction on account of a traditional analysis. On any of the relevant markets involved – consumer communications services, social networking services and online advertising services – the overlap between the parties was limited or non-existent. Any concerns were assuaged by informal commitments from Facebook, which it later reneged upon.

13 See the developments on business strategy in Gans, *supra* note 7 and Teece, *supra* note 8.

The rapidity and ease with which the transaction went through merger control did not side with the basic transaction data: Facebook could not have been paying $19bn for a then much smaller WhatsApp if there was so little synergy between the parties. From a disruptive innovation perspective, however, another rationale for the transaction emerges. For any entrant to sideline Facebook through a disruption strategy, for competition on the market to work, that entrant would need some trove of social network data, in order to introduce a service that would either reach underserved or forgotten low-end customers (customer disruption) or offer a new architecture altogether (architecture disruption).

At the time of *Facebook/WhatsApp*, the single-best source of social network data outside of Facebook was with WhatsApp: any entrant wishing to try to disrupt Facebook would have been either WhatsApp itself or a third-party acquirer of WhatsApp. By grabbing WhatsApp, Facebook therefore gained control over the main source of a complementary asset (social network data) that would be essential for any disruptive entrant, and accordingly harmed potential competition *on* the market.

As this example shows, introducing competition *on* the market in the analysis could provide a theoretically sound basis to address the concerns that have been raised in the 2019 reports mentioned at the outset.

V. CONCLUSION

This brief contribution proposed a theoretical path to provide a sound footing for the current efforts to strengthen competition law analysis with respect to the platforms that have come to dominate the digital economy. There is general agreement that the traditional analytical framework based on competition *in* the market is insufficient. Yet much of the competitive activity that has taken place in the digital economy in the last 25 years has not taken the form of competition *for* the market, as is often claimed, but rather of competition *on* the market.

Competition on the market differs from both competition in and for the market in that it assumes that market definition (in the business and hence also in the competition law sense) is itself a competitive parameter. The literature on disruptive innovation provides the best account of competition on the market.

At first glance, including competition on the market in the analysis points to error risks that might have been neglected so far. It provides a reminder that enforcement should proceed prudently in order to avoid Type I errors, since competition *on* the market seems to have had more impact than competition law enforcement in the major cases of this century such as *Microsoft*, *Intel* and potentially also *Google Search* (*Shopping*). It also offers a solid basis to address Type II error concerns around merger control as regards the acquisitions made by platforms, such as *Facebook/WhatsApp*.

The main challenge for further work will be to develop the tools to integrate competition on the market in the analysis, since that form of competition is not captured by the traditional instruments such as market definition and market power assessment.

SPEECH, INNOVATION, AND COMPETITION

BY GREGORY DAY[1]

1 Assistant Professor, University of Georgia Terry College of Business; courtesy appointment University of Georgia School of Law. This Article significantly relies on, as well as restates, the arguments in Gregory Day, Monopolizing Free Speech, __ Fordham L. Rev. __, __ (forthcoming in 2020). Readers should consult the above article for a more complete, nuanced recitation of the theories presented herein.

I. INTRODUCTION

Critics contend that concentrated power in digital markets has generated threats to free speech. For a variety of reasons, market power is naturally thought to concentrate in digital markets. The consequence is that "big tech" is said to face little competition; Facebook controls 72 percent of the social media market[2] while the parent of YouTube (72 percent of the video market)[3] is Google (92 percent of the search market).[4] This landscape has potentially vested private companies with unprecedented power over the flow of information. If Facebook, for example, decides to ban certain types of speech or ideas, it would potentially deprive a significant number of people of that information. Observers have indeed alleged that market power mixed with innovation gives big tech the power and incentives to impede speech.

Two types of suppressed speech are alleged: commercial and expressive. In terms of expressive speech, *both* sides of the political aisle assert that tech firms advance an ideological agenda. Facebook, Twitter, or YouTube are alleged to push certain narratives while suppressing others depending on one's political biases. Lending credence to this fear, it is well known that Facebook polices content shared over its platform, evidenced by its in-house oversight board (also known as its "speech Supreme Court")[5] and an internal memo posing the question: "What should be the limits to what people can express?"[6] Controversy has notably emerged where platforms have restricted mundane types of speech including images of breast-feeding or plus-size expression as well as more controversial forms of speech regarding, for instance, anti-vaccination literature.

The other type of harm is commercial. Some observers allege that Amazon alters search results or buries entries to promote its own products.[7] Another claim is that tech firms abridge commercial speech such as advertising. Google, as AdSense's parent company, is said to manipulate the color, placement, and font of advertisements to impede information about rival products while promoting its own goods.[8]

This landscape has suddenly turned free speech into a significant and popular antitrust issue. Senators Elizabeth Warren *and* Ted Cruz have remarkably adopted similar positions, both insisting that enforcers should crack down on the platforms' dominance over free speech. The abolition of "Net Neutrality" was even led by lawmakers who asserted that antitrust would better protect internet speech.[9] In another development, Senator Josh Hawley has recently proposed the "Ending Support for Internet Censorship Act," which would require the largest platforms to receive validation from the FTC.[10] Additionally, editorials now fill the *New York Times*, *Wall Street Journal*, and *Washington Post*, arguing that antitrust should promote free speech. Even the Department of Justice Antitrust Division ("DOJ") has recently asserted that "greater openness and free speech" could entail a virtue of digital competition.[11]

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2 *Social Media Stats Worldwide*, StatCounter, http://gs.statcounter.com/social-media-stats (last visited Aug. 1, 2019).

3 *YouTube Market Share and Competitor Report*, Datanyze, https://www.datanyze.com/market-share/online-video/youtube-market-share (last visited Aug. 1, 2019).

4 Jeff Desjardins, *How Google Retains More Than 90% of Market Share*, Bus. Insider (Apr. 23, 2018; 7:35PM), https://www.businessinsider.com/how-google-retains-more-than-90-of-market-share-2018-4.

5 Daphne Keller, *Facebook Restricts Speech by Popular Demand*, Atlantic (Sept. 22, 2019), https://www.theatlantic.com/ideas/archive/2019/09/facebook-restricts-free-speech-popular-demand/598462/.

6 Conor Friedersdorf, *The Speech that Facebook Plans to Punish*, Atlantic (Dec. 11, 2018), https://www.theatlantic.com/ideas/archive/2018/12/facebook-punish-censorship/577654/.

7 Joseph Hicks, *Google May Be Favoring Its Own Search Ads Over Competition, Report Says*, Fortune (Jan. 20, 2017), https://fortune.com/2017/01/20/google-search-engine-advertising-ads/.

8 Matt Binder, *Google Hit with $1.7 Billion Fine for Anticompetitive Ad Practices*, Mashable (Mar. 20, 2019) (describing the liability incurred by Google in Europe for anticompetitive practices in the advertising market).

9 Bob Goodlatte, *Use Antitrust Laws, Not Regulations to Protect the Internet*, The Hill (Sept. 16, 2014, 12:46 PM), http://thehill.com/special-reports/net-neutrality-september-16-2014/217862-use-antitrust-laws-not-regulations-to.

10 David French, *Josh Hawley's Internet Censorship Bill Is an Unwise, Unconstitutional Mess*, Nat'l Rev. (June 20, 2019), https://www.nationalreview.com/2019/06/josh-hawley-internet-censorship-bill-unconstitutional/.

11 *"And Justice for All": Antitrust Enforcement and Digital Gatekeepers*, Dep't of Justice, Justice News (Jun. 11, 2019), https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-antitrust-new-frontiers.

While observers have long accused the media of bias, it was less common in prior generations for observers to express fears that companies could effectively suppress speech. Private actors not only lacked market power over the contours of information, but they were *supposed* to discriminate against ideas. In *Abrams v. United States*,[12] Justice Oliver Wendell Holmes popularized the theory of a marketplace of ideas. His position, which inspired modern theory of the First Amendment, was that market forces should determine an idea's value rather than the government. Because the state might err in deciding which speech to suppress or promote, society would benefit if private actors, in vigorous debate, allowed the market to play the role of censor. But since this right (as well as expectation) to challenge specific ideas extends to corporations, the question of whether tech firms abuse their market power to suppress speech and information is largely a modern concern.

This contribution delves into the emergence of rhetoric calling for antitrust to promote free speech in the digital era, questioning its viability and logic. Part II discusses the greater challenges posed by digital markets to put the issue into a greater context. Part III then reviews case law which demonstrates the obstacles of promoting free expression under the antitrust laws. Finally, Part IV asserts that antitrust's precedent has misconstrued the true value of ideas and information. In doing so, this contribution argues that enforcement should foster the economic virtues of commercial speech from monopolies and trade restraint — a position to which the DOJ has suddenly seemed amenable[13] — but resist governing political, social, and expressive forms of speech.

II. COMPETITION IN DIGITAL MARKETS

It is important to situate the question of whether antitrust should promote free speech within the greater debate over antitrust's role in the information economy. The issue with the information economy is that it differs significantly from the industrial era when antitrust was established. Principally, enforcement has relied on price signals to gauge whether conduct has eroded consumer welfare yet digital markets tend to eschew prices by offering low and zero-price services. Without (high) prices, an antitrust lawsuit must overcome the formidable hurdle of showing a non-price injury such as diminished quality or innovation. To date, claims have seldom succeeded when relying on non-price effects, calling into question antitrust's role in digital markets.[14]

A growing number of scholars and observers have nevertheless expressed alarm about the market dominance achieved by the leading tech firms. To this camp, Amazon, Google, Facebook, and others have collected such massive troves of consumer data, and developed such effective processes of analyzing it, that rivals cannot possibly compete in their respective markets. Further, critics assert that big tech has consciously exploited their data advantages to create barriers to entry.[15] Without meaningful competition, an array of social and economic harms are said to prevail, including damaged elections, fake news, and diminished privacy.

Another group of commentators have, however, pointed out that consumers are typically satisfied with big tech's low-cost, high-quality services, challenging the argument that consumers have suffered any effects of anticompetitive conduct.[16] This camp stresses that if social and economic harms arise from platform services, then big tech might have violated some laws but not the antitrust laws. And when considering the manner in which markets animated by network effects tend to cluster market power, they note that greater enforcement in digital markets wouldn't likely upset the status quo. With this in mind, skeptics have criticized reforms calling for enforcement in digital markets as futile and populistic.

As debate rages over antitrust's role in digital markets, scholars, agencies, courts, and politicians have increasingly wrestled with whether speech affects consumer welfare. Because the modern economy has given private companies newfound power over the flow of information and speech, the question of whether the marketplace of ideas should entail an actual market, governed by antitrust, is timely and important.

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12 250 U.S. 616 (1919).

13 *"And Justice for All": Antitrust Enforcement and Digital Gatekeepers*, Dep't of Justice, Justice News (Jun. 11, 2019), https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-antitrust-new-frontiers ("By protecting competition, we can have an impact on privacy and data protection. Moreover, two companies can compete to expand privacy protections for products or services, *or for greater openness and free speech on platforms.*") (emphasis added).

14 *"Blind[ing] Me with Science": Antitrust, Data, and Digital Markets*, Dep't of Just. (Nov. 8, 2019), https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-harvard-law-school-competition (explaining the importance of non-price competition, especially in digital markets).

15 See, e.g. Gregory Day & Abbey Stemler, *Infracompetitive Privacy*, 61 Iowa L. Rev. 74-76 (2019).

16 Geoffrey A. Manne & R. Ben Sperry, *The Problems and Perils of Bootstrapping Privacy and Data into an Antitrust Framework*, CPI Antitrust Chronicle (May 2015).

III. LITIGATING SPEECH UNDER THE ANTITRUST LAWS

Without attracting much attention, several plaintiffs have already sought to promote their right to free speech under the Sherman Act — a litigation strategy which is perhaps antithetical to modern antitrust. Each of their theories was essentially that antitrust should protect the vibrancy of speech from monopolies and trade restraints. For example, Gab AI ("Gab"), a social media firm known for hosting "alt-right" speech, claimed that its exclusion from Google's Android platform suppressed free speech and thus violated antitrust laws.[17] Other examples[18] include the lawsuit initiated by former candidate Gary Johnson which asserted that the Presidential Debate Commission had abused its market power in impeding alternative viewpoints from the presidential debates.[19] Also, a processor of credit cards argued that, due to its support of WikiLeaks, Visa and Mastercard excluded it from the market, which "suppressed the market place of ideas" in violation of antitrust law.[20]

Each of these cases ran into substantial obstacles. The primary problem is that the Sherman Act, per its plain text, may only govern "trade" and "commerce." According to this line of reasoning, because ideas and speech are considered non-economic — as they lack traditional indicia like scarcity and excludability — the marketplace of ideas may not fit within antitrust's purview. And even sidestepping this issue, antitrust is only meant to promote competition for the *economic* benefit of consumers. Despite whether one measures market efficiency via prices, quality, or innovation, litigants would likely struggle to show how suppressing the marketplace of ideas caused such a harm. Although the plaintiff might have suffered an economic injury, antitrust is meant to promote *consumer* welfare rather than those of individual competitors. So without proof of an antitrust injury suffered by consumers or markets — despite whatever harm the plaintiff incurred — the antitrust claim would necessarily fail.

For example, the court in *Johnson* rejected the anticompetitive effect alleged by Mr. Johnson because the marketplace of ideas "refer[s] to ideas, not products or services that are traded in a commercial marketplace, and thus this claim does not allege a cognizable antitrust injury." It asserted further that, "calling political activity a 'marketplace' does not make it so… As with holding political office, running for political office is not 'commerce' under antitrust law."[21] *DataCell* held similarly: "If the products in DataCell's market are ideas, then the antitrust laws cannot help DataCell. Congress created antitrust laws to protect free market competition, not to protect the free exchange of ideas."[22]

With this background, several questions persist. Should the courts continue to exclude ideas from antitrust's scope? Have courts ignored the economic value of ideas and expression with the rise of digital markets? Or, in fact, should courts and scholars rethink antitrust's consumer welfare standard? To this latter camp, which is colloquially (or pejoratively) known as "hipster antitrust," antitrust is ill-equipped to remedy the modern harms arising out of digital markets; as innovation evolves the nature of commerce, markets, and power, antitrust must potentially respond with wholesale changes.

IV. OPTIMAL ANTITRUST AND SPEECH

This Part makes the case that antitrust should promote commercial speech but resist protecting social, political, and expressive content. To begin, enforcement must abandon characterizing ideas and information as *per se* non-economic. Consider that the primary goods exchanged in today's economy are known as "information products," described as commodities receiving their character and value from an underlying idea. Firms can even compete by offering information products at zero-prices. Indeed, information products exist within a wide variety of economic activities, powering various modern industries as well as the progression of innovation.

17 Complaint at 42, *Gab AI Inc. v. Google, LLC*, No. 2:17-cv-4115-AB (E.D. Pa. Sept. 14, 2017); *Id.* See also Harper Neidig, *Social App Popular with 'Alt-Right' Files Antitrust Lawsuit Against Google*, The Hill (Sept. 15, 2017, 1:21 PM), http://thehill.com/policy/technology/350885-gab-files-antitrust-lawsuit-against-google.

18 See, e.g. *Levitch v. Columbia Broad. System, Inc.*, 697 F.2d 495, 495-96 (2d Cir. 1983); *Lorain Journal Co. v. United States*, 342 U.S. 143, 148 (1951).

19 *Johnson*, 869 F.3d at 979.

20 *DataCell ehf. v. Visa, Inc.*, 2015 WL 4624714, at *6 (E.D. Va. July 30, 2015).

21 *Johnson*, 2016 WL 4179269, at *1.

22 *DataCell*, 2015 WL 4624714, at *6.

Take the platform industry. The top six platforms claim a combined market capitalization of one trillion dollars in providing "free" forums to express political opinions, social expression, and other ideas. Influencers and similar users have also notably capitalized on the flow of expression through platform technology. Or consider the communications sector: it is said that no other industry wields more power to suppress speech, surpassing even the government. As Tim Wu remarked, "[w]e sometimes treat the information industries as if they were like any other enterprise but they are not. For their structure determines who gets heard."[23]

Other areas where ideas and information fill a vital economic role include industries relying on innovation. According to the U.S. Supreme Court, the Constitution may potentially shield aspects of R&D, including the "sale, disclosure, and use" of commercial and scientific information, describing "laboratory results" as protected speech.[24] Scholarship has likewise suggested that innovation embodies the inventor's expressive choices found within the product's design, effectively linking innovation to speech.[25] And since innovation is "the single, most important component of long-term economic growth,"[26] the conclusion may follow that innovation depends on a vibrant and free marketplace of ideas.

However, antitrust cannot and should not promote every type of expression, as it would likely create friction with the U.S. Constitution. Since individuals must enjoy the ability to disfavor or outright reject repugnant, dangerous, and erroneous speech, the First Amendment guarantees the right to be free of "compelled speech." This principle has even inspired the courts to carve out exceptions from antitrust's scope such as the *Noerr-Pennington* doctrine. By implication, proposals to condemn platforms when they censor political, social, and expressive speech would create irreconcilable tension with the right to reject speech.

That said, competition generates commercial information while exclusionary conduct can suppress it. The U.S. Supreme Court explained the importance of commercial information in *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc*,[27] remarking that it "not only serves the economic interest of the speaker, but also assists consumers and furthers the societal interest in the fullest dissemination of information."[28] If the abridgement of commercial information causes individuals to select goods or services that they otherwise wouldn't — rendering the market qualitatively worse — consumer welfare has been eroded.

Courts and agencies have even seemed amenable to this theory. When certain companies refused to compete for online advertising space in *In re: 1-800 Contacts*, *Inc*,[29] the FTC asserted that the abridged commercial speech had the effect of driving up prices; "[w]hen information is withheld from consumers, it frustrates their ability to compare the prices and offerings of competitors."[30] Though the case turned on prices, it sheds light on the economic harms of suppressing commercial speech within antitrust litigation. Then, in 2019, the DOJ stated in a speech that protecting competition could foster free speech in digital markets, perhaps reflecting the market's quality.

Furthermore, companies involved in innovation may have incentives to exclude the ideas underlying a competitor's R&D. The issue is that the suppression of ideas would unlikely implicate the antitrust framework until the information transitions into an actual product or service, or at least the laboratory stage.

To test whether the exclusion of commercial speech eroded consumer welfare, antitrust courts should have the authority to question whether impeded commercial speech rendered "a market failure of ideas." This would entail scrutinizing whether consumers could have benefited from the commercial information but for the exclusionary behavior. Such a standard would remain true to antitrust's spirt where enforcement may only condemn acts harming the market rather than individual competitors. So, if a platform colludes with a marketing firm to suppress commercial speech, this should violate Section 1 as an anticompetitive effect. It could even produce a conventional anticompetitive effect if the lack of advertising led consumers to purchase a higher-priced product. Diminished quality would entail the manipulation of consumers away from their desired product.

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23 Tim Wu, The Master Switch: The Rise and Fall of Information Empires (2010).

24 *Sorrell v. IMS Health Inc.*, 131 S. Ct. 2653, 2659, 2666 (2011); *IMS Health Inc. v. Sorrell*, 630 F.3d 263, 274 (2d Cir. 2010).

25 Dan L. Burk, *Patenting Speech*, 79 Tex. L. Rev. 99, 100, 112–13 (2000) ("[M]y automobile, my running shoes, my table cutlery . . . is the embodiment of some artisan's or engineer's design… The designers think carefully about what they are composing. That careful thought, some of which may include very innovative ideas, is translated into embodiments of steel, cloth, or latex.").

26 Nathan Rosenberg, *Innovation and Economic Growth*, OECD (2004), https://www.oecd.org/cfe/tourism/34267902.pdf.

27 425 U.S. 748, 760 (1976).

28 *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of New York*, 447 U.S. 557, 561-62 (1980).

29 *In the Matter of 1-800 Contacts, Inc.*, a corporation, Respondent, 2018 WL 6078349, at *1 (2018).

30 *Id.* at *1.

Further, antitrust emphasizes systemic harms which makes it an ideal regime to foster commercial speech. There is a general requirement of market power, limiting enforcement to conduct where the market power of a firm prevented the market from self-correcting.[31] Theoretically, a firm lacking market power wouldn't be able to suppress speech if competitors could provide an alternative forum. The proposed test would thus replicate the Horizontal Merger Guidelines which inquires into whether the content could exist on an interchangeable forum.[32] Focusing on market power would also assuage concerns that enforcement might levy liability on small businesses. The implication is that a monopolist (or otherwise dominant firm) must dominate a market — such as Facebook, Google, or AT&T — to commit the proposed offense. Furthermore, if a prima facie case is made, the defendant could still survive scrutiny under the rule of reason test.

Examples of actionable harm would include the suppression of online advertising. At issue is that a company like Google could, as alleged, bolster its market share while eliminating market information, eroding consumer welfare. While this practice has drawn antitrust liability in Europe — where enforcers found Google "denied other companies the possibility to compete on the merits and to innovate — and consumers the benefits of competition"[33] — American enforcers have refused to follow Europe's lead.[34] Along the same lines, platforms have suppressed content about their competitors' goods to elevate their own products which, again, the FTC refused to challenge. This was the case despite the FTC remarking that, "[u]ndoubtedly, Google took aggressive actions to gain advantage over rival search providers."

Finally, using enforcement to promote commercial speech would conform to the First Amendment while also advancing antitrust's purpose. Note that the purpose of antitrust and the commercial speech doctrine is to foster market efficiency.[35] Further, courts have ruled that antitrust has the constitutional authority to abridge as well as compel forms of commercial speech such as warning and disclosure labels. As such, precedent suggests that enforcement can foster commercial speech in light of, and notwithstanding, the First Amendment.

V. CONCLUSION

This contribution explored the rise of rhetoric calling for antitrust to remedy threats to free speech. While antitrust's framework might underestimate the modern value of ideas and information, the argument is that antitrust must resist pursuing social goals such as speech. However, enforcement does have the authority to promote commercial speech, which would foster consumer welfare.

31 Market power is a required element of a Section 2. Under Section 1, a restraint of trade does not necessarily require market power. However, due to the difficult of proving a restraint harmed consumer welfare, the courts accept evidence that the defendant possessed market power to prove indirectly that the challenged restraint was anticompetitive.

32 U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines 23 (2010).

33 Harper Neidig, *EU Fines Google $1.7B over Advertising Agreements*, the Hill (Mar. 20, 2019, 7:41AM), https://thehill.com/policy/technology/434859-eu-fines-google-17-billion-over-advertising-agreements.

34 Press Release, *State of the Federal Trade Commission Regarding Google's Search Practices*, In the Matter of Google, Inc., FTC File 111-0163 (Jan. 3, 2013), available at https://www.ftc.gov/sites/default/files/documents/public_statements/statement-commission-regarding-googles-search-practices/130103brillgooglesearchstmt.pdf.

35 Ramsi A. Woodcock, *The Obsolescence of Advertising in the Information Age*, 127 Yale L.J. 2204 (2018).

DISRUPTORS AND DISCONTENTED INCUMBENTS: AN ANTITRUST STORY RETOLD

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I. INTRODUCTION: ROKU, DISRUPTION AND COMPETITION "FOR" THE MARKET

This short piece aims to shed light on current competition policy and regulatory discussion concerning the facts, the speed of government intervention, and its effects with regard to the entry of the Roku streaming service and its associated products in Mexico.

The development and adoption of new technologies and products are key to boosting economic growth. Economists have long quantified how such developments both enhance welfare and overall economic surplus for both consumers and innovators. Therefore, encouraging innovation, and, as a corollary, ensuring that conditions are ripe for the development of new products and services, while allowing innovators to recoup the necessary investments to take such initiatives, should be (and are) prominent among the goals of regulators. This is all the more so in the IT sector. Thus, it is not only necessary to remove *ex post* barriers to entry in a preemptive way that might impede such investments, it is also necessary to provide for timely intervention when the conduct of incumbents causes anticompetitive harm. Regulators must also allow competition to take place when there is no clarity as to whether there is any anticompetitive intent by an incumbent to begin with.

As all competition agencies note, their aim is to protect the process of competition itself and not to protect specific competitors. In markets where innovation and rapid changes take place to the benefit of consumers, regulators should therefore be vigilant to potential short- and long-term harms.

Bower and Christensen, for example, identify two different types of technological innovation.[2] The first type of innovation – so-called "incremental" innovation – improves the efficiency of existing technology, while continuing to meet the prevailing needs of users. In other words, it is limited to improving the characteristics of products that already exist, and that consumers already value. The second type of innovation – so-called "disruptive" innovation – offers new features not valued by mainstream customers of current technology but only by a niche. These new features perform worse along one or two dimensions but for this kind of consumers offer enough of the old features and other valuable characteristics that can be used in new markets or applications. This kind of innovation can be modified at accelerated rates. After some time, mainstream consumers may come to value these new features and decide to move or switch to the new technology.

In terms of competition policy, distinguishing between these categories (i.e. "incremental" and "disruptive" innovation) is important because, although both create benefits for society, incremental innovations are more likely to serve as a means to retain and entrench incumbent market power. Disruptive innovation, by contrast, not only involves the introduction of new products or manufacturing processes — for example the internal combustion engine or digital photography — but also the emergence of new business models. In any case, the main characteristic of disruptive innovation is that it drastically alters markets as opposed to merely facilitating incremental technological development. It involves radical changes, unforeseen by the market, can dramatically alter the market shares of incumbent firms, and even create entirely new markets.[3]

II. REACTIONS TO INNOVATIVE ENTRY

Based on Streel and Larouche, we have identified four different types of responses to entry by a disruptor, each with differing effects on welfare:

(i) *No response*: the disruptor, typically a small firm, may be able to carry out the innovation and grow on its own;

(ii) *Acquisition to grow*: the large firm may acquire the disruptor and use its financial means to speed up the innovation deployment;

(iii) *Foreclosure*: the mainstream firm may engage in anti-competitive conduct to block the innovation (e.g. foreclosing the access to the low-end customer or by limiting the interface between the old value network and the new value network); and

(iv) *Acquisition to forestall*: the mainstream firm may acquire the disruptor to eliminate the innovation.[4]

The first two behaviors increase consumer welfare by allowing the emergence of a new product. Additionally, in the first case, it is possible for there to be an increase in competitive pressure towards established economic agents, which may reduce prices. Regarding behavior (iii) and (iv), it is clear that they have the effect of reducing welfare, since they impede the development of innovation.

2 Bower, Joseph L. & Christensen, Clayton M., "Disruptive Technologies: Catching the Wave," Harvard Business Review, January 1, 1995. https://hbr.org/1995/01/disruptive-technologies-catching-the-wave.

3 See OECD. 2015. "Hearing on Disruptive Innovation," Directorate for Financial and Enterprise Affairs Competition Committee. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP(2015)3&docLanguage=En.

4 Streel, A. & Larouche, P., "Disruptive Innovation and Competition Policy Enforcement," OECD Working Paper DAF/COMP/GF(2015)7, available at https://papers.ssrn.com/abstract=2678890.

In terms of competition policy, behaviors (ii) and (iv) must therefore be appropriately analyzed in merger review processes, since both have the potential to maintain an incumbent's dominance, even if there is the potential to bring a product or service to a wider audience or set of consumers. In the context of disruptive innovation, the analysis of the effects of a merger is, of course, more complex, and may depend on the life cycle of the innovation in question, its pace and projected rate of adoption, and its expected uses and outcomes in practice.

III. THE COUNTERFACTUAL: IS TOTAL WELFARE ENHANCED?

The entrance of innovators in multisided digital platforms — for example, Roku — is characterized by the existence of indirect network externalities. That is, the greater the number of content generators, the greater the potential consumer audience for content. Vice versa, the greater the number of potential consumers, the greater the number of potential content generators.

Therefore, the analysis of welfare in these markets — and any potential harm due to the absence of effective competition — must take into account both sides, i.e. both (i) content generators, and (ii) consumers (or the "audience"). To reach a point of ignition, a digital platform requires a critical mass of customers and content generators on both sides, which allows it to realize these network externalities. Furthermore, in the presence of a platform incumbent with market power, the entry of a new competitor is usually inhibited by switching costs that would be incurred by both audiences and content generators alike.

Finally, the entry of new innovative companies reveals a dynamic aspect of competition. Specifically, innovative entry can result in market expansion, and enhanced product diversity for consumers. It is through the creation of a wide variety of better products derived from innovation that new markets are created, satisfying new consumer needs. This is the way in which dynamic competition translates into competition "for" the market. This is why barriers to entry that impede innovation not only stop society from attaining the so-called "production possibility frontier" (i.e. the curve that shows the maximum possible output combinations of two goods or services an economy can achieve when all resources are fully and efficiently employed), but also limit the potential expansion of the economy overall.[5]

IV. HARM TO COMPETITION: THE CASE OF ROKU IN MEXICO

Roku was spun out of Netflix in 2008 as a standalone company, to become a streaming platform that could connect "the entire TV ecosystem." Among the innovations it introduced were: the first app store for TV-based platforms; the first universal search utility for streaming TV services, the ability for users to search for content across multiple apps and to find the best price based on subscriptions and other options; the first streaming stick (i.e. a device not bigger than a thumb drive that plugged directly into a TV port and allowed streaming of television shows, movies, music, games and other content from the Internet), the first dedicated TV streaming operating system; and the lowest cost streaming player.[6]

But one key disruption brought about by Roku was the inclusion of a platform within its business model. The income from this platform is derived from revenue sharing arrangements between Roku and content providers, as well as income from advertising.

Roku's size as measured by the number of active accounts — those that stream content on Roku in the past 30 days — is equivalent to the third largest US pay TV company (over 30 million "households"). This is obviously a serious competitive challenge for existing pay TV companies, even though Roku has licensed its operating system, software, hardware, and platform to operators as a means to retain and expand existing pay TV customer bases. This strategy has been successful in appeasing incumbents in the UK, Germany, Italy, the Philippines, and Australia. However, in Mexico the outcome was different.

Roku launched in Mexico in 2015, and experienced rapid market adoption. It secured rights to over 4,000 content channel offerings, and its hardware was granted shelf space in every major retailer in Mexico. In 2017, however, its hardware sales were blocked by a court order arising from a complaint from the incumbent pay TV provider, which asserted allegations of copyright infringement, claiming that Roku was responsible for the actions of third parties that utilized its platform to engage in video piracy.

It took 16 months for Roku to get a Federal appellate court order to lift the first instance court injunction which prohibited the sale of its hardware in major physical and online outlets in Mexico. Hence, Mexico became the exception among the 23 countries in which Roku operated. Only in Mexico had a court blocked the sale of Roku hardware products for more than a year. The overall background and circumstances of this case did not pass unnoticed in the press or public opinion. Several prominent personalities declared their dissatisfaction.[7]

5 Motta, Massimo, Competition Policy: Theory and Practice. Cambridge University Press (2004).

6 See https://ir.roku.com/node/6671/html.

7 See https://busquedas.gruporeforma.com/reforma/Libre/VisorNota.aspx?id=6805330%7CInfodexTextos&md5=ace7bdb6a9fc716d3edfeac64560b087&fbclid=IwAR3yOc_7MuOj8bw5737__OPoeQibAj_TWfnyhagG5rhNISaVCR80UWsMK78, and https://luisgyg.com/a-quien-beneficia-no-roku-en-mexico/.

V. ON THE MERITS OF THE CASE

A core argument in Cablevision's (i.e. the incumbent's) complaint was that Roku was enabling piracy. It is not clear that this complaint was meritorious: Roku uses anti-piracy tools to reduce the potential for violation of copyright. This was not the first time that the incumbent tried to prevent the entry of a disruptor that threatened its position in the pay TV market. The Federal Telecommunications Institute ("IFT") had previously investigated the incumbent's refusal to license its channels to an online video-on-demand provider on the grounds that it was not obliged to license its channels to companies that did not have a concession to provide Pay TV services.[8]

The main allegation presented on behalf of Roku by the affected retailers was that the incumbent was engaging in the use and abuse of IP regulation and the legal system in general to bar a competitor from introducing a new product. This was a space in which the incumbent ISP (Cablevision itself) did in fact compete (i.e. Cablevision is a vertically integrated business encompassing the production and distribution of content, and was in fact developing its own digital streaming business). Cablevision used its dominant position in the restricted pay TV and local cable businesses to pursue sham litigation to foreclose the growth of a new disruptive player. It underscored the lack of preparedness of the Mexican legal system to detect and halt this type of foreclosure and to rapidly label it a competition matter.

Preventing anticompetitive harm in this nascent industry would have required faster action, as three recent reports on digital markets emphasize. Unfortunately, the situation was allowed to linger for 16 months.

The other problem Roku faced was the unwillingness of antitrust authorities to address the category of cases which lie at the intersection of antitrust rules and sham litigation or the opportunistic use of regulatory rules. The key question that emerges from Roku's experience is how to articulate workable legal tests to identify whether an agency faces an antitrust problem or not. This was always an inherently difficult question, but in this case the problem was compounded by the fact that, since 2014, there are two potentially competent regulators. Specifically, depending on the facts of a given case, either the Federal Economic Competition Commission ("COFECE") or the IFT could potentially have jurisdiction.

VI. INTERNATIONAL EXPERIENCE

The European and U.S. legal systems have developed doctrine and case law concerning sham or vexatious litigation. Moreover, competition authorities and courts in the U.S. and Europe have developed relevant legal standards and recognized theories of harm based on effects, and have set out categories of empirical evidence that can be used to support claims of anticompetitive behavior and abuse of legal proceedings.

In contrast to the European and U.S. legal systems, Mexico does not have a developed doctrine concerning sham or vexatious litigation, either in legislation, or in the practices of its antitrust agencies and courts. The only rules resembling principles concerning sham or vexatious litigation in the Mexican legal system are civil procedural rules that forbid the submission of meritless or groundless actions, and the generic civil law rules governing damages for the abuse of legal rights. These rules, along with the general prohibition set forth under Article 56-XI of the Federal Economic Competition Law ("LFCE"), which forbids increasing costs, altering production processes, or reducing the demand of an economic agent, allow Mexican authorities to determine the existence of and punish sham or vexatious litigation.

On the other hand, the Mexican federal courts have been developing jurisprudence that would preempt and fine the instigation of frivolous or abusive litigation. The jurisprudence is associated with temerity and bad faith litigation as concepts needed in order to allocate legal costs,[9] procedural probity,[10] and clearly malicious or improper submissions and resources.[11] Mexico still has a long way to catch up to international experience.

8 Case E-IFT/UC/DGIPM/PMR/0005/2013 available on: http://www.ift.org.mx/sites/default/files/conocenos/pleno/sesiones/acuerdoliga/versionpublicapift230915417.pdf.

9. Thesis ID number 240981. https://sjf.scjn.gob.mx/SJFSist/Paginas/DetalleGeneralV2.aspx?Epoca=1e3e10000000000&Apendice=1000000000000&Expresion=240981&Dominio=Rubro,Texto&TA_TJ=2&Orden=1&Clase=DetalleTesisBL&NumTE=0&Epp=20&Desde=-100&Hasta=-100&Index=0&InstanciasSeleccionadas=6,1,2,50,7&ID=240981&Hit=1&IDs=240981&tipoTesis=&Semanario=0&tabla=&Referencia=&Tema=.

10 Thesis ID number 2018319. https://sjf.scjn.gob.mx/SJFSist/Paginas/DetalleGeneralV2.aspx?Epoca=1e3e10000000000&Apendice=1000000000000&Expresion=2018319&Dominio=Rubro,Texto&TA_TJ=2&Orden=1&Clase=DetalleTesisBL&NumTE=1&Epp=20&Desde=-100&Hasta=-100&Index=0&InstanciasSeleccionadas=6,1,2,50,7&ID=2018319&Hit=1&IDs=2018319&tipoTesis=&Semanario=0&tabla=&Referencia=&Tema=.

11 Thesis ID number 188538. https://sjf.scjn.gob.mx/SJFSist/Paginas/DetalleGeneralV2.aspx?Epoca=1e3e10000000000&Apendice=1000000000000&Expresion=188538&Dominio=Rubro,Texto&TA_TJ=2&Orden=1&Clase=DetalleTesisBL&NumTE=1&Epp=20&Desde=-100&Hasta=-100&Index=0&InstanciasSeleccionadas=6,1,2,50,7&ID=188538&Hit=1&IDs=188538&tipoTesis=&Semanario=0&tabla=&Referencia=&Tema=.

The abuse of administrative and judicial proceedings is not unknown in Mexican legal practice. Even in the absence of a specific sham litigation doctrine, there are certain rules, principles and case law that aim to prevent or restrain the use of public bodies for illegitimate purposes, such as delaying the resolution of a proceeding, or causing damage or inconvenience to counterparties through the abuse of a legal right. In this context, it seems that Mexican agencies and courts have not yet seized the opportunity to employ the notion of anticompetitive conduct consisting of hindering the competitive process established under Article 56-XI of the LFCE, to find the existence of conduct consisting of sham litigation to inhibit the entry of disruptors. To do so, it would be necessary to move away from traditional form-based competition rules, and to employ an effects-based analysis.

An effects analysis would focus on consumer harm caused by economic agents. Specifically, any such investigation would need to be carried out, on a case by case basis, using reasonable and consistent economic analysis, backed up by a study of the relevant incentives, solid data and evidence, and a robust understanding of the dynamics of the market. Such a doctrine could be introduced, based on a systematic, comprehensive interpretation of the relevant Mexican rules, backed up with a solid theoretical backbone, and good will on behalf of the authorities.

VII. CONCLUSIONS AND RECOMMENDATIONS

Disruption is not a new phenomenon, and competition both "in" and "for" various markets has occurred over time. So too have foreclosure strategies against disruptors by various incumbents. But what has changed substantially in recent times is the speed at which these changes occur. Because competition "for" the market involves incipient (or not yet fully formed) markets, a considered analysis requires a long view. The correct analysis would look not only at the immediate effects of given conduct, but would also consider dynamic efficiencies, long run costs and benefits, and long-term consumer welfare. In other words, the analysis would not be limited to immediate price decreases and benefits to consumers, but would also take into account the long-term consequences of not having an innovative or disruptive product or service at an earlier time — or alternatively, of hindering the growth of an efficient and dynamic competitor by overprotecting competitors. In short, the analysis would look to whether consumer surplus has been forgone.

Given that it is difficult to identify whether a specific innovation is disruptive or not, competition agencies should carefully assess conduct relating to companies that provide innovative services using a novel business model. This does not necessarily imply the creation of new analytical tools. Rather, it implies a different use of the existing tools in a manner that would protect and foster the development of new markets. For dynamic and innovative markets, the essential role of competition policy should be to police markets in such a way that dynamic efficiencies and economic growth can be realized. Authorities should take a long-term view. The objective — front and center — when deciding to intervene or not in a given case, should be to ensure that new players can participate, under equal conditions, in actual or potential markets.

RIDESHARING PLATFORMS AND THE LONG TAIL OF MOBILITY

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I. THE IMPACTS OF DIGITAL TECHNOLOGY ON RIDESHARING

A handful of tech companies have revolutionized transportation: today many urbanites who grew up considering hailing a cab a luxury order one within minutes of pressing a button on their smartphones. Indeed, these companies – Uber being the most prominent – became known as "ridesharing" companies, and have disrupted the traditional taxi monopolies by offering new technology and enabling free entry by drivers.

Uber generated $6.8 billion in consumer surplus in 2015 in the U.S. alone, according to a calculation by Peter Cohen, Robert Hahn, Jonathan Hall, Steven Levitt, and Robert Metcalfe, using data based on Uber's "surge" pricing algorithm.[3] This figure captures only short-term surplus; it neglects changes in car ownership habits and usage, which are substantial: Uber's entry into Santiago, Chile, has significantly decreased the number of drunk-driving fatal accidents and fatalities, mainly during nighttime.[4] On the other hand, the convenience offered by these platforms has also led to an increase in city traffic congestion and an overall increase in the total number of motor vehicle fatalities.[5]

So far, Uber has not fully monetized the value it creates; it has never been profitable, and the ride-hailing giant reported losing a whopping $5.2 billion in the third quarter of 2019. Lyft, Uber's main competitor, posted a loss of $644 million.[6] This isn't a problem unique to ride-hailing services in the U.S.: none of the major ridesharing companies around the world – Didi in China, Ola in India, Grab in Southeast Asia – are profitable. Investors have so far eagerly funded this growth-at-any-price strategy, hoping to profit once network effects are in full swing. However, this strategy rests on the ability to expand the driver side of the market as well, which is challenging. On May 8, 2019, ride-hail drivers in cities across the U.S. protested their unfair pay and poor working conditions. The continued success, and profitability, of the ridesharing platforms rests on splitting the surplus that they generate in a way that keeps all parties involved on-board – drivers might be the bottleneck.[7]

Uber, Lyft, and the like are frequently making the first pages of the press, but ridesharing is also transforming another market - city-to-city transportation. Here, with 70 million active users, the most prominent company is BlaBlaCar, it creates a dense network of cheap and flexible rides, which compete with trains and buses. The underlying technology is quite similar, namely online platforms that allow passengers to find drivers, either through search or algorithmic matching, yet the economics of intercity ridesharing are distinct. Probably the most striking feature of BlablaCar is the driver side of the market. Not only their sheer number, eight million active drivers (Uber has roughly three million drivers), raises attention, but also the fact that they are generally non-professional drivers, albeit many of them are frequent users. As a consequence, BlaBlaCar's challenge to incentivize participation of drivers, to guarantee further growth, is distinct to those of short-distance ride-hailing services.

II. INTERCITY RIDESHARING: A DIFFERENT LANDSCAPE

Online classified ads websites, like Craigslist in the U.S., originally brought ridesharing online: non-professional drivers (often university students) trying to fill up their cars on longer trips. However, when a trip lasts for several hours, finding a ride fast matters less than having ample information about the driver or the passenger. Such information ensures an effective matching process and a safe and enjoyable trip. Craigslist offered neither instantaneity nor any personal verification, so new companies emerged and took over the market.

In France, BlaBlaCar was founded in 2004 by Frederic Mazella and Nicolas Brusson: Mazella could not find a way to travel back home from Paris right before Christmas, as all trains were fully booked, while at the same time he noticed that most of the cars on the highway did not have a passenger. Thus, the idea of filling up the cars occurred to him. In 2010, the startup raised $1.5 million in series A funding. By 2019, it had raised $400 million over a total of 6 funding rounds. Today it is the largest intercity ridesharing platform: it operates in 22 countries, Russia being its largest market currently, and had a user base of 70 million as of 2019 (including both drivers and passengers).

3 Cohen et al., "Using Big Data To Estimate Consumer Surplus: The Case Of Uber," available at https://www.nber.org/papers/w22627.pdf.

4 Lagos et al., "Gender-Specific Benefits from Ride-Hailing Apps: Evidence from Uber's Entry in Chile," available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3370411.

5 John Barios, Yael Hochberg & Livia Hanyi Yi show a 3.5 percent spike in fatalities following the entry of ridesharing to the city, which across the U.S. amounts to 987 extra deaths each year.

6 See https://www.theverge.com/2019/8/8/20793793/uber-5-billion-quarter-loss-profit-lyft-traffic-2019.

7 See https://www.theverge.com/2019/5/8/18537194/uber-driver-strike-ipo-public-relations-nyc.

In the U.S., Logan Green and John Zimmer, computer scientists from the University of California Santa Barbara, created Zimride in 2007. The initial idea was to add a layer of trust to Craigslist ads by providing drivers and passengers with personal information about their potential travel companions and equipping them with credible reputation signals. Despite similar starting points, the two companies have little in common today: Zimride pivoted into the ride-hailing service Lyft, and the intercity part of the business was bought by Entreprise rent-a-car, which operates it as a closed carpooling service for universities and companies. Meanwhile, BlaBlaCar remains a two-sided platform for longer trips, offered by non-professional drivers. That seems to have been working well, as the company reported profits in 2018 (for the first time since its founding date).

Despite being pooled with Uber and Lyft under the umbrella term "ridesharing," the economics of intercity ridesharing are different from intra-city ride-hailing. The two markets are geographically distinct: intercity ridesharing serves a wider, but sparser transport network than intra-city ride-hailing – with more destinations and less frequent connections between them. In France, for instance, Uber was operating in 12 cities as of January 2018. In contrast, in most days of January 2018, rides were offered on Blablacar from Paris to more than 130 out of the largest 140 cities in France.[8] In fact, only 15 percent of trips on BlaBlaCar cover routes between major cities. Instead, they connect cities and towns over underserved axes: while most car transport services take place within urban agglomerations or between major urban areas, platform ridesharing taps into the long tail of mobility, i.e. routes where the fixed cost of running trains or bus lines often do not make them economically efficient. By 2020, more than 1700 towns in France have created a designated ridesharing parking and waiting area, and a large share of these towns do not have a train station.

The market structure is different as well: ride-hailing platforms compete with local taxi companies and metropolitan public transport. Intercity ride-sharing platforms compete instead with buses, trains, and flights, and the competition is very different from one route to the next. From the perspective of a passenger searching for affordable and convenient transportation from Paris to Lyon, Blablacar competes with the railways (SNCF), flights, and buses (Flixbus, TransDev, etc.) By contrast, on a direct route from Limoges to Lyon, BlaBaCar operates as a monopoly: these two cities are not generally connected by a direct bus or train, but may be connected by a driver on BlaBlaCar. Both markets are concentrated: Uber has the largest market share both in the U.S. and Europe but competes with Lyft in the U.S. and other local competitors in European cities. BlaBlaCar is the largest global platform for intercity travel, and through a series of horizontal mergers it has expanded to new geographical markets. Competitors either lag severely behind in market shares (Klaxit in France, Tripda – closed in 2016), or are geographically distinct (Zimride, Kangaride, Poparide, Amigo Express in the U.S. and Canada).

The business model is also different: Uber, Lyft and other ride-hailing companies rely on a software application connecting passengers with independent contractors that provide rental of capital (their car), but primarily labor (their time), much like a taxi driver. Intercity travel platforms connect passengers with drivers who are already making the trip and are willing to take passengers with them. The physical and time cost of the trip is already sunk for the driver, and the platform need not compensate them for it or need to do so to a lesser degree because the driver has a private benefit from the trip. In economic terms, intercity travel platforms offer a marketplace for the rental of underutilized assets (the empty passenger seats), while inner-city travel platforms are based on the rental of labor of the drivers.

Both Uber and BlaBlaCar raised massive amounts of funding before being profitable (Uber still isn't). The rationale of investors was to fund the platforms at a loss until they reached the critical mass and network effects needed to render them profitable. There is a subtle difference in the underlying economies of scale between the two models: a larger number of available drivers on an inner-city ride-hailing platform reduces the wait time faced by passengers. By contrast, passengers on an intercity travel platform are generally less time-constrained: they are typically looking for rides to distant locations in the near future and are genuinely interested in drivers' characteristics like age, gender, or music preferences. Thus, a larger number of available (signed up) drivers increases the chances of a passenger finding the convenient start, endpoint, and time slot for their trip and a driver who is likely to be a pleasant travel companion. Furthermore, drivers on an intercity travel platform like BlaBlaCar are differentiated not only by destinations and their individual characteristics but also vary in terms of the frequency in which they use the platform. As a consequence, on the platform with unprofessional and occasional drivers, a new driver adds value in a distinct way: this new driver could potentially cover a new route, attracting passengers to the platform whose demand was previously completely unmet. The network effects of an intercity travel platform are thus potentially stronger than those of a ride-hailing app within a city.

8 Based on sampling data of Lambin & Palikot (2019), "The impact of online reputation on ethnic discrimination," available at https://emilpalikot.files.wordpress.com/2019/12/reputation-and-entry_lambin_palikot_1412.pdf – lower bound.

The defining feature of BlaBlaCar is the length of a typical trip. A trip booked through the platform often involves hours-long interaction with co-travelers, exposing its users to people outside of their social circle. For the platform, it is, therefore, critical to ensure by design a necessary level of trust. Passengers surveyed for a report published by BlaBlaCar and NYU professor Arun Sundararajan report that the level of trust they have in the driver and other passengers is substantially higher than in their colleagues or neighbors, and almost as high as in their friends. Around half of the respondents say that using BlaBlaCar exposes them to more diverse people than their social circles, and it makes them more open to other cultures. The report also suggests that the experience of sharing a ride using BlaBlaCar encourages its users to engage in other online/collaborative activities: they are over 2.5 times more likely to start using peer-to-peer car rentals and 1.5 times more likely to rent a house on a peer-to-peer rental platform than before the first trip. Furthermore, they are almost twice as likely to invest in crowdfunding and 1.3 times more likely to buy or sell used goods.[9]

III. DRIVERS: PROFESSIONAL, REGULAR, OCCASIONAL

Both Uber and BlaBlaCar rely on a matching algorithm and a customer-facing software interface. BlaBlaCar lets passengers search through drivers going a similar route, whereas Uber connects passengers with self-employed contractors who lease their assets (time and car). This difference in the matching algorithm showcases the key distinction between the two markets: in the inter-city ridesharing service, passengers want to learn about the driver to ensure a pleasant ride; in this sense, it is a matching market. In contrast, passengers hailing a short ride in the city care for timely and flexible service, which would be hard to ensure with "non-professional" drivers. As a result, ride-hailing services are generally provided by professional drivers; this "professionalization" of the drivers' side of the market enables the platform to balance the supply and demand by incentivizing drivers to enter the market when demand is high. The professionalization of the workforce is part of a larger trend within e-commerce and sharing economy platforms: the share of professional sellers on eBay has been increasing, and it has affected the sales mechanism, whereby posted prices have replaced auctions to a large extent.[10]

The intercity ridesharing companies have mostly stayed clear from this trend: on the profile of drivers, BlaBlaCar indicates that they are "not a professional driver." The platform also provides pricing suggestions to the drivers based only on the distance covered and aimed at recouping the cost of the ride. Steering away from self-employed professional drivers won BlaBlaCar two things: it had a more credible case to stay out of the debate about regulating its workforce. Second, it reduced the drivers' compensation: in general, the driver is compensated neither for their time nor for capital, since most of them are making the trip regardless of the platform.

A "non-professional" workforce cannot be easily incentivized to provide service on demand and consequently becomes the bottleneck for a ridesharing platform's business. Two observations suggest this: first, adoption – French survey data from 2015 indicates there is large adoption potential for intercity ridesharing: 70 percent of employed French residents commute to work by car, but less than 10 percent of households commuting by car to work offer to ride-share on a regular basis.[11] In 2019, the average occupancy rate of cars on French highways was of 1.6 during weekdays, and 2 during weekends.[12] From the firms' perspective, this is untapped growth (or entry) potential; from a social welfare perspective, there is still room for driver and passenger surplus (and possibly additional welfare gains such as decreased congestion and CO2 reduction emissions from car transport).

The second observation is the high rate of drivers who try the platform once, only to leave it after their first experience. On BlaBlaCar, nearly 60 percent of first-time drivers who posted a listing during the last quarter of 2017 did not offer any new listing in 2018. While the reputation system makes an online marketplace for strangers renting or leasing passenger seats more efficient (by, for example, disciplining behavior of buyers and sellers or promoting high-quality sellers), it also creates a hindrance for occasional drivers or drivers who have just signed up. In new research,[13] we show that passengers are sensitive to changes in reputation, both in terms of the average rating (on BlaBlaCar a rating is a number of stars from 1 to 5, left by previous passengers), but also the number of ratings. Moreover, the impact of the number of past reviews matters significantly more for passengers than the average review, or whether the driver is better than the average driver. New or occasional drivers, therefore, find themselves in a disadvantageous position when competing against experienced drivers.

9 Report by BlaBlaCar, available at https://blog.blablacar.com/wp-content/uploads/2018/01/BlaBlaCar-Bringing-People-Closer.pdf.

10 Einav, Farronato, Levin & Sundaresan, "Auctions versus Posted Prices in Online Markets," Journal of Political Economy, 2018.

11 Bolusset & Rafraf "Sept salariés sur dix vont travailler en voiture," INSEE FOCUS, No. 143 February 2019; and CGDD/SOeS, "Enquête sur les pratiques environnementales des ménages," 2016.

12 Association des Sociétés Françaises d'Autoroutes, Rapport Chiffres-Clés 2019.

13 Abi-Rafeh & Palikot, "Price is Right! Information and dynamics in online marketplaces," draft available upon request.

IV. RETENTION OF THE LONG TAIL OF TRANSPORT

Frequent exits by new sellers is not a problem unique to ridesharing platforms, but a more systematic challenge in the sharing economy at large. A study by JP Morgan Chase Institute shows that 52 percent of people working for labor platforms quit within a year, and 56 percent of those on capital platforms vacate in the first 12 months.

On a sharing economy platform where the service is provided by "non-professional" sellers, the percentage of sellers who use the platform again in a unit of time, seller retention rate, is organically less than 100 percent: in the context of ridesharing, households differ in their rates of car usage and ownership, and thus in their potential use of the platform (as drivers). For instance, some households do not own cars, and are then only likely to sell seats on a ridesharing platform very occasionally (on holidays with a rental car if ever); whereas others own cars and regularly commute to work in a nearby town. However, a low retention rate may also be the sign of unsatisfactory outcomes of new drivers: for instance, new sellers can find it hard to make a sale without any reputation signal, and decide not to post any other listings. A ridesharing platform that relies mainly on non-professional drivers has to ensure that entrant or occasional drivers find it worthwhile to return to the platform and offer their subsequent rides as listings. If it fails in doing so, the observed driver retention rate decreases below the organic rate, dampening the network effects as new drivers (who potentially cover underserved routes) do not stay on the platform, leaving unmet demand in the long tail.

Ridesharing companies (and BlaBlaCar in particular) invest significant resources in incentivizing drivers to offer the service more frequently in particular in times of high demand, recognizing it is a significant bottleneck. These incentives can be either informational or in-kind (cash) subsidies and can either be incentives for first-time entrants, or incentives for recent entrants to use the platform more often. Informational subsidies take the form of higher positions in search results for drivers who are offering their first listing, or who have not yet accumulated enough reviews to attract passengers themselves. The presence of these subsidies is hard to directly establish, as most platforms run a proprietary ranking algorithm, or match passengers with drivers directly. BlaBlaCar, however, up to December 2017, showed listings for a route search ranked by the time of day or alternatively price. Starting January 2018, the platform created a promoted box where it shows specific promoted listings for a given route, some of them being new drivers. Other platforms engage in similar practices as well; for example, Airbnb mentions in its terms of service that new sellers also receive a search result boost without further details on the specifics.

Direct subsidies for entry take the form of in-kind rewards for successful first listings: for instance, BlaBlaCar offers an in-kind (gas) reward of 15 euros for drivers who sign up and get at least one booking of their first listing. Direct subsidies can also aim at encouraging repeated use of the platform: BlaBlaCar offers negotiated rates for drivers that have completed a certain number of rides on the platform. On the other hand, BlaBlaCar does not set a market price and does not use surge pricing to incentivize drivers to enter the market when there is an undersupply of seats.

Subsidies for entrants may facilitate ride-sharing platforms to service the long-tail of transport demand by accommodating low-frequency car drivers, without resorting to contracting with self-employed professional drivers. These incentives are costly: like all subsidies to entrants, they distort the market equilibrium, on and off the platform. On the platform, informational subsidies reduce the incentives of new sellers to offer low introductory prices, and direct subsidies for entry can lure in the least "efficient" drivers, i.e. those whose cost of having a passenger for a long trip may be the highest. Subsidies can also backfire. Enticing drivers by guaranteeing a certain level of income was a large part of Uber's initial marketing plan: drivers were offered higher rates than what taxi companies where offering. Uber is currently facing legal trouble for allegedly misrepresenting the benefits to drivers on the platform, many of whom contracted loans and bought cars counting on a steady stream of income from the company that later on lowered its payments to drivers.[14] However, smaller direct or informational subsidies to a long-tail of drivers may prove economically sound.

14 Horan, Hubert, Will the Growth of Uber Increase Economic Welfare? *Transportation Law Journal*, 2017, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2933177.

V. CONCLUDING THOUGHTS

The entry of tech companies in the market of city-to-city ridesharing has increased occupancy of underutilized cars, allowing people to travel more, and spurring new social interactions. The size of this transportation sector begs a closer look at the broader implications of the platform technology on the market structure.

Intercity ridesharing increases the mobility of passengers: 45 percent of surveyed BlaBlaCar users reported that the availability of a ride-sharing platform allowed them to travel more often on weekend and holiday trips. As we argue in section III, on many routes, especially between smaller cities, BlaBlaCar operates as a virtual monopoly: This grants the platform a special status on these routes, and it is critical that the platform does not abuse it. So far, the growth of BlaBlaCar has been, to a substantial degree, driven by acquisitions, slowly eliminating potential competition. If competition from buses and trains on larger routes disciplines a ride-sharing monopolist on these routes, the concentration of ride-sharing can reduce competition on smaller routes with fewer alternatives. The sector has also recently seen a new form of consolidation with BlaBlaCar now owning OuiCar, a large bus company in Europe.

In ongoing research, we show that individual reputation is valuable for drivers on BlaBlaCar: they can command a higher price for their seats and attract passengers. The necessity of building up a reputation from scratch on an alternative platform might constitute a switching cost for drivers and, as a consequence, an entry barrier for a potential competitor service. As the company expands into inner-city daily commute with a new platform, BlaBlaLines, it transfers the drivers' reputation from the inter-city platform to the new one, thus creating potential barriers-to-entry in this submarket as well. An architecture that allows the transferability of driver reputation data across competing platforms would be a step towards keeping the threat of competitive entry credible.

Ensuring efficient functioning of ridesharing markets is very important because the change they bring is likely to accelerate. In fact, the combination of autonomous cars and congestion pricing could well make ridesharing the standard mode of transportation of the near future. BlaBlaCar might be the best laboratory we have to understand its implications.

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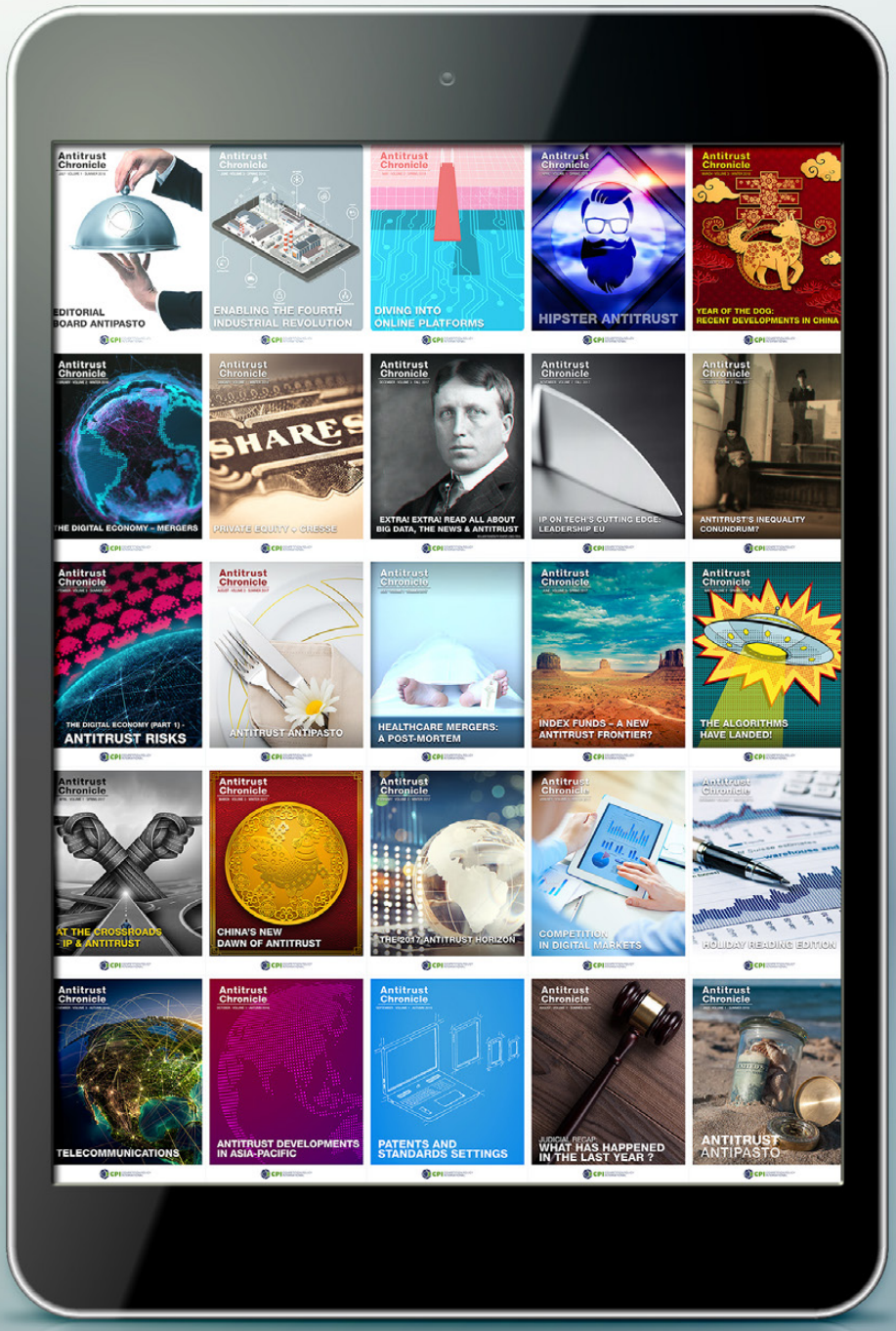


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