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.

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.

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.

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.

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.

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.

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

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.

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.

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

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.

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

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

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.

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