BUSINESS MODELS, INCENTIVES, AND THEORIES OF HARM





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I. INTRODUCTION

The temperature of the debate on "what to do about tech giants" has risen in the U.S. by several notches following recent House hearings, leading to expansive requests for information to Google, Facebook, Amazon, and Apple; as well as news that a large collective of individual U.S. States are pursuing major investigations in their own right (the federal agencies are also reportedly investigating Google, Facebook, and Amazon, though, given their record, this has not been met with much excitement). Meanwhile the mainstream traditional U.S. "antitrust elite" remains skeptical about the potential for more antitrust enforcement ("the law needs rewriting," "the courts do not have the tools," "you cannot solve all things with antitrust") and is holding on to the original *Microsoft* case² as the pinnacle of achievement (twenty years ago, but nothing has happened since). There is an incipient discussion of regulation of conduct in digital markets, but it is very nascent. Europe is further along, as it has been less reluctant to pursue actual cases (as well as lead in the production of reports and recommendations for how to deal with digital) - both at the European Commission ("EC") and individual Member State levels. European regulators seem less shackled than their U.S. counterparts, as there is general recognition that - as well as thinking about "smart ex ante regulation" - we can and should be more creative in our use of antitrust tools. Unprecedented phenomena require unprecedented thinking.

This paper argues that while regulation and codes of conduct have a role to play (essentially in my view in the use of data, and in defining rules for "fair" terms and conditions when dealing with counterparties in a position of economic dependence), we should use the antitrust toolkit more expansively and aggressively, to pursue a wider catalogue of potential harms, including looking at concerns on a preliminary basis (and where the conduct may undermine in the short term the survival of small dependent counterparties, being willing to use interim measures). It is not all about ex ante regulation, or "breaking them up."

The economic models we use need to be extended to the digital environment and reformulated in the language of platforms, but work is underway (e.g. extending models of exclusionary tying to "free" environments with a "zero price constraint" in Android3) and should eventually provide a body of work to be relied upon when articulating and testing theories of harm.

2 United States v. Microsoft, 253 F.3d 34, D.C. Circuit, 1998.

3 See Etro, F. & Caffarra, C., "On the economics of the Android case," European Competition Journal 2018. See also Choi, J.P., & Jeon, D.S, "A leverage theory of tying in two-sided markets," 2016. Mimeo. De Cornière, A., & Taylor, G., "Upstream Bundling and Leverage of Market Power," 2017. Mimeo. Toulouse School of Economics 2018.

Further, in developing theories of harm that "fit" the conduct, we need to be clear about how different "digital platforms" differ profoundly in terms of certain key characteristics. There is no such thing as a "problem with the GAFAMs," "the FANGs," "the FAAMGs," or whichever collective acronym one might want to use: differences in business models and monetization strategies matter to the priors we want to investigate. Further, business models are evolving and this may modify incentives as time goes by — so that conduct may become problematic even when initial incentives were more benign. We need to understand this in order to craft theories of harm that make sense.

II. BUSINESS MODELS "MAP INTO" INCENTIVES FOR CONDUCT

"Digital platforms" (GAFAM, FANG, etc.) are a very heterogeneous collection of business models, encompassing internet businesses offering free services to users and monetizing them either only (or primarily) through the sale of advertising (most obviously Google and Facebook); "transaction" or "match making" businesses that intermediate between two or more sides and "take a cut" when a deal is struck (e.g. Uber, Deliveroo); open marketplaces where sellers can find customers, and "take a cut" again when a transaction is struck (e.g. online retailing like Amazon, eBay); and "true platforms" – like cloud businesses and app stores – which provide a service on top of which other businesses can be built, and monetize in different ways. Business models and monetization strategies fundamentally matter for understanding incentives and conduct. They are not a sufficient criterion to identify concerns in an antitrust context, but help to rationalize how a particular form of conduct needs to be assessed. None of this is intended to provide a taxonomy of "good/bad" behavior, but "where the money is made" drives the questions we need to ask, and the direction in which economic analysis needs to be developed.

A. Advertising-funded Models

The "zero price" model on the user side — which is key to developing a user base rapidly and relies almost exclusively on advertising for monetization — has multiple potentially problematic implications (several of which were examined and confirmed by recent antitrust investigations across Europe):

- It can introduce a barrier to entry: it is just not possible in a zero-price environment for a new entrant to compete at a lower price point while making the necessary investments and going through the required "learning by doing" to compete on quality. The loss of price as a lever of competition can increase the persistence of market power;
- It creates incentives to hoard user data, exploit data without consent, lower privacy standards and preserve privileged access to data through walled gardens and practices that provide limited/asymmetric access to complementary businesses which contributed to generating the data;
- It makes it important to avoid the user base leaking away to businesses which are currently relying on being "found" (i.e. are complements) but could in time challenge their position and become substitutes.
- It can create strong drivers to develop and exploit power in the sale of digital advertising. To the extent that monetization indeed takes place through advertising, there are powerful incentives to gain control of progressive stages of the ad-tech stack controlling each level and foreclosing rivals while extracting all the value as intermediaries from the supply and demand side.
- It can produce incentives to colonize adjacent markets and pre-empt the growth of rivals in those markets (for instance, "verticals" in search) which could then expand into a challenge in the primary market (for instance, general search).
- And as suppliers become more dependent on the "aggregator" to access users, the latter can also impose increasingly controversial / exploitative terms designed to favor itself.

While this does not imply foregone conclusions, it does mean that super-dominant internet firms which monetize essentially through advertising ("super aggregators") have strong incentives to behave in ways that are potentially problematic for all these reasons.

B. "Platform" Models

Not all internet businesses are "platforms." Proper "platforms" essentially provide environments on which third parties can build their business and expand. They monetize in ways other than advertising (a price for service or a commission on sales). Platform power tends to come from controlling the economics of the ecosystems, and in various cases intermediating the relationship between suppliers on the platform, and their customers.

At one end one could place Microsoft's Azure cloud business, which is a "real" platform: it monetizes by charging enterprise users for its services, and has no known economies of scope in data, because it is not the controller of the data it processes. Indeed, data security and control are key to the business model, as the cloud provider is constrained in its access and use of the data as a condition of business by the customer.

Apple's App Store is also a platform, with Apple providing intermediation between app developers and users. To the extent that Apple is a hardware provider, making money mostly on hardware, it benefits from attractive complements to that hardware (apps) that make the device more appealing to users. Certain developers have argued for some time that the "commission" Apple charges in some cases (e.g. for digital subscriptions entered into through the App Store) is "too high" (though Apple has defended this as a legitimate way to recoup its significant investment in the store through a "finder's fee" for iPhone customers with high willingness to pay). Questions have started to arise (e.g. with the recent Spotify complaint) around whether Apple's incentives will change in future as it may transition in part away from a hardware seller with a complementary app store, towards more of a service business in its own right, developing its own competing services in areas such as music, payments, TV, gaming, and others.

The business motivation for expanding Apple's own presence in services may well be an effort to differentiate its ecosystem in an increasingly commoditized world in which its App Store is no longer unique (but challenged by Google Play and equivalents like WeChat in China, for instance). However, a material growth in Apple's own presence in services could make more plausible the question of whether the benefit to Apple of having a diverse offering with third-party apps that attract users would be mitigated by the opportunity to favor its own services in the same space—. If device growth were indeed to slow down, and monetization were to occur much more significantly in the future through services rather than devices, then one can see how the question could plausibly be raised about whether Apple would have incentives to profitably replace third-party apps in years ahead (this would be akin to a "dynamic leveraging" scenario, in which a platform may want to exclude complements which it perceives as substitutes to its services in the future). How plausible these stories would be will really depend on how demand and technology unfold.

Amazon is an e-commerce platform (a "marketplace") on which third party sellers can find buyers, but also has a "first party" business through which it sells branded and own-branded products – i.e. it is integrated. It has also developed a major network of warehouses and distribution centers ("Fulfillment by Amazon," or "FBA") which is offered to merchants as an alternative to third-party logistics services. On the consumer side, it has introduced a subscription service ("Prime") which offers faster delivery and over time has been expanded to include services such as music and video streaming. Multiple concerns are expressed around Amazon's business model:

- One has focused on the extent to which Amazon's size and economies of scale and scope in distribution have undermined the traditional retail sector (Lina Khan has described this as a form of "predation"), with the narrative also extending to a vision that once Amazon becomes fully entrenched as the go-to platform for online purchases, it will shift from its current customer-centric focus towards "cashing in" increasing Prime fees, degrading shipping terms, raising retail prices.
- Concerns have been raised around the sheer "power" that Amazon can wield, because of its size and "must have" nature as an outlet, over vendors and small merchants that "depend" on it for visibility and access to consumers. The commission Amazon charges on sales is described as the "Amazon tax," and there are multiple claims of power being exercised over small merchants in the form of unfair terms and conditions ("T&Cs"), charges and requests. The German (and Austrian) antitrust investigations into Amazon, recently settled, focused on this and ended with commitments to modify certain problematic T&Cs worldwide.
- A major focus of public discourse has been the "dual role" concern: that Amazon is acting simultaneously as the platform operator for the marketplace, and as a seller on its own account, and that this generates incentives to "favor itself" and squeeze the merchants or exploit them in various ways. Analogies are also made with a Google Shopping-type mechanism, whereby the ranking of Amazon's search results on its results pages is biased by its algorithm to favor its own products, or favor merchants that make use of Amazon's FBA or Prime services.

As a matter of first principles, it does not seem problematic for a marketplace operator to be charging a commission on sales (and indeed it is common to others, such as eBay). A marketplace also benefits from the widest possible variety of products being available for sale — and being recognized therefore as the "everything store," Selling own-label products in competition with merchants does not automatically create an incentive to exclude or marginalize them. But while we have traversed similar issues in multiple other contexts (from bricks-and-mortar grocery retailing to broadcasting, where we have considered and modelled the circumstances in which an integrated supplier may want to favor its own content over others), what needs to be worked on is the extent to which these results carry through in an environment with much larger economies of scale and scope, and huge volumes of data.

The "data" piece indeed complicates the analysis significantly: there is uncertainty on the extent to which Amazon is using the data it obtains on sales by third-party sellers (Amazon says it does not), as well as unique data on what products consumers have searched for ("consideration data"), to make business decisions that may benefit itself (and disadvantage third party sellers) – for instance, determining whether it should enter with an Amazon retail offer for a product already supplied by a third-party seller. The concern commonly expressed is that Amazon can match and replicate third-party offers at lower prices – pre-empting sellers and "appropriating" their investment in product innovation. This is indeed a focus of the current investigation by the EC. And to complicate matters further, Amazon is growing its advertising business (estimates place it at around one half of Facebook's U.S. advertising business). While the issues that attach to entirely ad-funded businesses may be some way down the road, concerns have thus been expressed that Amazon might be transmogrifying rapidly into an ad-funded business. The intersection of the business model (huge economies of scale and scope, use of complementary offers to drive users to the service in various ways), combined with major economies of scope in data use will invite significant and complicated scrutiny of Amazon for some time.

Overall, the insight from this discussion is that monetization strategies matter, as ad-funded internet businesses that need to monetize through advertising have strong incentives to adopt conduct that protects and enhances their ability to generate, harvest and exploit user data, to pre-empt rivals from establishing businesses that (while currently complementary) can provide a threat to their data generation engines, and to expand and exploit their power in monetization technology (as intermediaries at all levels of the digital advertising supply chain). Business that do not monetize in the same way (but by charging for their services, or selling a complement, taking a cut on third party sales on the platform, or taking a cut on a transaction in which they are matchmakers) do not generate quite the same incentives.

Getting a handle on these distinctions helps steer the economic research that needs to be done to support relevant theories of harm. We do have economic models (and empirical work) on competition on a conventional platform (e.g. broadcasting) between third parties and the integrated platform owner. There is nascent (but still limited) work being done to update them to a digital context: how do our established insights from other environments carry over to digital? And how does consumer behavior affect the analysis? The intersection of what we know about the incentives of different business models (advertising, applications, offline services, hardware), plus behavioral insights on consumers, is the current challenge in the analysis of digital platforms. Our models need to be adapted and re-written using a digital setting and platform terminology. This process has started, but needs much further focus on the part of the academic community.

III. THEORIES OF HARM TO CAPTURE CONDUCT - THINKING OF INCENTIVES

Foreclosure is a powerful, well established mechanism which is usually the "go to" enforcement theory in situations where a very dominant player controls a bottleneck (internet traffic, access to users). It has a strong pedigree because of the *Microsoft* case — where Microsoft engaged in anti-competitive tying to protect and leverage its OS monopoly on computers from potential threats materializing in a world of internet and distributed applications. What "made" the story was that there was a credible dynamic threat to Microsoft's dominant OS being replaced in the future. That said, it cannot be bandied about each time someone (a rival platform, a supplier to a platform that is thus currently a complement) does not make as much money as it would like, or faces competition from an integrated service provided by the platform. There need to be clearly articulated incentives to foreclose, and we know these are most powerful when there is a plausible dynamic leveraging story at play (such that it is not just some market share shift that is at issue, but that the current incumbent is in fact concerned about being replaced in future by a challenger). And there needs to be an ability to foreclose: conduct that only affects a rival/complement on one channel but has no effect on other channels is not going to succeed to marginalize and may have other explanations. A case that fits exactly within this established framework, which is that of the *Microsoft* case, is *Android*: the EC and other regulators concluded there was exclusionary tying/bundling of Google's Google Play app store with its search functionality, supported by pre-installation and default settings in a way that did not allow rivals to outcompete Google when OEMs chose a search engine for their devices.

Overall, **exclusion** is still a very rich seam for theories of harm in this space but they are not all going to be good, persuasive theories.

Should "dual role" theories, i.e. concerns around a "platform" operating a marketplace or a store while also simultaneously selling its own products in competition with third parties, be explored? We need to formulate clearly why we worry about this in the case of digital platforms like Amazon or Apple. We need to extend the analysis of vertical foreclosure stories (that we have dealt with in broadcasting and other contexts for years) and reformulate them in the digital context – with network effects, economies of scope, data, and consumer behavior. How do the insights of the "one monopoly profit" theory possibly extend to platforms which rely on complements and make a commission on each sale of third-party products?

Critically we need to devote more oxygen to **exploitation/unfair trading stories** — where the concern is that the platform can flex its power by creating various forms of friction, and imposing T&Cs on suppliers that they would not otherwise accept, but do so because they have no other way of accessing users. This may well be a form of exploitative abuse, unless there is evidence that there are good innocent explanations, and they have not worsened over time. Ultimately, though, these should be relatively easy to address, with commitments to amend T&Cs.

What about **commissions charged by a platform on sales** (such as Amazon's 15 percent in the case of third-party sellers, or Apple's 30/15 percent in the case of in-app subscription sales). Could this be a form of exploitation that we can tackle? But how is one to gauge complaints that these commissions are "excessive"? How does one decide whether a particular level of commission is "excessive"? Can we formulate some criteria, or do we simply say "this is too difficult, and agencies should not intervene on this basis"?

More thinking needs to be done generally on exploitation as a category of harm. This tool needs to be given content and dialed up, because not all the concerns we have take the form of leveraging power in one market to foreclose direct competition in another. Sometimes power is wielded in order to induce, for example, suppliers to adopt practices that benefit the platform, but are harmful to suppliers and/or consumers - even if they do not exclude them or are not in danger of foreclosing as such. This is a form of exploitation and it needs to be looked at as such, not "force fit" into a tying case.

But how should we define "exploitative" abuse? A classic way to think about exploitation is "practices that involve direct harm to consumers through the imposition of excessive prices/unfair terms of sales/contractual provisions." Under this definition, exploitative abuse involves direct consumer harm, and this distinguishes it from exclusion, which concerns practices leading to foreclosure of rivals not based on merit (and only indirectly leads to consumer harm, by reducing competition). But "conduct which harms consumers directly" is not enough — we have situations like discrimination on the platform that may not lead to exclusion and yet can distort competition, eventually harming consumers. One way to do this could be to include "customers" in our definition of "consumers," and thus also to include under potential "exploitation" conduct that harms firms that do not compete directly with the dominant platform, but do business on it as complements. This way, firms that use the dominant platform as an "input" would be treated as "consumers."

We can then think of several theories of harm that may fit. We need to look into conduct that amounts to coercion, e.g. imposing on counterparties practices that they would not otherwise adopt, but favor one's own model and business, ultimately distorting competition and damaging consumers. The key is that these concerns do not rely on a foreclosure mechanism.

Exploitation can be also useful in thinking about potential concerns around practices that lead to **asymmetric access/hoarding of data**. For instance, the concern publishers expressed about Google's "accelerated mobile pages" ("AMP") technology was that Google imposed a particular online publishing format as a condition of appearing in the "news carousel" at the top of Google's search results pages, as a result of which Google had access to publisher data in a way that the publishers themselves did not. In the case of Amazon, the concern that is being examined is whether Amazon can "see" its sellers' data and use them to make informed decisions on product selection and pricing, in a way that may disadvantage and undermine the sellers themselves. This could potentially be a form of exploitation as well.

More generally, the current confusion concerning the accumulation and exploitation of user data (i.e. who gets to obtain it, keep it, combine it, or exploit it without understanding and consent) is quite obviously a matter for regulation, but may well fall also under a notion of exploitation. Platforms impose conditions (often disguised as technical requirements) to capture data about consumers of suppliers using the platform to then build a data "moat," without sharing the data symmetrically with the suppliers who contribute to generating it. A reasonable counterfactual should be that a business operating on a platform needs to get full information about the customers it serves, and can then use this information to improve its competitive offering. If a platform imposes technical conditions for access to its key input (traffic, visibility, ranking in search) that result in asymmetric access to data by the businesses it serves to its own customer information, this is unfair and exploitative.

Misinformation can also feature here. Conduct that distorts/restricts the information available to consumers when choosing between products should be capable of being scrutinized (including discrimination in rankings without objective reasons, and other means of biasing/limiting the information available to consumers, leading to poor consumer choice).

IV. TO SUM UP

Antitrust tools can and should be powered up to deal with concerns in the digital space, and we should not be afraid to do so because precedents are scarce, or we need to develop economic insights (formally and empirically) to extend to these environments. This requires imagination, research, and work, but there is no reason why we should concede ground entirely to *ex ante* regulation.

In order to do so effectively, we also need to carefully consider the incentives that are associated with various companies' different business models. Understanding this can help to map concerns about conduct into credible theories of harm, and clarify why the practices we observe may be more or less likely to have anticompetitive effects in some cases than in others. Of course, monetization strategies and business models are a key dimension, but only one, of an analysis that needs to consider also the implications for incentives of features like data economies of scope, and how all this intersects with behavioral bias of consumers. But "follow the money" (and "follow the data") seems a useful starting point.





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