

# REGULATING MULTISIDED PLATFORMS? THE CASE AGAINST TREATING PLATFORMS AS UTILITIES



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## I. INTRODUCTION

The bloom is off the Big Tech rose. It seems nearly the entire political spectrum is angry with Amazon, Google, and Facebook for one reason or another. This has led to a great deal of discussion on whether and how to regulate (or even break up) these platforms, including whether they should be regulated as utilities.<sup>2</sup> Over the last several years, if there is one issue which might support a somewhat broad political consensus it is the desire to regulate large internet platforms like Amazon, Google, and Facebook.<sup>3</sup>

Our purpose with this article is simply to caution against some forms of regulatory treatment which emphasize the utility-like nature of large platforms.<sup>4</sup> We choose the word “caution” because we are not necessarily arguing that such regulation is in all instances inappropriate or uncalled for. Instead, all we mean is that there are counterarguments which should be considered, and in this article, we give voice to some of those arguments.

The basic economic argument for utility-like regulation of internet platforms is that these platforms can become “natural monopolies” which tend to forestall competition. While there is merit to this argument, internet platforms have also been a source of tremendous innovation which in turn has allowed entrants to unseat what were once thought to be entrenched incumbents. Regulation risks quashing such innovation and harming consumer welfare.

Furthermore, internet platforms, unlike traditional utilities, are sometimes amenable to multi-homing, meaning that customers of one platform may also choose to be customers of additional similar platforms. Multi-homing can be critical in enabling successful entry into the market.

While examples of entry do not disprove the possibility of market power abuse by some platforms, they do remind us that the economics of platforms can be more complex and nuanced than the classical utility model would suggest.

2 See, for example, Jamison, Mark, 2012. “Should Google Search Be Regulated As Public Utility?”, available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2027543](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2027543).

3 See, for example, Constine, Josh, 2018. “House rep suggests converting Google, Facebook, Twitter into public utilities.” *TechCrunch*, available at <https://techcrunch.com/2018/07/17/facebook-public-utility/>.

4 There are other, more normative regulatory arguments which we do not address. For instance, some would argue that regulatory pressure is needed to protect certain political points of view from discriminatory treatment. Such arguments are more matters of public policy than positive economics.

## II. THE NATURE OF PLATFORMS

What do we mean by a “platform?” For our purposes a platform is essentially a network. It could be “one-sided,” such as a purely social networking site which is funded by subscribers. It could also be “multi-sided,” such as Uber which brings together a network of passengers with a network of drivers.<sup>5</sup>

What makes networks interesting from an economic perspective is the “network effect.” Essentially this means that the value of the network is increasing in the size of the network. Take the case of a one-sided social networking site. Such a site is valuable only because and to the extent that it supports a large network, i.e. a large number of subscribers. A social networking site with no subscribers has no value.<sup>6</sup> The same principle is true in two-sided networks such as Uber. Uber is valuable to drivers only to the extent that it supports a large network of passengers and vice versa from the passengers’ perspective.

Economists often refer to these effects as “direct” and “indirect” network effects. The direct network effect describes the phenomenon whereby an additional subscriber increases the value to other subscribers and thus tends to induce additional subscriptions. The indirect network effect describes the phenomenon whereby an additional subscriber on one side (say, an additional driver for Uber) increases the value to subscribers on the other side (passengers), which induces an increase in passenger subscriptions, which then feeds back to induce an increase in driver enrollment.

The distinctions between one-sided and multi-sided platforms or between direct and indirect network effects, while important in other contexts, are not essential to our discussion here. We shall simply refer to platforms or networks, without distinguishing whether they are one- or multi-sided, and to network effects, without distinguishing whether they are direct or indirect.

## III. NATURAL MONOPOLIES AND BARRIERS TO ENTRY

Economists describe certain business models as *natural monopolies*. These are economic centers which enjoy natural barriers to entry, barriers which forestall competitive entry and which consequently allow the economic center to enjoy surplus profits (what are called “economic profits”). They are also cases where, in general, social welfare could be maximized by allowing just one provider rather than multiple.

The ideal of perfect competition is that the entry of competitors will continue so long as economic profits are being earned. This entry will stop only when economic profit is 0. This is an equilibrium condition, since if profit were still positive, entry would continue, and if it were negative, some firms would exit.

To the extent an industry is characterized by a barrier to entry, this mechanism breaks down. There is no market mechanism to prevent positive economic profits in perpetuity when it is difficult to enter the market. Other market participants undoubtedly observe these profits but are unable to effectively enter and compete against the incumbent firm.

The textbook model of a natural monopoly describes the case of increasing economies of scale, or decreasing marginal costs of production. If the company produces 100 widgets, the marginal cost of the 100<sup>th</sup> widget is \$10. If it produces 200 widgets, the marginal cost of the 200<sup>th</sup> widget is \$5. As the company grows, its marginal cost falls and therefore the price it can charge to customers may also fall while still allowing the company to remain profitable. As the firm lowers its price it sells more widgets and thus moves along its cost curve in a virtuous (from its point of view) cycle, stopping only at the point which maximizes profits.

This makes competitive entry very difficult, since the incumbent can win any resulting price war with an entrant who produces otherwise identical widgets but is not meaningfully more efficient. No matter what price the entrant charges, the incumbent can more easily afford a still lower price. If the widgets are identical, all customers will choose the incumbent’s less expensive widgets.

Unconstrained by competition, the natural monopoly can maintain prices above marginal costs and reap positive economic profits. Left alone, the natural monopoly, like any monopoly, charges prices higher than ideal and produces less quantity than ideal. This motivates the eco-

<sup>5</sup> Social networking sites such as Facebook which are in fact funded by advertisers, are also considered examples of two-sided platforms.

<sup>6</sup> Strictly speaking, it would not attract any subscribers at any non-negative price. Of course, it could pay people to subscribe.

conomic argument for regulatory control of a natural monopoly, since the company must be compelled to set prices at marginal cost and forego profits which could otherwise be captured.<sup>7</sup>

With economies of scale it is also socially optimal for a single firm to make all the widgets. It is less expensive for one company to make 200 widgets than for two companies to make 100 widgets each, for example. That would not be true were there diminishing returns to scale.

The production of electricity, or the supply of drinking water, are considered examples of this model, and are therefore typically regulated as “utilities” with only one provider per market and with municipal authorities, not private managers, ultimately setting prices.

## IV. PLATFORMS AS NATURAL MONOPOLIES

How does this apply to platforms? Economists (and the media in general) have long drawn parallels between platforms and utilities.<sup>8</sup> Facebook even described itself years ago as a “social utility.” While of course it is possible that a given platform might benefit from economies of scale just like the power company presumably does, economists usually have something else in mind.

Since a platform is valued because of the size of its networks, the *value* of its product is increasing as the platform grows, rather than the cost of its production decreasing with the firm’s growth. Though fundamentally different, positive network effects can lead to a similar result, namely that a large incumbent may have such an advantage that no entrant can effectively compete against it.

Depending on the strength of the network effects, it may also be socially optimal to have a single large network provider rather than multiple smaller providers. Recall that a network effect simply means that a network with 50 percent of subscribers is more valuable, other things equal, than a network with 45 percent of subscribers. But is it a lot more valuable or only a little more valuable?

If the value of the network doubles when the size of the network doubles (if the scale is linear) then the value of two (non-overlapping) networks with 25 percent of the subscribers each is the same as the value of one larger network with 50 percent of the subscribers.<sup>9</sup> Imagine you sell widgets, and you can sell as many widgets as are demanded of you (in other words, you have no capacity constraint). You would typically expect to sell the same number of widgets on one platform with 50 percent of your potential customer base as you would across two (non-overlapping) platforms each with 25 percent of your potential customer base.<sup>10</sup>

On the other hand, if the value of the network more-than-doubles when the size doubles (if the scale is convex) then one 50 percent network is worth more than two 25 percent networks. Think of a telephone network. A network with 3 participants can support 3 unique pairwise conversations, a network with 4 participants can support 6 unique pairwise conversations, and a network with 5 participants can support 10 unique pairwise conversations. The value of the network grows much faster than the size of the network, which we will call “convex network effects.” With convex network effects, social welfare would likely be higher with one large provider, rather than with many small providers.<sup>11</sup>

Finally, there is the possibility that the value less-than-doubles when the size doubles (the scale is concave). For example, this might be the case if participants are capacity constrained in some way. Consider a matchmaking network. There is only one of you and you only have so many hours in a week to devote to dating. Beyond a certain point, joining a matchmaking service with twice as many participants may not be twice as valuable to you.<sup>12</sup>

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<sup>7</sup> See, for example, Posner, Richard, 1969. “Natural Monopoly and its Regulation,” *Stanford Law Review*. 21 (3): 548–643; and Demsetz, Harold, 1968. “Why regulate utilities?” *Journal of Law & Economics*, 11: 55–65.

<sup>8</sup> See, for example, Thierer, Adam, 2013. “The Perils of Classifying Social Media Platforms as Public Utilities,” *CommonLaw Conspectus – Journal of Communications Law and Policy*, 21(2); Boyd, Danah, 2012. “Facebook is a utility; utilities get regulated,” available at <https://www.zephoria.org/thoughts/archives/2010/05/15/facebook-is-a-utility-utilities-get-regulated.html>; and Thompson, Ambrose, 2010. “Social Media as Public Expectation: The New Public Utility,” available at <https://www.nypl.org/blog/2010/06/30/social-media-public-expectation>.

<sup>9</sup> The social *cost* of operating two 25 percent networks might be more or less than one 50 percent network, but now the analysis has returned to the cost side and is essentially like the classic utility question.

<sup>10</sup> Of course, the cost to you of dealing with two platforms might be greater than dealing with just one, so you might still prefer one 50 percent network to two 25 percent networks. But the gross value to you in terms of “widget sales” would not be different.

<sup>11</sup> We are abstracting from potentially illegal conduct that could be undertaken by the one large provider.

<sup>12</sup> While not the subject of this note, this same consideration should be at the center of the debate on whether large platforms should be forcibly broken up or not. CPI Antitrust Chronicle August 2020

The platform's "barrier to entry" is in the form of the critical mass any network needs to be viable.<sup>13</sup> To operate at a profit, the value of the network to its subscribers must be at least as great as its cost of operation. Since that value is increasing in the number of subscribers, there is some minimum level of subscription – a critical mass – necessary to begin earning profits.

Imagine there is a pool of people who might be interested in participating in a network (for instance, the pool of single people who might be interested in a matchmaking network). Imagine that an incumbent platform already has 50.1 percent of that pool as subscribers. No matter what price the entrant charged, the incumbent could simply match it and be sure of attracting all marginal new subscribers. Why join a network with 49.9 percent when you could join a network with 50.1 percent for the same price? At least initially, no entrant which provides the identical *type* of service can ever provide an identical *quality* of service since no entrant can offer a larger initial network.<sup>14</sup>

There is likely some truth to this line of argument, meaning some large platforms are probably protected by barriers to entry, at least to some extent, and therefore enjoy some level of "market power." And it may be the case that certain platform services are best delivered by one large platform rather than multiple smaller platforms. Does this necessarily mean that they should be regulated as utilities? Here comes the economist's answer: maybe yes, but maybe no.

## V. PLATFORMS AND INNOVATION

One important (if fairly obvious) difference between modern, internet-based platforms and classic public utilities is the room for innovation. Platform services are changing all the time, but electrons are electrons, and water is water.

For traditional public utilities it is somewhat difficult to imagine innovation which would qualitatively change the product being supplied. Yes, another company might have better customer service, or better maintenance practices, or better service restoration capabilities. But most of us, most of the time, do not need these things: we flip on the switch, and if the light turns on, we're satisfied.<sup>15</sup>

Internet platforms are obviously of a different nature. We expect innovation and change, and few of us would dare guess at what tomorrow's platforms may look like. Even fewer of us would expect that public regulatory authorities would be anywhere nearly as effective at providing such innovation.

In this context, economists refer to the tension between "static" and "dynamic" efficiencies. Static efficiency refers to the optimal way to arrange resources as they exist today, and dynamic efficiency refers to the optimal way to arrange resources over time. These considerations sometimes conflict with each other.

When we consider the (static) set of platforms as they exist today, a case could be made that social efficiency could be enhanced by some form of price-setting regulatory control.<sup>16</sup> But when we consider the (dynamic) set of possible future platforms, a case could be made that imposing such control today would stifle future innovation and hence future social efficiency. To many, the loss of innovation in the future is too great a cost to pay to have less expensive platforms today, especially when, to many consumers, platforms appear free already.<sup>17</sup>

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<sup>13</sup> See David S. Evans & Richard Schmalensee, 2010. "Failure to Launch: Critical Mass in Platform Businesses, *Review of Network Economics* 9(4):1-1.

<sup>14</sup> An exception to this would be the case of an entrant which is much more efficient and could better endure a price war with the incumbent.

<sup>15</sup> There is certainly one area where we can imagine innovation which could be of material importance to consumers, and that relates to the cleanliness or "greenness" of the energy production itself. Some consumers might be willing to pay more for electricity generated by renewable or otherwise cleaner methods. But this is widely understood, and there is, at least in many places, substantial political pressure to adopt such technologies already. It is not obvious that, from a social welfare perspective, there is insufficient pressure from that direction.

<sup>16</sup> Where there is a "network externality" it would generally be the case that private management of a network leads to under-utilization of that network relative to a hypothetical social ideal. Of course, to achieve the hypothetical social ideal might require that network utilization be subsidized – that prices be set below costs. Only a regulatory authority could achieve that.

<sup>17</sup> From a social perspective, we cannot ignore the advertisers who may be paying super-competitive prices for internet ads.

## VI. COMPETITION ON QUALITY AND PRICE

The power company is an example of a monopolist whose advantage is its production cost. The platform is an example of a monopolist whose advantage is its product quality. An entrant could attempt to compete on price, quality, or both. How could we handicap those strategies?

Faced with an incumbent who can produce widgets at lower cost than you can, your only hope of being successful is to compete on quality – to make a better widget. The incumbent’s widget may always be cheaper because of its economies of scale, so yours must be better. The classic natural monopoly model essentially precludes the possibility that an entrant could successfully compete on price.

But in the case of modern platforms, faced with an incumbent who already supplies a larger network, an entrant has room to compete on both quality and price. Perhaps the entrant has figured out a way to provide services at lower cost; the incumbent’s network may be larger, but if the entrant is sufficiently less expensive, subscribers may nevertheless choose to switch. Actual experience is more typically characterized by an entrant who has an innovation which allows subscribers to extract greater value from the network. The real difference between Uber and the traditional taxi model is the software which allows subscribers (passengers and drivers) to more efficiently and reliably extract value from what was, at least initially, a smaller network of passengers and drivers. In the taxi model, passengers find drivers by standing on street corners, waving their hands, and waiting, while drivers find passengers by driving around looking for them. In the Uber model, passengers and drivers find each other through an app which matches them by proximity and availability.

Here again the question of “innovation” is central. If the industry is mature and we can’t imagine much scope to innovate on the nature of the product (we can’t imagine “better electrons” or “better water”) then we can’t imagine much scope for an entrant to be successful against the classic natural monopoly model. This means that the incumbent is more likely to be able to use its market power, which strengthens the regulatory argument. But where we can imagine improved products, then an innovative entrant has at least a chance of unseating an entrenched incumbent. We’ve seen this happen time and again: recall the examples of Blackberry and Windows in smartphone operating systems, AOL in messaging, Orkut in social networking, and Yahoo in mass online media, among others. This suggests that, at least in some cases, the incumbent’s effective market power is limited.

## VII. MULTI-HOMING AND SUCCESSFUL ENTRY

Arguably the most important difference between some platforms and the classic “natural monopoly” model is the possibility of multi-homing. Multi-homing refers to the phenomenon of subscribing to multiple platforms which provide essentially the same type of networking service. One provider may have 50 percent of the potential network as subscribers, but another provider may have a (different) 20 percent. It may make sense for a subscriber to use both and thereby have access to 70 percent of the potential network.

Multi-homing is unique to networks. We would not imagine homeowners simultaneously purchasing electricity from two providers for instance – if they had a choice, they would pick the cheaper one and purchase all their electricity from it. People may split their shopping across multiple grocery stores but that is to obtain different things at different places; people do not buy half their pre-planned weekly apples in one store and then half their weekly apples in another store. But with networks, it may make sense to use multiple providers to access a larger aggregate network.

What is critical in the multi-homing decision is that for those who already subscribe to the incumbent platform, its pricing is wholly irrelevant to the decision of whether to multi-home or not. Short of establishing exclusivity agreements with its subscribers (which some platforms do), there is in fact nothing the incumbent platform can do to influence the decision to multi-home among its current subscribers. It’s entirely a matter of the size and price of the entrant’s (unique) network.

Without multi-homing, the value proposition of an entrant must be, “stop using the incumbent and start using me” – in other words, to switch platforms. That, as we have seen, can be a very difficult proposition to make if the incumbent enjoys either economies of scale or strong network effects (or both). However, with multi-homing, the entrant merely needs to offer enough value to induce subscribers to *also* use its new platform, while still being able to continue subscribing to the incumbent’s – in other words, to join, not necessarily to switch. Where network effects are stronger, inducing switching is more difficult, but inducing multi-homing is easier.

Multihoming is the key that unlocks the door. Suppose that initially, the incumbent has 50 percent of the potential market subscribed and an entrant has managed to get a different 20 percent to subscribe. Suppose the entrant's price is very low (perhaps even negative) so that half the incumbent's subscribers decide to also join the entrant's platform. Their decision is based on whether the cost of joining the entrant is less than the benefit of accessing an aggregate 70 percent network instead of just the 50 percent they already have. The stronger the network effect, the more valuable that incremental network size will be.

Now, the incumbent still has 50 percent, but the entrant has 45 percent (its original 20 percent base plus the 25 percent from the incumbent who have chosen to multi-home). The entrant begins to look more attractive to the remaining unsubscribed pool, and the proposition of outright switching to the entrant becomes more palatable to the incumbent's subscribers. The incumbent might fight back with lower prices, but if the entrant has something unique to offer, it may be able to win out, or at least carve out a niche and survive.

Forthcoming research models the competitive dynamics between two network providers.<sup>18</sup> Whether an entrant can overwhelm an incumbent depends on a number of factors (particularly the strength of the network effects), but when multi-homing is allowed, it substantially improves the entrant's chances of surviving and even dominating the incumbent.

## VIII. MUST THERE BE ONLY ONE?

When we think of utilities, we usually think of a single provider supplying a given market. There are reasons why that may be sensible in the classic model, but those reasons may not apply to platforms.

With economies of scale, it can be socially optimal to have a single provider, so long as the price is controlled. If costs are falling it is less expensive to have one provider produce all 200 widgets rather than having two providers produce 100 each. Having one electric company rather than two is not just easier for the regulator to manage, it is actually the right answer.

As we have seen, whether that is true for a network depends on the strength of the network effects. With convex network effects it is likely true, but with concave effects it may not be. Hence, the regulatory problem is potentially more complicated with platforms: the regulator would need to determine not only pricing, but also the optimal allocation of subscribers across multiple networks. That is not a problem they face with the electric company.

## IX. FINAL REMARKS

The basic economic argument for utility-like regulation of internet platforms is that when network effects are strong, these platforms become "natural monopolies" which tend to forestall competition. This at least suggests that they should be subject to similar controls as the local electric company or the phone company of yesteryear. But there are reasons to be cautious.

Innovation continues apace for many internet platforms. Not only does this make a quality-based barrier to entry easier to overcome, but it also highlights the risk that over-regulation may stifle welfare-enhancing future developments. The unique power of multi-homing further facilitates entry and represents a significant difference between at least some platforms and traditional monopolies.

This isn't just theoretical; we've seen entrants overcome and overwhelm entrenched incumbents time and time again. While this sort of churn doesn't obviate all antitrust concerns, it at least reminds us that the case of platforms is more complex and nuanced than that of the electric company.

At some point, perhaps, the network advantages of the current titans may become too great and the scope of innovation too narrow for any entrant to get a foothold. We do not mean to suggest that utility-style regulations are necessarily inappropriate as a way to regulate platforms today, and even less that they would always remain inappropriate tomorrow. Things change. But there is a risk that policy makers may act precipitously and regulate away the incentives for the kind of innovation which has so greatly enriched us all. That would be a terrible loss.

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<sup>18</sup> Rosa Abrantes-Metz & Albert Metz, "Network Effects, Single- vs. Multi-Homing, and Consequences for Competition, Antitrust and Regulation," and "Two-Sided Platforms: Market Power, Indirect Network Effects, and Cross Platform Subsidies," *Working Papers*, August and September 2020, forthcoming.

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