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Google and Shifting Conceptions of What It Means to Improve a Product

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Google and Shifting Conceptions of What It Means to Improve a Product

Ramsi Woodcock — 16 December 2020

[***TOTM:*** *The following is part of a digital symposium by TOTM guests and authors on the law, economics, and policy of the antitrust lawsuits against Google. The entire series of posts is available here.*]

Judges sometimes claim that they do not pick winners when they decide antitrust cases. Nothing could be further from the truth.

Competitive conduct by its nature harms competitors, and so if antitrust were merely to prohibit harm to competitors, antitrust would then destroy what it is meant to promote.

What antitrust prohibits, therefore, is not harm to competitors but rather harm to competitors that fails to improve products. Only in this way is antitrust able to distinguish between the good firm that harms competitors by making superior products that consumers love and that competitors cannot match and the bad firm that harms competitors by degrading their products without offering consumers anything better than what came before.

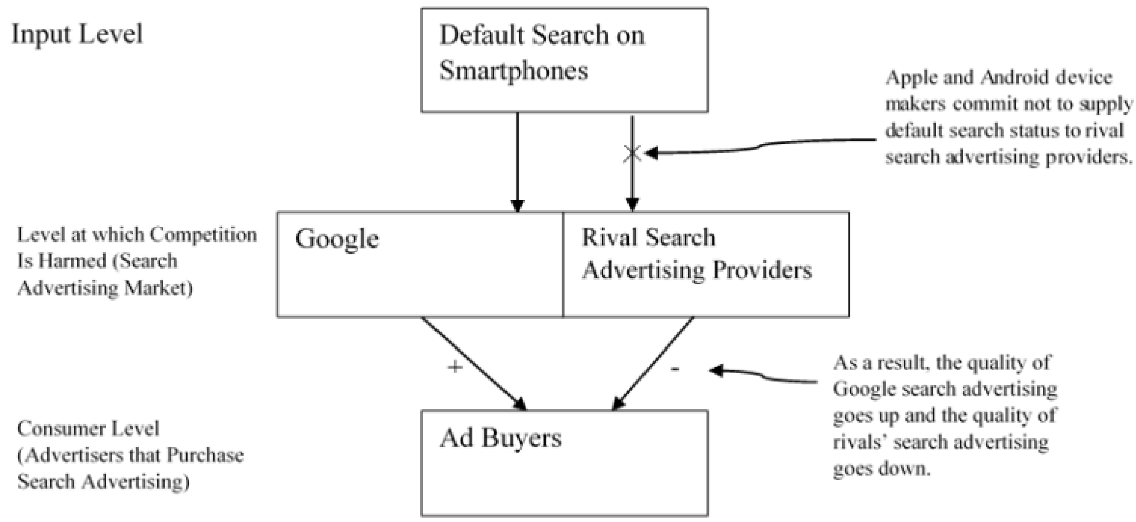
That means, however, that antitrust must pick winners: antitrust must decide what is an improvement and what not. And a more popular search engine is a clear winner.

But one should not take its winningness for granted. For once upon a time there was another winner that the courts always picked, blocking antitrust case after antitrust case. Until one day the courts stopped picking it.

That was the economy of scale.

The Structure of the Google Case

Like all antitrust cases that challenge the exercise of power, the government's case against Google alleges denial of an input to competitors in some market. Here the input is default search status in smartphones, the competitors are rival search providers, and the market is search advertising. The basic structure of the case is depicted in the figure below.



Although brought as a monopolization case under Section 2 of the Sherman Act, this is at heart an exclusive dealing case of the sort normally brought under Section 1 of the Sherman Act: the government's core argument is that Google uses contracts with smartphone makers, pursuant to which the smartphone makers promise to make Google, and not competitors, the search default, to harm competing search advertising providers and by extension competition in the search advertising market.

The government must show anticompetitive conduct, monopoly power, and consumer harm in order to prevail.

Let us assume that there is monopoly power. The company has more than 70% of the search advertising market, which is in the zone normally required to prove that element of a monopolization claim.

The problem of anticompetitive conduct is only slightly more difficult.

Anticompetitive conduct is only ever one thing in antitrust: denial of an essential input to a competitor. There is no other way to harm rivals.

(To be sure, antitrust prohibits harm to competition, not competitors, but that means only that harm to competitors necessary but insufficient for liability. The consumer harm requirement decides whether the requisite harm to competitors is also harm to competition.)

It is not entirely clear just how important default search status really is to running a successful search engine, but let us assume that it is essential, as the government suggests.

Then the question whether Google's contracts are anticompetitive turns on how much of the default search input Google's contracts foreclose to rival search engines. If a lot, then the rivals are badly harmed. If a little, then there may be no harm at all.

The answer here is that there is a lot of foreclosure, at least if the government's complaint is to be believed. Through its contracts with Apple and makers of Android phones, Google has foreclosed default search status to rivals on virtually every single smartphone.

That leaves consumer harm. And here is where things get iffy.

Usage as a Product Improvement: A Very Convenient Argument

The inquiry into consumer harm evokes measurements of the difference between demand curves and price lines, or extrapolations of compensating and equivalent variation using indifference curves painstakingly pieced together based on the assumptions of revealed preference.

But while the parties may pay experts plenty to spin such yarns, and judges may pretend to listen to them, in the end, for the judges, it always comes down to one question only: did exclusive dealing improve the product?

If it did, then the judge assumes that the contracts made consumers better off and the defendant wins. And if it did not, then off with their heads.

So, does foreclosing all this default search space to competitors make Google search advertising more valuable to advertisers?

Those who leap to Google's defense say yes, for default search status increases the number of people who use Google's search engine. And the more people use Google's search engine, the more Google learns about how best to answer search queries and which advertisements will most interest which searchers. And that ensures that even more people will use Google's search engine, and that Google will do an even better job of targeting ads on its search engine.

And that in turn makes Google's search advertising even better: able to reach more people and to target ads more effectively to them.

None of that would happen if defaults were set to other engines and users spurned Google, and so foreclosing default search space to rivals undoubtedly improves Google's product.

This is a nice argument. Indeed, it is almost too nice, for it seems to suggest that almost anything Google might do to steer users away from competitors and to itself deserves antitrust immunity. Suppose Google were to brandish arms to induce you to run your next search on Google. That would be a crime, but, on this account, not an antitrust crime. For getting you to use Google does make Google better.

The argument that locking up users improves the product is of potential use not just to Google but to any of the many tech companies that run on advertising—Facebook being a notable example—so it potentially immunizes an entire business model from antitrust scrutiny.

It turns out that has happened before.

Economies of Scale as a Product Improvement: Once a Convenient Argument

Once upon a time, antitrust exempted another kind of business for which products improve the more people used them. The business was industrial production, and it differs from online advertising only in the irrelevant characteristic that the improvement that comes with expanding use is not in the quality of the product but in the cost per unit of producing it.

The hallmark of the industrial enterprise is high fixed costs and low marginal costs. The textile mill differs from pre-industrial piecework weaving in that once a $10 million investment in machinery has been made, the mill can churn out yard after yard of cloth for pennies. The pieceworker, by contrast, makes a relatively small up-front investment—the cost of raising up the hovel in which she labors and making her few tools—but spends the same large amount of time to produce each new yard of cloth.

Large fixed costs and low marginal costs lie at the heart of the bounty of the modern age: the more you produce, the lower the unit cost, and so the lower the price at which you can sell your product. This is a recipe for plenty.

But it also means that, so long as consumer demand in a given market is lower than the capacity of any particular plant, driving buyers to a particular seller and away from competitors always improves the product, in the sense that it enables the firm to increase volume and reduce unit cost, and therefore to sell the product at a lower price.

If the promise of the modern age is goods at low prices, then the implication is that antitrust should never punish firms for driving rivals from the market and taking over their customers. Indeed, efficiency requires that only one firm should ever produce in any given market, at least in any market for which a single plant is capable of serving all customers.

For antitrust in the late 19^{th} and early 20^{th} centuries, beguiled by this advantage to size, exclusive dealing, refusals to deal, even the knife in a competitor's back: whether these ran afoul of other areas of law or not, it was all for the better because it allowed industrial enterprises to achieve economies of scale.

It is no accident that, a few notable triumphs aside, antitrust did not come into its own until the mid-1930s, 40 years after its inception, on the heels of an intellectual revolution that explained, for the first time, why it might actually be better for consumers to have more than one seller in a market.

The Monopolistic Competition Revolution

The revolution came in the form of the theory of monopolistic competition and its cousin, the theory of creative destruction, developed between the 1920s and 1940s by Edward Chamberlin, Joan Robinson and Joseph Schumpeter.

These theories suggested that consumers might care as much about product quality as they do about product cost, and indeed would be willing to abandon a low-cost product for a higher-quality, albeit more expensive, one.

From this perspective, the world of economies of scale and monopoly production was the drab world of Soviet state-owned enterprises churning out one type of shoe, one brand of cleaning detergent, and so on.

The world of capitalism and technological advance, by contrast, was one in which numerous firms produced batches of differentiated products in amounts sometimes too small fully to realize all scale economies, but for which consumers were nevertheless willing to pay because the products better fit their preferences.

What is more, the striving of monopolistically competitive firms to lure away each other's customers with products that better fit their tastes led to disruptive innovation— "creative destruction" was Schumpeter's famous term for it—that brought about not just different flavors of the same basic concept but entirely new concepts. The competition to create a better flip phone, for example, would lead inevitably to a whole new paradigm, the smartphone.

This reasoning combined with work in the 1940s and 1950s on economic growth that quantified for the first time the key role played by technological change in the vigor of capitalist economies—the famous Solow residual—to suggest that product improvements, and not the cost reductions that come from capital accumulation and their associated economies of scale, create the lion's share of consumer welfare. Innovation, not scale, was king.

Antitrust responded by, for the first time in its history, deciding between kinds of product improvements, rather than just in favor of improvements, casting economies of scale out of the category of improvements subject to antitrust immunity, while keeping quality improvements immune.

Casting economies of scale out of the protected product improvement category gave antitrust something to do for the first time. It meant that big firms had to plead more than just the cost advantages of being big in order to obtain license to push their rivals around. And government could now start reliably to win cases, rather than just the odd cause célèbre.

It is this intellectual watershed, and not Thurman Arnold's tenacity, that was responsible for antitrust's emergence as a force after World War Two.

Usage-Based Improvements Are Not Like Economies of Scale

The improvements in advertising that come from user growth fall squarely on the quality side of the ledger—the value they create is not due to the ability to average production costs over more ad buyers—and so they count as the kind of product improvements that antitrust continues to immunize today.

But given the pervasiveness of this mode of product improvement in the tech economy—the fact that virtually any tech firm that sells advertising can claim to be improving a product by driving users to itself and away from competitors—it is worth asking whether we have not reached a new stage in economic development in which this form of product improvement ought, like economies of scale, to be denied protection.

Shouldn't the courts demand more and better innovation of big tech firms than just the same old big-data-driven improvements they serve up year after year?

Galling as it may be to those who, like myself, would like to see more vigorous antitrust enforcement in general, the answer would seem to be "no." For what induced the courts to abandon antitrust immunity for economies of scale in the mid-20th century was not the mere fact that immunizing economies of scale paralyzed antitrust. Smashing big firms is not, after all, an end in itself.

Instead, monopolistic competition, creative destruction and the Solow residual induced the change, because they suggested both that other kinds of product improvement are more important than economies of scale and, crucially, that protecting economies of scale impedes development of those other kinds of improvements.

A big firm that excludes competitors in order to reach scale economies not only excludes competitors who might have produced an identical or near-identical product, but also excludes competitors who might have produced a better-quality product, one that consumers would have preferred to purchase even at a higher price.

To cast usage-based improvements out of the product improvement fold, a case must be made that excluding competitors in order to pursue such improvements will block a different kind of product improvement that contributes even more to consumer welfare.

If we could say, for example, that suppressing search competitors suppresses more-innovative search engines that ad buyers would prefer, even if those innovative search engines were to lack the advantages that come from having a large user base, then a case might be made that user growth should no longer count as a product improvement immune from antitrust scrutiny.

And even then, the case against usage-based improvements would need to be general enough to justify an epochal change in policy, rather than be limited to a particular technology in a particular lawsuit. For the courts hate to balance in individual cases, statements to the contrary in their published opinions notwithstanding.

But there is nothing in the Google complaint, much less the literature, to suggest that usage-based improvements are problematic in this way. Indeed, much of the value created by the information revolution seems to inhere precisely in its ability to centralize usage.

Americans Keep Voting to Centralize the Internet

In the early days of the internet, theorists mistook its decentralized architecture for a feature, rather than a bug. But internet users have since shown, time and again, that they believe the opposite.

For example, the basic protocols governing email were engineered to allow every American to run his own personal email server.

But Americans hated the freedom that created—not least the spam—and opted instead to get their email from a single server: the one run by Google as Gmail.

The basic protocols governing web traffic were also designed to allow every American to run whatever other communications services he wished—chat, video chat, RSS, webpages—on his own private server in distributed fashion.

But Americans hated the freedom that created—not least having to build and rebuild friend networks across platforms—–and they voted instead overwhelmingly to get their social media from a single server: Facebook.

Indeed, the basic protocols governing internet traffic were designed to allow every business to store and share its own data from its own computers, in whatever form.

But American businesses hated that freedom—not least the cost of having to buy and service their own data storage machines—and instead 40% of the internet is now stored and served from Amazon Web Services.

Similarly, advertisers have the option of placing advertisements on the myriad independently-run websites that make up the internet—known in the business as the "open web"—by placing orders through competitive ad exchanges. But advertisers have instead voted mostly to place ads on the handful of highly centralized platforms known as "walled gardens," including Facebook, Google's YouTube and, of course, Google Search.

The communications revolution, they say, is all about "bringing people together." It turns out that's true.

And that Google should win on consumer harm.

Remember the Telephone

Indeed, the same mid-20th century antitrust that thought so little of economies of scale as a defense immunized usage-based improvements when it encountered them in that most important of internet precursors: the telephone.

The telephone, like most internet services, gets better as usage increases. The more people are on a particular telephone network, the more valuable the network becomes to subscribers.

Just as with today's internet services, the advantage of a large user base drove centralization of telephone services a century ago into the hands of a single firm: AT&T. Aside from a few business executives who liked the look of a desk full of handsets, consumers wanted one phone line that they could use to call everyone.

Although the government came close to breaking AT&T up in the early 20th century, the government eventually backed off, because a phone system in which you must subscribe to the right carrier to reach a friend just doesn't make sense.

Instead, Congress and state legislatures stepped in to take the edge off monopoly by regulating phone pricing. And when antitrust finally did break AT&T up in 1982, it did so in a distinctly regulatory fashion, requiring that AT&T's parts connect each other's phone calls, something that Congress reinforced in the Telecommunications Act of 1996.

The message was clear: the sort of usage-based improvements one finds in communications are real product improvements. And antitrust can only intervene if it has a way to preserve them.

The equivalent of interconnection in search, that the benefits of usage, in the form of data and attention, be shared among competing search providers, might be feasible. But it is hard to imagine the court in the Google case ordering interconnection without the benefit of decades of regulatory experience with the defendant's operations that the district court in 1982 could draw upon in the AT&T case.

The solution for the tech giants today is the same as the solution for AT&T a century ago: to regulate rather than to antitrust.

Microsoft Not to the Contrary, Because Users Were in Common

Parallels to the government's 1990s-era antitrust case against Microsoft are not to the contrary.

As Sam Weinstein has pointed out to me, *Microsoft*, like *Google*, was at heart an exclusive dealing case: Microsoft contracted with computer manufacturers to prevent Netscape Navigator, an early web browser, from serving as the default web browser on Windows PCs.

That prevented Netscape, the argument went, from growing to compete with Windows in the operating system market, much the way the Google's Chrome browser has become a substitute for Windows on low-end notebook computers today.

The D.C. Circuit agreed that default status was an essential input for Netscape as it sought eventually to compete with Windows in the operating system market.

The court also accepted the argument that the exclusive dealing did not improve Microsoft's operating system product.

This at first seems to contradict the notion that usage improves products, for, like search advertising, operating systems get better as their user bases increase. The more people use an operating system, the more application developers are willing to write for the system, and the better the system therefore becomes.

It seems to follow that keeping competitors off competing operating systems and on Windows made Windows better. If the court nevertheless held Microsoft liable, it must be because the court refused to extend antitrust immunity to usage-based improvements.

The trouble with this line of argument is that it ignores the peculiar thing about the Microsoft case: that while the government alleged that Netscape was a potential competitor of Windows, Netscape was also an application that ran on Windows.

That means that, unlike Google and rival search engines, *Windows and Netscape shared users*.

So, Microsoft's exclusive dealing did not increase its user base and therefore could not have improved Windows, at least not by making Windows more appealing for applications developers. Driving Netscape from Windows did not enable developers to reach even one more user. Conversely, allowing Netscape to be the default browser on Windows would not have reduced the number of Windows users, because Netscape ran on Windows.

By contrast, a user who runs a search in Bing does not run the same search simultaneously in Google, and so Bing users are not Google users. Google's exclusive dealing therefore increases its user base and improves Google's product, whereas Microsoft's exclusive dealing served only to reduce Netscape's user base and degrade Netscape's product.

Indeed, if letting Netscape be the default browser on Windows was a threat to Windows, it was not because it prevented Microsoft from improving its product, but because Netscape might eventually have become an operating system, and indeed a better operating system, than Windows, and consumers and developers, who could be on both at the same time if they wished, might have nevertheless chosen eventually to go with Netscape alone.

Though it does not help the government in the Google case, *Microsoft* still does offer a beacon of hope for those concerned about size, for Microsoft's subsequent history reminds us that yesterday's behemoth is often today's also ran.

And the favorable settlement terms Microsoft ultimately used to escape real consequences for its conduct 20 years ago imply that, at least in high-tech markets, we don't always need antitrust for that to be true.

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