



***Technology, Market Changes,
and Antitrust Enforcement***

by Dwight R. Lee and Richard B. McKenzie

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Introduction

Can prosperity be promoted with an active antitrust policy? The answer to that question may seem simple—obviously, yes—for those who equate market concentration with monopoly and inefficiency. But a number of matters need to be considered before a sensible answer can be given to the above question. The question is complicated by the fact that the effectiveness of antitrust laws is related to a country's industrial structure, and our industrial structure and competitiveness are much different today than in 1890, when the Sherman (Antitrust) Act became law.

Also, an important but commonly overlooked consideration is how effective government antitrust actions are at actually protecting competition. As a number of prominent public choice economists and legal scholars have pointed out, government antitrust activity is frequently a response to complaints by competitors who are being outcompeted in the marketplace, not by consumers who are typically benefiting from so-called anticompetitive practices.¹ For example, competitors have claimed that producers who have entered their markets with lower prices have intended to take predatory actions against existing companies and monopolize the markets. Competitors have also called on the Federal Trade Commission and the Antitrust Division of the Justice Department to prohibit mergers on the grounds that the larger, more efficient company will monopolize the market by charging lower prices. In 1998, at the behest of Microsoft competitors—Sun Microsystems, Oracle, IBM, AOL, and Netscape—the Justice Department took the Microsoft Corporation to court, charging (among other things) that Microsoft's practice of giving away its Internet browser was “predatory,” intended to crush a potential rival for the desktop computer platform.²

Even when government failure is acknowledged, there are practices and circumstances that many believe are such a threat to competition that government antitrust action, though imperfect, is justified. In other words, we should compare market failures with government failures when deciding on the need for antitrust action against actual or potential monopolists. This sounds like a pragmatic approach. But there is a problem with such political pragmatism—it seldom works, at least not in the public interest. The

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reason is grounded in a political paradox of major proportions: The market is commonly seen as failing for the very reason that it is succeeding. This is certainly true when we consider the benefits created by competition (as we will argue below). Furthermore, the political process is commonly seen as succeeding for the very reason it is undermining the success of the marketplace, with anti-trust policy being a good example (as we will also argue).

Technological advances that are reducing the benefits possible from even the most restrained and sensible antitrust activity by government are being used to justify fewer restraints on that activity.

This distortion in our understanding of pragmatic politics has been exacerbated recently by technological advances that are enhancing the competitiveness of the economy, but causing changes that are widely interpreted as evidence of entrenched monopoly power in the increasingly important computing and telecommunication industries. Technological advances that are reducing the benefits possible from even the most restrained and sensible anti-trust activity by government are being used to justify fewer restraints on that activity.

The Changing Nature of Markets

At one time, the merger of two domestic companies might have been seen as a reduction in the competitiveness of the domestic economy, mainly because the only competitors that counted in determining “market concentration” were domestic companies. However, over the past half century, the geographic size of many markets has increased relentlessly, with more markets becoming truly global as technological improvements in communication and transportation have lowered the costs of doing business across national boundaries. The result has been both greatly intensified competition and pressure for more efficient companies.

In some cases the pressure for more efficient companies results in mergers of already large corporations into even larger

business units. But to antitrust enforcers, who are often anxious to expand their activity and who judge “market concentration” (which, to them, implies “monopoly power”) in terms of outdated notions of the scope of “markets,” these mergers are seen as reducing competition rather than resulting from increasing competition.

Also, not too many decades ago, antitrust enforcers had to accept, even if reluctantly, that the size, scope, and market dominance of most companies would be checked “naturally” by the usual market forces of supply, constrained by the significant costs of reproducing products, and of demand, constrained by consumer preferences that were largely independent of how dominant companies were in their markets. But the evolution of technology, especially in computers and telecommunications, has motivated a rethinking of how market forces work, a rethinking seized upon by anti-trust enthusiasts. This is because technology has created important industries, like computer software, that exhibit substantial economies of scale in both demand and supply.

On the demand side, a growing number of markets are said to exhibit significant “network effects” (or “demand-side economies of scale”). This means that future sales of the identified products build on current sales as user value escalates with more users. Moreover, these industries also exhibit substantial supply-side economies of scale, since most of the production costs are up front, incurred in the development of the product, with only minor costs incurred in expanding output.

For example, in the market for computer operating systems, the current sales of Microsoft’s Windows can increase the willingness of computer programmers to write applications for Windows. Because of the large number of applications available for Windows, more people will buy Windows, which will give rise to even more applications being written for Windows. In the burgeoning new field of digital economics, it is often argued that when a program like Windows achieves some critical sales level, the market will “tip” toward that program, causing an automatic self-enforcing growth in market dominance as computer users begin to assume that the program will dominate the operating system market and have the advantage of a growing number of applications.³

The growing dominance of such software companies can be reinforced by the fact that economies of scale in supply are not checked by the usual physical resource constraints of other products. Developing any computer operating systems like Windows can be extraordinarily expensive, running into the hundreds of millions, if not billions, of dollars. However, because the program is digital, it

can be reproduced quickly and limitlessly at the near-zero cost of a download from one computer to another. With the reproduction cost at or close to zero, the supply-side scale economies can remain operable over the entire market, even if that market extends to all corners of the globe.

Understandably, industries subject to substantial demand- and supply-side scale economies are often highly concentrated, with one company or technology achieving a dominant market position. The existence of such dominant companies can be, and commonly is, evidence of intense competition and a source of efficiency in satisfying consumer demands: to become dominant, the companies had to produce a product that people want in increasing numbers. This means that the dominant company must sell it at a price low enough that individual users not only find the product currently attractive, but also believe that it will become dominant, and therefore more valuable than competing products, in the future. The company aspiring to be dominant also has to overcome at the start the fear among potential users that it will not ruthlessly exploit whatever dominance it achieves.

In short, the aspiring company must manage expectations and also manage the network to make sure it holds together. Managing the network can require the dominant company to impose restrictions on what network members can do. It is well understood why McDonald's requires its franchisees to keep their restaurants clean and to provide established standards of service. By doing so, McDonald's manages customer expectations for certain levels of service, quality, and cleanliness. But this requires the ability of McDonald's to terminate shirking franchisees, since each one has an incentive to cut costs where possible, which can reduce overall restaurant demand by far more than it reduces demand for the restaurant that cuts its costs.

Technology can intensify this problem, with a company that dominates a software market having to manage its network, sometimes with binding restrictions on resellers backed by the threat of the withdrawal of their licenses. Without this type of management the network can quickly fragment, far more quickly than a hamburger network, with the loss of many of the benefits of the network.

By overcoming these obstacles and creating a network, a successful producer not only gains from the substantial economies of scale in production, but it can also create enormous consumer value as more consumers join the network (and as more applications are written for the program and more users can interact with one another). However, as evident in the *Microsoft* case, the Justice

Department has argued successfully, at least to the satisfaction of the trial judge, that Microsoft's market dominance in the operating system is evidence of monopoly power that the company has abused by imposing restrictions that prevent computer manufacturers from deciding whether they will install Internet Explorer with Windows.⁴

Even with traditional products, the efficiency case against dominant companies is much weaker than most realize. Having gone through traditional courses in economics and learning that a monopolist is a "single producer of a product with no close substitutes," students all too easily assume that all single producers (or just dominant companies) are monopolists (or have monopoly power), which is hardly the case, even though some markets are prone toward, in the jargon of economics, "natural monopolies." Even companies that have no existing competitors in their markets may have to worry that if they act like monopolies—that is, restrict production with the intent of raising their prices and profits—other companies will be attracted into their markets by the higher profit potential.⁵

Dominant producers of "network goods" are even less likely to act like monopolies, because they fear that their networks will unravel, thus reducing their market share far more quickly than is likely the case with traditional products.

Granted, it may take time for competitors to enter markets, which means that a dominant company may be able to raise its price and profit in the short run, only to lose market position in the long run, with the net effect of lower prices for the company's stock. This consideration greatly reduces the ability of dominant companies in traditional industries to act like textbook monopolists.

Dominant producers of "network goods" are even less likely to act like monopolies, because they fear that their networks will unravel, thus reducing their market share far more quickly than is likely the case with traditional products. If a dominant supplier of a "network good" restricts output to raise its price, the immediate loss in market share reduces the value of the product to remaining users, which leads to a further loss in market share, and

a vicious downward cycle. So dominant network companies have to worry more about the long-run price sensitivity of their users than do dominant traditional companies.

Nevertheless, few people can distinguish the difference in the efficiency implications of size and dominance between network and non-network sectors of the economy. And it has become fashionable among economists to argue that even when a dominant network company is not behaving as a monopolist, antitrust action is still justified, mainly because the company's dominance suggests that it can "lock in" consumers because of the advantages its network offers, and therefore might, at some future time, begin acting like a monopolist.⁶

In the Microsoft case, the Justice Department convinced the judge that Windows customers face "high switching costs," which implies that they are "locked in" to the continued use of Windows and that, because of the vast numbers of applications written for Windows, there is an "applications barrier to entry" into the operating systems market.⁷ Accordingly, both the Justice Department and the court concluded that Microsoft charged nothing for its browser Internet Explorer in order to prevent the emergence of a competitor for its Windows operating system platform, which, with the absence of viable competition, could continue to charge monopoly prices. So, we have a situation in which competition is driving responses that benefit consumers, but is widely misperceived as justifying antitrust action.

Before continuing our discussion of how technological advances are simultaneously reducing the case for antitrust action and increasing the political demand for such action, we will consider how the perverse pursuit of antitrust actions is part of a broader problem. Markets are commonly seen to fail for the very reasons they succeed and governments are commonly seen to succeed for the very reasons that they fail.

Distorted Perceptions Favor Government over Market

Compared to some ideal world, one that can exist only in the imagination of those who prefer fantasizing to analyzing, both markets and governments come up short. Scarcity guarantees desirable tasks will be left undone, wants will be left unsatisfied, and injustices will be left without remedies—even though each, considered by itself, could be effectively addressed. Unfortunately, doing any desirable thing, satisfying any want, or remedying any

injustice necessarily diverts resources away from confronting other tasks, wants, and injustices. So no matter how efficiently resources are allocated, someone can always point out deficiencies in the outcomes of both market and government activity. And there will always be those who can benefit by persuading public opinion and political authorities that such “failures” should be eliminated by directing more resources to activities they favor, even when doing so destroys value on balance; i.e., creates a genuine failure.

This is not to argue that markets and governments fail only because of special-interest influence. But we shall argue that special-interest influence accentuates government failure by exploiting a perceptual bias against markets. For the reasons that markets do such an efficient job allocating resources, special-interest groups find it easy to discredit markets. Furthermore, for the reasons that expanding government is a significant source of government failure, special-interest groups wish to discredit markets because doing so helps them capture private benefits by expanding government and government failure.

A major reason for the success of markets is that they concentrate costs. When workers are engaged in activities that generate less value than is possible in other activities, costs in terms of lower wages and unemployment are imposed on them. When investors direct resources into businesses that create less value than alternative investments would create, costs in terms of lost wealth and bankruptcy are concentrated on them. The market imposes these costs harshly and unforgivingly, insuring that they are not ignored. But because of these costs, economic decisions are constantly responsive to changing conditions, circumstances, and opportunities, redirecting resources away from activities that generate less value and into activities that create more. This responsiveness is the key to a pattern of market cooperation and coordination that increases the general wealth of the economy, benefiting everyone through better products, lower prices, and more productive employment.

But because the costs are concentrated, it is easy to notice the costs and connect them to market competition. Because the benefits are general, they are easily ignored, or taken for granted, assumed to be in the natural order of things. And the general prosperity experienced in market economies tends to make the costly and concentrated disruptions that make the prosperity possible seem all the more unacceptable. That the invisible hand is, in important ways, invisible is a major reason for the political vulnerability of the marketplace. The costs are very visible, the benefits are far

less visible, and the connection between costs imposed by market competition and the benefits it generates is almost completely invisible.

In contrast, government action typically concentrates benefits on well-organized groups while spreading the costs over the general public. This has the effect of concealing costs rather than revealing them, and is a serious source of government failure. But it also explains the perceptual bias in favor of government intervention in the market. The benefits from government are visible, greatly appreciated by politically active groups, and easily traced back to the action that created them, while the costs are easily ignored. Thus government action can be justified in the name of increasing social welfare even though the action is economically destructive.

The bias in favor of misguided and destructive government activity is particularly strong when antitrust action is being considered. The competition that contributes the most to our progress and prosperity also does the most to concentrate disruption and costs in extremely visible ways. As Joseph Schumpeter so eloquently states,

But in capitalist reality as distinguished from its textbook picture, it is not that kind of competition [price competition] which counts but competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for example)—competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of existing companies but at their foundations and their very lives.⁸

Schumpeter describes this competition as “creative destruction,” but the destruction is far more obvious and immediate to the casual observer than is the creative part. The competitive assault on established industries, with their influential owners, networks of suppliers, and organized workforces, imposes clear and present dangers to familiar sources of wealth, stable communities, and time-honored ways of life. On the other hand, the progress that this competition makes possible is delayed, diffused, and difficult to associate with its source.

The benefits from market competition are seldom apparent in the near-term. When describing the impact of “creative destruction,” Schumpeter states, “We are dealing with a process whose every element takes considerable time in revealing its true features and ultimate effects...we must judge its performance over time, as it unfolds over decades and centuries.”⁹

The delayed benefits from competition are widely diffused over the general population, with few of the beneficiaries appreciating their good fortune, or able to connect it to the competitive disruptions that made it possible. Obviously a few individual entrepreneurs stand to become extremely wealthy by developing new products and processes, but their fortunes are never more than a small fraction of the total wealth their efforts create for society at large. And the extreme and highly visible fortunes often accumulated by successful entrepreneurs commonly excite envy and invite the type of public demonizing that makes them and their enterprises vulnerable to political retaliation—often in the form of anti-trust action.

Technology and Antitrust

The perceptual bias against market competition and for government control over competition just discussed is becoming a greater source of political mischief as technology advances. First, by increasing competition, technological advances are increasing the probability that antitrust activity will be counterproductive. Second, for the very reason competition is becoming a more potent force for progress, it can strengthen public perception that more antitrust action is needed, thus empowering special-interest groups that see antitrust as a means of capturing private benefits at public expense.

Increasing global competition is unequivocally good for consumers. It reduces any benefit to be derived from antitrust action, even if one assumes that such action is used solely to advance the interest of consumers.

As should be obvious to anyone who cares to think about it, and as already noted, technology is increasing competition by transforming local markets into global markets. Peter Drucker was engaging in only a little hyperbole when he recently wrote, “Distance has been eliminated...every business must become globally competitive, even if it manufactures or sells only in a regional or local market. The competition is not local anymore—in fact, it knows no boundaries.”¹⁰

Increasing global competition is unequivocally good for consumers. It reduces any benefit to be derived from antitrust action, even if one assumes that such action is used solely to advance the interest of consumers. But this is not the sole, or even a very important, objective of government action in general and antitrust action in particular. Indeed, if the federal government were really concerned with promoting competition, it would give global competition a boost by eliminating all U.S. restrictions on foreign trade. But import restrictions are maintained because the interests of organized groups carry more political weight than do the interests of unorganized consumers. For the same reason, antitrust policy is more concerned with protecting competitors than with protecting and promoting competition.

Unfortunately, the increasing global competition being driven by improved technology in communication and transportation is motivating responses that, though good for the consumer, are easily presented as growing market power demanding antitrust action.

Of course, political action can never be justified with a blatant admission that it serves narrow private interests at the expense of the general public. Some pretend that the action is required by some broad and worthy social objective is essential, and this pretense has to seem plausible to the public. Unfortunately, the increasing global competition being driven by improved technology in communication and transportation is motivating responses that, though good for the consumer, are easily presented as growing market power demanding antitrust action.

Interestingly, escalating modern technology can increase the size of some companies while decreasing the size of others. Computer and communication technologies have lowered the costs of many companies interacting with one another in markets (and gaining the benefits of competitive markets for what they buy and sell), which means the technologies have enabled many people to start small businesses—from magazines to consulting services—in their homes. Other companies have been able to “downsize” and “outsource” the production of parts and services (for example,

accounting and legal services). As a consequence, where hundreds of workers and large plants were once required to do business, now far smaller companies with less labor and plant and equipment can get the same jobs done at lower cost.

These same technologies, however, have also allowed other companies to monitor at lower cost the operations of a greater number of remote production and sales facilities from their headquarters, so many companies have become more cost-effective by growing larger.¹¹ The larger size might once have allowed workers to shirk their duties, giving rise to production costs that were higher than necessary. However, because supervisors can now monitor their plant workers more effectively, and officers at the companies' headquarters can monitor their supervisors in remote locations via the daily, if not hourly, reports on production data automatically transmitted via company computer networks, the costs of shirking can be reduced, which expands the efficient size of the company.

Intensified global competition has forced companies everywhere to reexamine their production scales to see how they must be adjusted—upward or downward—to take full advantage of new technologies. Companies have to accommodate new technologies by adjusting their size appropriately to better serve the consumer and meet the competition from global competitors who are also adjusting their size to take advantage of cost savings. Accordingly, with the spread of modern computer and telecommunication technologies, we've witnessed a literal potpourri of scale adjustments in business structures, with many small entrepreneurs emerging while other companies are downsizing and still other companies are growing larger through internal expansion or mergers.

But these technological forces can give rise to competitors seeking protection against intense competition from companies making the adjustments successfully. In the downsizing industries, workers and their unions can claim that they are victims of forces beyond their control, which is true, and that they should receive protection by, for example, regulation by means of import restrictions. Also, public opinion is easily turned against downsizing industries, and hostile public opinion is fertile ground for frivolous antitrust suits that are politically inspired. Clearly, members of Congress work on matters that will get them media attention. Not surprisingly, academic research shows that political pressure affects the number of antitrust cases that are brought and which members' districts will be affected by these cases.¹²

On the other hand, even if companies are on balance becoming smaller, a few large and highly publicized mergers can easily

obscure this fact, creating a public mindset more favorable to anti-trust action. This mindset creates a fertile political environment for companies that want to hamper their competitors with anti-trust action justified with the spurious claim that mergers are anticompetitive. And even though antitrust action, or the threat of action, that prevents mergers reduces efficiency by stymieing appropriate responses to global competition, it can easily seem to be the right thing to do.

By preventing a merger, an antitrust suit can confer immediate benefits to identifiable people by, for example, eliminating the threat of layoffs (even when mergers increase company size, they commonly result in layoffs as some of the workers in the two companies that merge become redundant in the new larger company). This benefit is appreciated and easily seen to be the direct result of the antitrust action. Unfortunately, the costs of a less competitive and less productive economy are delayed, diffused, and unlikely ever to be noticed. Even if noticed, they will not be traced back to, and blamed on, the antitrust action that caused them.

If we use the term “monopoly” loosely, network industries tend to be serial monopolies, with the dominant company being constantly vulnerable to a relatively rapid decline in market share. Such competition is seldom welcomed by those subjected to the discipline and disruption it imposes.

The network effects that have assumed more importance with advances in computing and telecommunications and have created so much efficiency have also altered public perception in favor of antitrust action and increased the political demand for such action, even though it reduces rather than promotes competition. The competition that takes place when network effects are present is exactly the type of competition Schumpeter described as “creative destruction”: it tends not to “strike at the margins of the profits and the outputs of the existing companies but at their very lives.”¹³ As Liebowitz and Margolis point out, “The new entrant [in a network situation] seeks not to coexist with the incumbent, but rather to replace it.”¹⁴

Obviously, companies supplying incompatible versions of the same network product can, and do, coexist, but such coexistence is typically one-sided, with one company in a dominant position, and is seldom very stable for long. If we use the term “monopoly” loosely, network industries tend to be serial monopolies, with the dominant company being constantly vulnerable to a relatively rapid decline in market share. Such competition is seldom welcomed by those subjected to the discipline and disruption it imposes. (Netscape certainly did not like Microsoft’s assault on its browser market.) Such spirited competition can, and often does, motivate companies to appeal to government to hamper the competition with anti-trust sanctions against their successful rivals.

Unfortunately, no matter what the phase in the competitive cycle of serial monopolies that typically describes network markets, a superficially plausible case can be made for antitrust action. Since network industries are seldom stable with anything close to equal market shares across companies, successful competition in these industries will almost always lead to a dominant position. This means aggressive price and quality competition by companies designed to achieve some critical mass of users that tips the market in the direction of their product. Obviously such aggressive activity is easily seen, with justification, as an effort to monopolize.

That the company under suspicion is acting just the opposite of a traditional monopolist by cutting price (possibly to zero or less) and rapidly expanding output is not accepted as a defense against an antitrust charge. Antitrust advocates argue that with network effects, price-cutting and output expansion can lead to an entrenched monopoly. The reasoning here is that once enough people begin using a product, they are locked in since so many others are also using the product. So low price and expanding output are seen as violating antitrust laws, as has been charged in the Microsoft case.¹⁵

Of course, a company that escapes the antitrust dragnet initially and achieves a dominant position is vulnerable to antitrust charges by virtue of its dominance. It is likely charging higher prices than it did to achieve a large market share. Such higher prices can be justified as making up for the lower prices charged earlier—prices that were likely less than cost. Also, even with increased prices as the network becomes more fully developed, the ratio of price to value provided can still be declining because of the increasing value generated by the network effect. Even so, dominant network companies face severe constraints on their ability to raise prices if they are to have much hope of maintaining their dominance for long. The same network dynamics that allow rapid

growth in one company's market share make dominant companies vulnerable to rapid declines as well. Companies that live by the tipping phenomenon can die by the tipping phenomenon.

But regardless of the behavioral differences between a dominant network company and the standard monopolist, antitrust advocates seize upon dominance as justification for action. In the case of network companies, dominance is supposedly even more pernicious to competition because of the lock-in effect: once everyone is using a dominant company's technology or variation of a technology, it is extremely difficult for another company to get people to switch to its technology, even if it is superior to that of the dominant company. It is not in the interest of any individual to switch unilaterally, even though all would be better off if everyone switched together. But because it is difficult to coordinate the actions of large numbers of people, the dominant company supposedly has enormous market power it can exploit.

The weakness of this lock-in argument should be apparent. If lock-in were a serious problem, it would be hard to explain the numerous examples of new technologies prevailing over existing and widely used technologies that generated large network benefits. Almost everyone listened to AM radio broadcasts not too long ago, and their radios received only AM signals. No one would buy an FM radio because there were no FM signals. No one would broadcast FM signals because no one had FM radios—at least that is the lock-in argument.

The argument could be made to explain why compact discs could not replace vinyl records, and why color TV could not replace black-and-white TV. Of course these replacements did take place, and similar replacement of widely used network products continues to take place. WordStar was the dominant word-processing software in the early 1980s, but that didn't prevent WordPerfect from dominating the word-processing market by the early 1990s. WordPerfect has since given way to Word. If network effects create lock-ins, it seems that the locks are rather easy to pick.¹⁶

Unfortunately, the weakness of the lock-in argument is not enough to offset its political attractiveness. It provides a superficially plausible cover for those who benefit from a particular antitrust action against a rival network company, or from a more active antitrust policy in general. Furthermore, even though antitrust action against a network company reduces competition and efficiency, it seems to create benefits at no apparent cost. If a network company is broken up once it has achieved a dominant position, the effect may well be to reduce the price it can charge for its product,

though the reduction will probably not be all that great for reasons discussed earlier in this section. But even a small price reduction will be seen as an immediate benefit, and one easily attributable to antitrust policy. The cost from such a breakup will be real and significant, surely dwarfing the immediate benefit of lower prices, but this cost is unlikely to be noticed, or attributed to antitrust policy even if it is. The antitrust action will send a signal to other companies that the private payoff to establishing a widely used network is not as high as would otherwise be the case.

In other words, the antitrust action reduces the ability of companies to internalize the network benefits their products create by lowering initial prices to expand networks (allowing consumers to capture some of the benefits) and increasing prices as networks grow larger (allowing the companies to capture some of the benefits). The immediate effect is to cause increased prices on network products in the early stages of use. But as opposed to the price reduction on the well-established network product, these price increases will be less noticed since they apply to products not as widely used, and they will not be as obviously connected to the antitrust action that caused them.

The antitrust action reduces the ability of companies to internalize the network benefits their products create by lowering initial prices to expand networks (allowing consumers to capture some of the benefits) and increasing prices as networks grow larger (allowing the companies to capture some of the benefits).

The long-run effect is that fewer new network products will succeed against existing products, since antitrust will have (in the name of promoting competition) reduced the payoff to the type of aggressive competition required to overcome the advantage of the status quo. This can actually benefit the company the antitrust action is directed against, the one that has already established a widely used network, by allowing it (or the collection of its broken-up parts) to maintain its dominant position much longer than otherwise. This long-run cost of less technological progress can be very large, but again it will not likely be traced back to the antitrust

action that caused it. In keeping with our general theme, for the very reasons technology is increasing the benefits from competition, it is also creating the superficial appearance that competition is being reduced, which empowers special interests to justify antitrust action that benefits them at public expense.

Concluding Comments

Technological advances are making market competition a more potent force for prosperity and progress and undermining any justification there ever was for government to pursue an active antitrust policy. But technology is also increasing special-interest demands for antitrust action and making the political process more responsive to those demands by increasing the public perception that such action is urgently needed to protect against anticompetitive behavior.

The technological advances that increase competition and the benefits it creates are at the same time fostering political perversity in the form of antitrust that undermines those benefits.

Reductions in the cost of transportation and communication are expanding the size of markets, intensifying competition as businesses must be ever more responsive to consumers who can now buy products with little regard to political divisions or distance. Some businesses can best respond to this competition by merging and/or downsizing their workforces. But mergers are easily depicted as increasing industrial concentration that demands an antitrust response, and downsizing workforces imposes highly visible, though temporary, costs that can turn public opinion against “big business.” This creates a political climate that makes it easier for companies buffeted by global competition to excite public sentiment in favor of antitrust action.

Technology is also creating major industries in which network effects are important. These industries are characterized by extremely vigorous competition, competition best described by Schumpeter’s discussion of “creative destruction.” It is greatly

benefiting consumers with powerful new products and services inconceivable just a generation ago. But while serving consumers, this competition threatens competitors who have seen, or worry that they will see, their market share plummet as new companies with better products offer consumers more value for their money. And again, though the reality is more competition, the appearance is less competition as one company serially dominates the supply of important products. This appearance facilitates organized interests that can benefit by using antitrust activity to suppress competition.

Our discussion can be interpreted as pessimistic. The technological advances that increase competition and the benefits it creates are at the same time fostering political perversity in the form of antitrust litigation that undermines those benefits. But we see reasons for optimism. By increasing the mobility of productive capital, technology is slowly (too slowly) but surely eroding the power of government to regulate, manipulate, and tax productive activity. Physical capital is becoming smaller and easier to move around, but more important, capital is increasingly taking the form of knowledge and information that can be transported electronically to almost any place on the globe in a matter of seconds.

This is leading to a form of global competition that governments are trying to suppress, but with increasing difficulty, and that is the competition among governments over their tax bases. The government that gets too heavy handed with burdensome taxation and mindless regulation will find more of its tax base escaping to those parts of the world where the political environment is more conducive to productivity. The concern has long been that the power of government is undermining the productivity of private markets. This remains a legitimate concern. But increasingly, the productivity of private markets is undermining the power of government. We don't want to overstate our optimism, but as we have argued at length,¹⁷ the pernicious political effects of technological advances that we detailed in this article are being countered to some degree with more propitious effects.

Endnotes

1. William F. Shughart II, *Antitrust Policy and Interest-Group Politics* (New York: Quorum Books, 1990); Fred S. McChesney, *Money for Nothing: Politicians, Rent Extraction, and Political Extortion* (Cambridge: Harvard University Press, 1997); Richard A. Posner, "The Federal Trade Commission," *University of Chicago Law Review*, vol. 37 (1969), 47-89.; and Robert H. Bork, *The Antitrust Paradox: A Policy at War with Itself* (New York: Basic Books, 1978).
2. Richard B. McKenzie, *Broken Trust: How Microsoft Put Antitrust on Trial* (Reading, Mass.: Perseus Books, 2000), chapters 8 and 9.
3. Carl Shapiro and Hal R. Varian, *Information Rules* (Boston: Harvard Business School Press, 1998), 175-182.
4. Thomas Penfield Jackson, U.S. District Judge, Findings of Fact, *United States of America v. Microsoft Corporation* (Civil Action No. 98-1232 TPJ), November 5, 1999 (<http://www.usdoj.gov/atr/cases/f3800/msjudgex.htm>).
5. William J. Baumol, "Contestable Markets: An Uprising in the Theory of Industrial Structure," *American Economic Review* 72 (March 1982), 1-15.
6. Stan J. Liebowitz and Stephen E. Margolis, *Winners, Losers and Microsoft* (Oakland, Calif.: The Independent Institute, 1999), 15. The authors argue, "It [the lock-in argument] is a foundation that antitrust enforcers cannot readily do without. The usual monopoly concern—low output and high price—is simply not much in evidence in the computer software market."
7. Joel I. Klein, et al., Complaint, *United States of America v. Microsoft Corporation*, (Civil Action No. 98-1232 TPJ), May 20, 1998, 18; and Thomas Penfield Jackson, Findings of Fact, *United States of America v. Microsoft Corporation* (Civil Action No. 98-1232 TPJ).
8. Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* (New York: Harper Torchbooks, 1950), 84.
9. *Ibid.*, 83.
10. Peter F. Drucker, "Beyond the Information Revolution," *The Atlantic Monthly* (October 1999): 47-57, 50-51.
11. Richard B. McKenzie and Dwight R. Lee, *Managing Through Incentives* (New York: Oxford University Press, 1998), 29-31.
12. Fred S. McChesney and William F. Shughart II, *The Causes and Consequences of Antitrust* (Chicago: University of Chicago Press, 1995), chapters 12 and 13.

13. *The Economist*, "Politics and Silicon Valley: Liberty.Com" (October 30, 1999), pp. 23-28. As this was being written we came across this quote making the same point: "The Valley's 6,000 firms exist in a ruthlessly entrepreneurial environment. It is the world's best example of what Joseph Schumpeter called "Creative Destruction": old companies die and new ones emerge, allowing capital, ideas, and people to be reallocated."
14. Liebowitz and Margolis, *Winners, Losers and Microsoft*, 15.
15. Joel I. Klein, et al., Complaint, United States of America vs. Microsoft Corporation, (Civil Action No. 98-1232 TPJ), May 20, 1998, p. 4; and Thomas Penfield Jackson, U.S. District Judge, Findings of Fact, U.S. v. Microsoft Corporation (Civil Action No. 98-1232 TPJ), November 5, 1999 (<http://www.usdoj.gov/atr/cases/f3800/msjudgex.htm>).
16. For a detailed discussion of how market forces reduce the problem of lock-in and facilitate the type of coordination required for shifting from one network product to a better one, see Liebowitz and Margolis, chapter 2.
17. Richard B. McKenzie and Dwight R. Lee, *Quicksilver Capital: How the Rapid Movement of Wealth Has Changed the World* (New York: Free Press, 1991).



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