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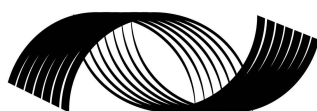
A Primer on Competition Policy and the New Economy

Robert W. Hahn

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The author is director of the American Enterprise Institute-Brookings Joint Center for Regulatory Studies and a consultant to the Microsoft Corporation. He wishes to thank Thomas Hazlett, Robert Litan, Albert Nichols, Peter Passell, Cary Elliott, Erin Layburn, and Lauri Mancinelli for constructive feedback. The usual caveat applies.



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Executive Summary

While there is general agreement among economists that the new economy has helped stimulate innovation and growth, there is a vigorous debate about when to intervene on behalf of consumers. The basic conundrum that antitrust authorities face is that scale economies in production and consumption provide an economic justification for having a single firm dominate a market.

This article characterizes the debate on competition policy and the new economy, using the Microsoft case as a key example. Competition policy is critical because it helps determine the rules of the road by which firms can compete and merge. Policy proposals for regulating the new economy fall loosely into two camps—those that advocate intervention in some of these markets and those that generally advocate not intervening in these markets. The “interventionists” focus on possible barriers to entry that could be imposed by a dominant new economy firm. The “non-interventionists” highlight the self-corrective nature of new economy markets, and assert that the costs of taking action on the part of government is high compared to the cost of doing nothing. Noninterventionists also question the extent to which surgical antitrust interventions are feasible or appropriate.

The paper offers six recommendations for improving policy. These include: recognizing the slow speed of antitrust policy relative to the new economy; evaluating new economy antitrust issues on a case-by-case basis; using a framework that highlights dynamic competition for new economy antitrust issues; erring on the side of caution in regulating new economy markets; reducing political rent seeking opportunities in these markets; and learning more about how these markets actually function.

A Primer on Competition Policy and the New Economy

Robert W. Hahn

Back in 1953 Charles E. Wilson, chairman of America's flagship automaker, explained to Congress "what's good for General Motors is good for the country." Today, that much-mocked maxim could be replaced with "if it's good for the New Economy, it's good for the world."

That leaves policy makers in a bind. On the one hand, no one wishes to ruffle the feathers of the proverbial goose. On the other, the high profile and aggressive ways of many of the most successful companies makes laissez-faire both politically difficult and economically problematic. Accordingly, government trustbusters are wrestling with the question of how to apply competition policy that evolved over the last century to enterprises whose businesses differ from the old sort in profound ways.

Begin where the policy makers must begin—by defining the New Economy. One way is to define what it's not. The New Economy wasn't around 30 years ago. Then, big business meant companies like Exxon, Procter & Gamble and, of course, GM. Today, these companies are still big, but there are new kids on the block that didn't exist when bell-bottoms were in fashion—dot-com companies like Yahoo and the giants of the information technology markets like Microsoft, Sun Microsystems and Cisco.

What seems to distinguish these heterogeneous companies is that their primary product is ideas—intellectual capital, in the jargon of economists. That largely explains why New Economy companies often have a high market value relative to their book value, since the latter typically underestimates the worth of intangible assets like productive research departments.

Seen from this perspective, biotechnology companies and pharmaceuticals clearly also belong in the New Economy. Complicating the matter, many other companies have drawn on the New Economy in reinventing their own lines of business—companies as diverse as Barnes & Noble, AT&T, Eastman Kodak and Corning. But wherever you draw the line, there is no disputing that the New Economy is big and growing in importance. In 1970 only 11 of the Forbes 100 companies, with a combined market capitalization of \$92 billion, were arguably part of the New Economy. At the start of 2000, 57 companies, with a combined market capitalization of \$5.6

trillion, could be considered New Economy companies. And while the Nasdaq crash has undoubtedly trimmed a trillion here and a trillion there, this is still a formidable list.

For better or worse, such visible change attracts the attention of regulators. Intel settled a suit by the Federal Trade Commission in 1999 in which the government had objected to the company's demand that its customers license proprietary technology to Intel in return for access to the latest specifications of Intel microprocessors. The FTC recently approved the merger of AOL and Time-Warner, but only on the condition that the company open its cable networks to competing Internet service providers. And last but hardly least, there is the matter of *US v. Microsoft*, the antitrust case of the decade.

Such scrutiny is not restricted to the United States. Last October, the European Commission issued a "statement of objections" against Microsoft for allegedly abusing its dominant position in the market for the PC operating systems software by leveraging this power into the market for network server software. This action was the culmination of an investigation begun in response to a complaint by Sun Microsystems in December 1998. The European Commission has also wielded a big stick in recent merger cases. The union between Vodafone and Mannesmann was approved only after the commission obtained commitments that allow third-party access to their combined telecommunications network.

The New Conventional Wisdom on the New Economy

Remember the hoary joke about there being as many opinions as there are economists? In fact, there is substantial agreement among economists about much of antitrust, and a good bit of agreement about what makes the New Economy different for purposes of antitrust. The disagreement arises over what should be done to ensure that the New Economy works to the benefit of consumers.

The basic thrust of the antitrust laws in the United States is to improve consumer welfare by limiting anticompetitive behavior. Thus companies are not permitted to fix prices with competitors. A company can, however, become a monopoly, provided it does so lawfully. In the case of a software company, this could include the development of a product protected by patent or copyright laws. If a corporation has a monopoly or large market share, it is still allowed to compete vigorously against competitors or potential competitors. Economists agree that price

fixing is bad because the result—prices that exceed cost—distorts output at the expense of consumers. Economists also agree that big should not automatically be equated with bad. In the case of mergers, the efficiency gains need to be weighed against the potential for companies to exercise greater control over prices.

There is also widespread agreement that the antitrust laws are sufficiently robust to address issues raised by the New Economy. Former Treasury Secretary Lawrence Summers noted, “The core principles of antitrust reflected in the Sherman Act—like other fundamental principles embodied in venerable texts like the Constitution and the Bill of Rights—should not be changed in this new era.” The devil, as usual, is in the details.

One key characteristic of New Economy companies is economies of scale in production—that is, falling average costs as output increases. In software, for example, it typically costs millions to produce the first unit of the finished product, but just pennies to make the next and the next and the next.

Another New Economy characteristic is that the value of a product increases as other products related to its use are developed. For example, as software applications are written for a computer operating system, the operating system becomes more valuable to consumers. Indeed, one reason the Windows-based personal computer became more popular than the Mac is that Microsoft worked harder to make it easy for developers to write software applications for Windows.

A less familiar feature of New Economy products is economies of scale in consumption—a phenomenon sometimes referred to as “network effects.” Adding another person to a telephone network typically makes the network more valuable to other users, assuming that the extra user does not create congestion. Similarly, the value of software increases when files can be shared: the more people who use Adobe Acrobat to read documents, the more valuable the software is to people who create documents.

Another key feature that distinguishes New Economy companies is the pace of design change. Ten years ago, word processing programs were just that—glorified typing programs. Today, with the integration of spell checkers, thesauruses and even graphics and database functions, they do everything short of washing the dishes.

Perhaps more important than the integration of new features into existing products is the tendency of New Economy companies to innovate in ways that undermine the viability of competitors. For example, e-commerce is rising at the expense of traditional retailing. And new technologies are appearing all the time that are eroding the position of the Windows-based PC: game machines that tap the Internet, handheld computers that integrate e-mail, and server-based applications software that can be used through any computer running on any operating system.

Path-breaking innovations that redefine markets are not new, of course. After all, the automobile replaced the horse and buggy. What is startling is the rate of discrete innovations that we observe in the New Economy—in part the consequence of the recognition that the payoff to significant new products is enormous. Companies are, in effect, taking big risks to get higher-than-market returns if they win. Because the New Economy is anchored in the production of information, it operates on different principles than the old steel-and-concrete economy. As Summers explained: “The only incentive to produce anything is the possession of temporary monopoly power—because without that power the price will be bid down to marginal cost and the high initial fixed costs cannot be recouped. So the constant pursuit of that monopoly power becomes the central driving thrust of the New Economy. And the creative destruction that results from all that striving becomes the essential spur of economic growth.”

In Summers’ view, the resulting “winner take most” markets are not undesirable. The pressure that drives the winners to ever-greater efficiency is the threat of the Next Big Thing—not the worry that competitors will learn to make the same old stuff for a nickel less.

Summers’ ideas build on the insights of the great economist Joseph Schumpeter, whose key insight was that competition is fundamentally a dynamic process whose primary payoff comes in the form of innovation. The static model of competition so frequently used in antitrust policy—one in which prices are relentlessly driven down toward marginal cost—is simply not relevant in many New Economy industries.

Indeed, the pricing strategies of New Economy companies have more to do with game theory than 19th century models of competition. A company wishing to gain a dominant position in the market will often charge a low price, so that it can attract customers. Yet, even after attaining a dominant position, it is unlikely to charge the profit-maximizing price that would emerge from a static analysis. This is because its dominance is unlikely to be secure unless it maintains a high rate of innovation and a large customer base.

The trustbusters, in turn, must adapt to some new realities:

- **The competitive price in a New Economy market is often ill defined.** In static markets, the competitive price usually equals the marginal cost of production. In a New Economy market, with high fixed costs and low or zero marginal costs, there is no “competitive” price.
- **The difference between price and cost is no longer useful as a measure of market power.** In the old economy, a company that charged substantially above the marginal cost of production was presumed to have some degree of market power—that is, some ability to earn monopoly profits. In a New Economy market, companies must charge more than the marginal cost merely to recoup their investments.
- **The changing nature of New Economy products makes it difficult to define relevant markets for antitrust.** Historical market shares may be very misleading because changes in technology are constantly redefining which products can be substituted for which others.
- **The rise of winner-take-most markets makes it harder to identify illegitimate monopoly power and predatory conduct.** If competition in a New Economy industry yields only a single profitable company, it is hard to say whether the battle was fair and foul. In effect, the choice may be to eat or be eaten.

The Interventionists vs. the Non-Interventionists

Ambiguity leads to ambiguity, with antitrust experts’ views falling loosely into two camps—those who would intervene where the consequences of laissez-faire are unclear and those who would not.

Interventionists focus on barriers to entry that could be imposed by a dominant company. For example, in the Microsoft case they argued that software vendors would not create applications programs for a competing platform (say, Linux) until the competitor had a large installed base. But—Catch 22—such a competitor could not acquire this base of consumers without the requisite applications. Thus, it was argued there was a substantial “applications barriers to entry” into the operating system business. Interventionists are particularly concerned about possible barriers to entry that a dominant company may impose through exclusive contracts with distributors or by “tying” products together.

One theory frequently used in support of intervention is that New Economy markets have a tendency to “tip.” While a market may initially be up for grabs, the theory goes, once a company gains a significant lead in sales the market will tip in its favor and give the dominant company market power for a sustained period.

Interventionists, notably Dan Rubinfeld, the former chief economist for the Antitrust Division, believes in acting early, even if this occasionally means prosecuting companies that are innocent. He argues that a company’s marketing strategy should be deemed predatory if it is rational for the company to eliminate a competitor’s incentive to innovate in the development of a next-generation product.

One serious problem for the proponents of an early warning system is false alarms, which make it hard to design benchmarks for intervention that help consumers more than they hurt them. A company could, for example, pursue a strategy that appears predatory, but actually benefits consumers by lowering prices in both the short and long term. In the Microsoft case, for example, the software maker’s defenders argue that integrating a first-rate Internet browser with Windows without raising the cost of the operating system created tangible benefits for consumers that outweighed the hypothetical costs of putting Netscape at a competitive disadvantage.

Interventionists would also look to intent (rather than to results) in judging the behavior of companies. With Microsoft, they point to a variety of internal documents—e-mail messages and the like—to argue that the company’s motive in developing a better browser was to crush its rival.

But evidence of intent is problematic, at best. It rarely tracks actual behavior and, as noted earlier, it may speak to the realities of winner-take-most markets in which one company’s success turns on the failure of another.

The non-interventionists would err on the side of caution in regulating New Economy markets. They focus on measures of dynamic competition, placing less reliance on market share and mechanical definitions of markets. For example, Richard Schmalensee, dean of the Sloan School of Management at MIT and the expert economic witness for Microsoft in the antitrust trial, argues for examining the “fragility” of the market leader’s position—that is, for assessing the risk that a failure to innovate on the part of the leader or to keep prices low would encourage competitive challenges. In a similar vein Richard Posner, the chief justice of the United States

Court of Appeals for the Seventh Circuit and a University of Chicago law professor, asserts that networks in the New Economy “do not seem particularly secure against competition.”

Non-interventionists explicitly recognize that some activities traditionally viewed as anticompetitive could be good for consumers. For example, they often take a more positive view of linking product sales. David Evans, a senior vice president at National Economic Research Associates, advocates the elimination of the flat-out rule against tying. By the same token, many economists—notably Carl Shapiro and Hal Varian, the authors of *Information Rules*—are open to arguments that consumers benefit from collusion among companies that results in industry-wide standards or protocols.

A fundamental problem identified by non-interventionists is the brisk pace of change in the New Economy compared with the glacial pace of antitrust proceedings. This is not a new problem. The IBM case began in 1969 and was not resolved until the government withdrew its complaint 13 years later. By the time the case was resolved, the PC revolution was well under way, bringing with it a change in the role of mainframe computers and a significant reduction in the stature of IBM in the computer industry.

Similar problems arise in the Microsoft case. The United States government’s concerns were focused on the “browser wars,” then thought to be Microsoft’s bid to destroy a rival that threatened to weaken the value of Windows. But the center of the conflict has since moved away from browsers. And besides, Netscape is alive and well as a subsidiary of AOL—the dominant Internet service provider—which can keep the Navigator browser in the game simply by promoting its use on the AOL network.

So the terms of reference for the case changed. The proposed remedy’s most draconian element would break Microsoft into two companies—one selling operating systems and the other applications software. The government’s rationale for this division focused on Office, Microsoft’s core applications programs for business, which was barely mentioned at the trial. Indeed, the key rationale offered by the remedy-phase economists contradicted theories offered by the government during the trial—specifically, the notion that the adaptation of a handful of popular software applications to Linux would breach the “applications barrier to entry” and make Linux a worthy competitor to Windows overnight. Another concern for non-interventionists is the politicization of antitrust policy by companies that lose in the competitive process. New Economy

enterprises that lose in the marketplace are increasingly using antitrust as a means of confounding rivals and raising their costs. The uncertainty resulting from these political end-runs around the market could make productive investments less attractive.

Non-interventionists differ on how to deal with New Economy companies that long dominate a market. They argue for examining these issues on a case-by-case basis and giving the dominant company the benefit of the doubt, provided there are clear benefits to consumers. And even when they acknowledge that competition has failed, they resist intervention unless there are good reasons to believe that the remedies would do more good than harm.

Measuring the Effects of Antitrust

A decade ago, I was co-author of a study on the value of regulation. Nowhere did we find plausible evidence on the overall benefits and costs of antitrust intervention. The Justice Department, not surprisingly, suggested the net benefits were significant but could not provide a number. There is, however, some, indirect evidence based on stock market data in the case of Microsoft.

George Bittlingmayer and Thomas W. Hazlett measured the impact of government actions on the value of Microsoft stock and the computer industry more generally. They found a clear pattern: when the market learned of action against Microsoft by the government, the company's stock went down, as did computer stocks over all. Conversely, when the news favored Microsoft, share prices rose. If the market believed the Department of Justice's claims—that breaking up Microsoft would reduce its monopoly profits but unleash a new wave of innovation—one might expect Microsoft's value to fall. But the decline should be more than offset by increases in the value of competitors (like Sun and Oracle) that would presumably be liberated from Microsoft's yoke. This was not the case.

To help settle the debate on the benefits of intervention, it would also be useful to have more information on the importance of tipping and the closely related issue of "lock-in." If a market is prone to tipping but consumers are not locked into using a specific technology, we can expect competition to function through a series of contests for market dominance. If, however, consumers are locked into the winning technology, there is more cause for concern.

In software, there are numerous examples of category leaders (think Lotus 1-2-3 or WordPerfect) that were once considered unbeatable yet succumbed to competition from better products. In PC operating systems, where lock-in is of greatest concern, Microsoft has long had high market shares. But it has faced major challenges from IBM and others. Moreover, the low price of Windows—less than 4 percent of the average cost a new PC—is hardly consistent with what one would expect from a secure monopolist.

The experience with Windows also suggests that it is easy to overstate the importance of tipping. The original version of Windows was released in 1985, but sales took off only after the release of Windows 3 in 1990, and it was another three years before sales of Windows exceeded those of Microsoft's old DOS operating system.

More generally, the nature of barriers to entry in New Economy industries needs to be assessed carefully. Some suggest that there could be significant barriers to entry in software, while others argue that the barriers are small. In a recent study, Richard McKenzie of the University of California at Irvine argued that Windows is not protected by an “applications barrier to entry” of 70,000 software programs written for that system, as was claimed by the judge in the Microsoft trial. Instead, he concluded that the needs of many computer users could be met through a relatively small number of software applications, implying that entry barriers were much lower than the government claimed.

The issue of rent seeking also deserves more systematic investigation. Microsoft was not among the top 20 campaign contributors from the computer and Internet industry in 1990. But it was No. 1 in the year 2000—presumably in reaction to the antitrust trial. During the decade, campaign contributions from that industry, as reported to the Federal Election Commission, increased by a factor of 20 from \$1.2 million to \$27.6 million.

What Is to Be Done?

I side with the non-interventionists, but I don't believe that membership in the New Economy entitles companies to carte blanche. Here is a short list of pragmatic recommendations that I think could improve antitrust policy.

- **Recognize the temporal limitations of antitrust.** The legal system simply isn't built to operate on Internet time.

- **Evaluate New Economy antitrust issues case by case.** Whether we are talking about mergers or market dominance, the first and most important task should be to understand how competition actually works in a particular industry.

- **Use a framework that accounts for dynamic competition.** Static measures of competition and consumer welfare are generally uninformative in markets where progress largely takes place through innovation. The real issue is what kinds of dynamic measures to use. One plausible measure, related to the idea of fragility, is the extent to which output and pricing decisions of the company are constrained by potential or actual competition.

- **Err on the side of caution.** Ill-conceived remedies or remedies applied too late only compound market failure. Nevertheless, New Economy industries should not be permitted to run roughshod over common sense. Price fixing is a no-no, no matter what the context. And exclusive contractual arrangements that have no efficiency rationale and significantly raise a rival's costs should not be allowed.

- **Reduce opportunities for political “rent seeking.”** In the good old days, Microsoft did not see the need to have good lawyers and lobbyists in Washington and Brussels. Unfortunately, those days are over. The issue now is whether wasteful rent seeking can be limited. One possibility, suggested by Judge Posner, is to limit the role of the states in pursuing antitrust suits. I also think it would be prudent to subject antitrust proceedings at the federal level to review by a single agency, preferably by the Department of Justice or the Federal Trade Commission. Why, for example, should AOL have to go to the FTC and then the Federal Communications Commission to get approval for its merger with Time-Warner?

- **Learn more about the impacts of antitrust interventions in New Economy industries.** Without a better understanding of the economic impacts of proposed and actual interventions in new economy markets, antitrust officials often will be flying blind.

Economists have offered a framework for thinking about antitrust policy for the New Economy. But it is only a framework, and concrete measures for implementing the framework are in short supply.

The good news is that the New Economy is still thriving. The bad news is that no one really knows how much its future success depends on wise public policy.