

Innovation by Acquisition: New Dynamics of High-Tech Competition

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NOVEMBER 2011

Right now policymakers are grappling with the implications of slow economic growth in the United States and the rest of the industrialized world. One response is austerity—cutting back on spending, accepting reduced living standards, and slowly digging out from the mess.

A better option, though, is innovation, which accelerates growth, creates new jobs, and makes U.S. products and services more competitive world-wide. Innovation has the potential for raising incomes, an especially important task given that real median household incomes have fallen more than 10 percent since the beginning of the recession.

While innovation can come from any industry, the technology sector¹ is particularly important, as it has been the main source of growth and innovation in the economy for the past 35 years. The locus of innovation started with the personal

computer in the late 1970s and 1980s; shifted to software and the internet in the 1990s; and now has moved to mobile, search, and more broadly communications, where U.S. companies are world leaders. Today's technological advances have facilitated the emergence of innovation “ecosystems,” or platforms on which many different companies can build products or provide services.

The growth of tech companies stems from a combination of organic growth and business acquisitions, driven by the rapidity of innovation. It's a virtuous circle, where successful technology companies pay large sums for small startups, which in turn induces the formation of more startups. For that reason, technology acquisitions need not diminish competitiveness, even as they accelerate innovation and job growth. Indeed, as we will see later in this paper, periods of high levels of acquisition have also been periods of rapid job growth.

About the authors

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One question is whether there is anything that government policy can do to encourage technology innovation in the short run. The answer is probably not—while the government does have plenty of long-term levers, such as spending on basic research and investment in science and engineering education, there are few ways to speed up innovation over the next year. On the other hand, government policy is actually quite capable of discouraging innovation in the short-run, through outdated regulation and restrictive antitrust policy that does not take the importance and uniqueness of the technology sector into consideration.

Antitrust policy, as applied to the technology sector in its current form, can impede the virtuous circle of nurturing innovation through startups and acquisitions. By slowing down or blocking acquisitions, antitrust policy can limit strategic exit routes for startups, potentially reducing their value and making it less attractive for investors to put their money into the next round of innovative new companies.

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This paper will explore the role of technology acquisitions in encouraging innovation, facilitating economic growth, stimulating jobs, and enhancing our quality of life. First, this paper examines past trends in technology acquisitions, establishing that waves of industry acquisitions have been an integral part of the rapid innovation in tech sector since the 1980s. We focus in particular on the post-2005 acquisitions by major tech firms.

Second, we examine the question of whether technology acquisitions facilitate innovation, and in particular high-impact innovations. In fact, the benefits to the rest of the economy are connected

to the speed at which potential innovations are moved to market and scaled up. This is because the value created from rapid technological innovation is distributed across all users of the new technology.

Further, this paper will show that periods with high levels of acquisitions generally also tend to be periods of rapid employment growth. This is not meant to be an assertion of causality, but as an argument rather that tech acquisitions are part of the same innovative process as employment growth.

To summarize: (1) when done correctly, acquisitions in the technology sector can and have encouraged innovation by bringing new products to market faster and more effectively; and (2) acquisitions and innovation in the technology sector are positively associated with economic growth and job creation. What's more, mainstream economic theory associates sustainable economic growth in the long-term with constant innovation and technological progress. Looking at technology acquisitions from this perspective provides a different framework from which to assess the potential implications of excessive antitrust regulations, and current antitrust policy.

This paper is part of the Progressive Policy Institute's series of policy briefs on innovation, job growth, and regulation. We believe that innovation is the best way to create good jobs and raise living standards for all Americans. Moreover, we believe that countercyclical regulatory policy can be an effective way of fighting the recession, augmenting countercyclical fiscal and monetary policy.

THE ANTITRUST APPROACH TO TECHNOLOGY ACQUISITIONS

Basic antitrust guidelines date back to the late 19th century and early 20th century, when the federal government was concerned with monopolistic power in industries such as oil and tobacco. Antitrust doctrine has evolved over time as the economy has changed. What's more, there have been multiple attempts to adjust antitrust to suit the particular needs of the tech sector. Still, it's often tough to make antitrust principles fit the

innovation-driven tech world, particular during periods when new markets are being created seemingly every month.

For example, in August 2010 the Department of Justice (DOJ) and the Federal Trade Commission (FTC) issued a comprehensive set of horizontal merger guidelines—the first major revisions since 1992. The guidelines discuss how these agencies—the lead antitrust authorities for the United States—decide whether a merger or acquisition is acceptable.

It is the DOJ's and FTC's job to weigh the costs and benefits when deciding whether to approve acquisitions. Certainly one such cost is the effect on other industry participants, who may find it more difficult to enter the market if too few firms have too much market power. If knowledge and capital are concentrated across a small number of companies, the argument goes, it will be harder for the market to be perfectly competitive. If the industry sector is not “competitive” there is a temptation for the companies on top to take advantage of its market power while other would-be participants watch from the sidelines.

However, they may not be assessing potential benefits from the right perspective: historically, the DOJ and FTC have looked at benefits to consumers as opposed broader benefits to the economy. Indeed, the current approval guidelines contain literally hundreds of references to customers and consumers. The guidelines include no mention of words like ‘jobs’, ‘capital spending’, ‘investment’ and ‘productivity’. These key concepts, which dominate our assessment of the health of the overall economy, have not typically been part of the antitrust process.

Antitrust regulators assume that if they improve competition from the perspective of the customer or consumer, the productive side of the economy will take care of itself. This belief is embodied by the guidelines, which state, “[T]he Agencies normally evaluate mergers based on their impact on customers.”² (Of note, the document covers acquisitions of actual or potential competitors as well.)



In the tech sector, one problem is that the customer is not well-defined. Given the rapid pace of change in tech industries and their dynamic creation of new products and new markets, the pool of consumers is also dynamic in the long-term, and those customers are likely unknown in the short-term to both the acquirer and the company being acquired. In such cases, these unknown long-term consumer benefits of the creation of new markets may swamp any short-term market power considerations.

What's more, the focus on the consumer means that the antitrust process in its current form has trouble taking the potential economic advantages of a merger or acquisition into consideration, ignoring one of the best arguments for approval of many such transactions. In spite of the traditional concerns, the potential benefits of acquisitions are great. Under the right circumstances, acquisitions have been known for facilitating faster introduction of new products to market in a cost effective way. This is not to guarantee that an innovation will be successful—after all, large companies have often unveiled new products that were unsuccessful. But if the products are

successful, it can have positive reverberations on economic growth, job creation, and general quality of life.

COMPETITIVE CONSIDERATIONS

Let's dive a bit deeper into the considerations specific to technology acquisitions today: In particular, technology's historical importance for economic growth, which stems from its propensity to rapidly innovate.

For example, one important issue is that the eventual benefits of technology acquisitions are unknown upfront and must prove themselves over time. They are also potentially both very large and very risky. This means a relatively small share of acquisitions are likely to have the largest economic impact, but there's no sure way to tell which ones those are upfront. Mike Volpi, a venture capitalist and former senior executive at Cisco, reported on his experience with acquisitions;

...companies have to make a long-term commitment to many acquisitions. That way, the entire organization can learn and adapt to the strains of the process and eventually make it a core competence...10-15 percent of the capital deployed via acquisition yields 70-90 percent of the value creation. ...a significant number of acquisitions don't directly contribute to the value creation. But the ones that do have huge impact.³

The implication is that acquisitions have the effect of shifting innovation risk from entrepreneurs and investors to large companies, who are better able to handle it in an era of risk-averse markets. The benefits of such risk-shifting is typically not considered in merger analysis.

At the same time, technology acquisitions can be positive for the economy because of the potential to bring new and innovative products to market faster and more effectively. Acquiring firms may also be better equipped to integrate new technology into existing platforms in a way that will maximize the benefit to society of the individual technology. Acquiring firms are also more likely have the resources to continually improve the technology,

by itself and as a part of a bigger platform, through continual R&D. This keeps the market dynamic and drives competition in a progressive direction as rivals work to stay ahead.

And then there's the virtuous circle where a steady flow of tech acquisitions, rather than reducing competition, can actually spur competition by increasing the incentive to start new companies. Think about it this way: The willingness of investors to put money into a startup depends on the return that they expect. An increase in the

Acquisitions shift innovation risk from entrepreneurs and investors to large companies.

number of acquisitions, all else being equal, will raise the expected return to startup investors, since the odds of their company getting acquired goes up. Therefore tech acquisition activity directly impacts the number of startups.

In turn, an increase in startup activity potentially leads to an increase in the number of successful startups—companies whose innovative products and services find a large enough market to warrant going public or being acquired.⁴ That gives us a feedback loop—a higher rate of acquisition accelerates the rate of startups and innovation, while an increase in the rate of startups and innovation forces large companies to speed up their rate of acquisition.

Of course, the argument can be made that companies make acquisitions simply to gain market power—to have a competitive advantage in the industry—and that this could have monopolistic implications. After all, preventing such concentration is the purpose of antitrust regulation. This threat is generally true of any narrow industry, as companies strategize on how to stay profitable and on top. However, a key feature of the technology sector

is that the constant innovation companies need to stay profitable creates new markets and keeps competition active. For example, Apple has a major product unveiling every year, where investors can judge future profitability and customers can learn about new products. Facebook is changing its platform regularly with new ideas (and new acquisitions) to make communication and “news” sharing even more instant for its over 640 million users. When constant innovation doesn’t happen and companies sit on their products or raise prices without better service, those companies get dragged by the rest of the market.

Competition in the technology sector continually plays out before us: for example, consider social networking sites. Google+ has just unveiled its rival social network to Facebook. Facebook in turn worked hard to beat out companies such as MySpace (acquired by News Corp in 2005 for \$580 million and later sold) and Bebo (acquired by AOL in 2008 for \$850 million, and later sold). Other social networking sites offer niche products that allow them to focus on keeping market share within a specialty, in an effort to stay competitive. LinkedIn is geared solely around professional networking, while Twitter is designed for short “tweets” of 140 characters or fewer. In 2011, Friendster shifted its focus from a social networking site to a social gaming site.⁵

The inherent competitiveness within the technology sector means that technology acquisitions exhibit characteristics that are quite different than what antitrust regulators may encounter in other industries. Because the implications of technology acquisitions are unknown upfront, and because most do not generate large returns, serially acquiring firms in technology only makes sense as part of a larger high-risk growth and innovation strategy for a company. In the spirit of encouraging continued rapid innovation, it would be beneficial for antitrust regulators to approach technology acquisitions with this understanding.

PAST TRENDS

Technology acquisitions have come in waves over time. So too, it seems, does the priority placed on understanding the regulatory approval process and

its potential implications. One of the first technology acquisition booms was in the 1980’s when the invention of the personal computer sparked a technology firm acquisition binge. Some fizzled, while others took off to products we know today.

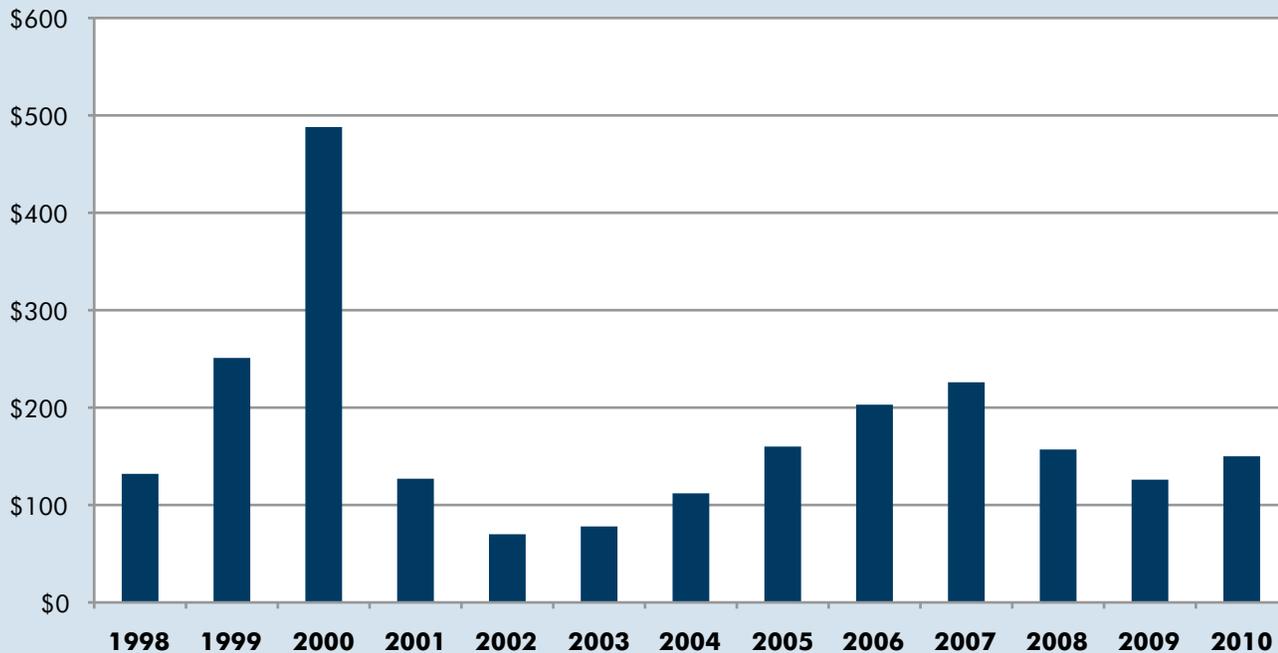
For example, IBM acquired Rolm Corp. in 1984 to incorporate into its product line Rolm’s innovations in digital voice equipment. However, IBM never successfully integrated the technology into its existing platform, and the technology quickly became outdated. In 1989, IBM sold Rolm to Siemens where it faded out of existence.⁶ For a more successful example, look at Microsoft’s acquisition of Forethought, Inc. in 1987. The presentation software that Forethought created was named PowerPoint and, through adaptation, still exists in the Microsoft Office Suite we use today.⁷

In a virtuous circle, a steady flow of tech acquisitions can spur competition by increasing the incentive to start new companies

The next (and more prominent) acquisition boom took place in the second half of the 1990s, when the internet revolution and the so-called ‘dot-com’ boom precipitated buyouts of any small technology firm showing a glimmer of innovational promise. The prevailing philosophy of the time dictated that technology firms should buy as much as possible in order to get the next new technology to market first. This behavior sparked an exponential increase in mergers and acquisitions that peaked at over \$3.5 trillion worldwide in 2000. This boom was led primarily by M&A activity in the high-technology, communications, and other information technology sectors, which made up about 60 percent of all acquisitions in 2000.⁸

The list of failed technology acquisitions during this period would go on forever. On the positive side, an important successful acquisition of

FIGURE 1: ACQUISITIONS IN THE INFORMATION TECHNOLOGY INDUSTRY (US\$ BILLIONS)



Source: Thomson Reuters, PPI

the late 1990s was Apple’s purchase of NeXT, developer of the OPENSTEP operating system, which now makes up the foundation of Apple’s current Mac operating system, “Mac OS X.”⁹ Another well-known acquisition spree in the late 1990s was centered on the recently commercialized electronic mail (email), a spree which several large technology firms participated in: Yahoo! purchased Four11 (now Yahoo! Mail) in 1997, Microsoft purchased Hotmail in 1997, and IBM purchased Lotus Notes in 1995.

Once the dot-com bubble burst in the early 2000s, the number of acquisitions globally and in the U.S. across all sectors dropped substantially. The volume of technology sector acquisitions has yet to return to 2000 levels (where technology acquisitions reached an all-time high of 8,607 transactions worth \$488 billion).¹⁰ After the burst, technology companies (like Cisco) realized the strategy of buying innovation through large-

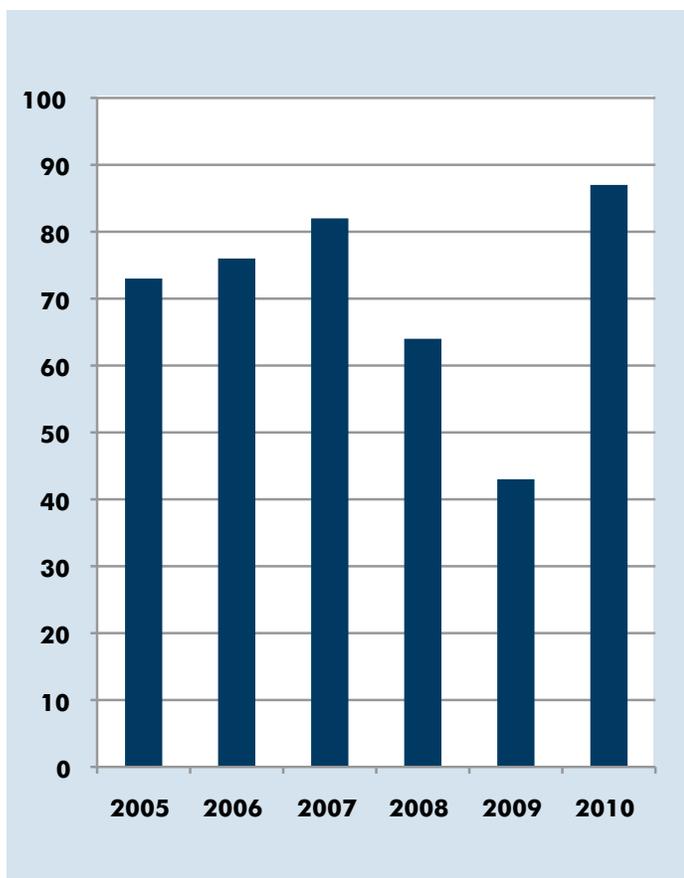
scale acquisition did not always work.¹¹ Instead, companies were forced to assess which strategies resulted in successful returns and which didn’t, and they exhibited acquisition behaviors that were more cautious and not reflective of a free-for-all shopping binge. Looking at Figure 1, we can see that the pre-bust peak in 2007 was still far below 2000 levels.

THE BIG TECHNOLOGY ACQUIRERS

It’s useful to observe trends in technology acquisitions before and after the 2007 recession by looking at the purchasing activity of nine of the largest U.S. technology firms. These include Apple, Cisco, Facebook, Google, HP, IBM, Microsoft, Oracle, and Yahoo.

The 2007 downturn had a noticeable effect on acquisition activity in the technology sector, particularly on these nine large technology firms. Publicly announced acquisitions by the nine

FIGURE 2: ACQUISITIONS BY MAJOR TECHNOLOGY COMPANIES, 2005-2010*



Source: Company Reports, Crunchbase, Wikipedia, PPI
 *This chart includes publicly announced acquisitions by Apple, Cisco, Facebook, Google, HP, IBM, Microsoft, Oracle, and Yahoo.

major technology companies remained strong but experienced a drop of almost 50 percent from 2007 levels. Since then, acquisitions have returned and exceeded pre-recessionary levels as these technology companies continue to expand available products and improve upon existing ones. Also a likely contributor to the rebound in acquisitions is the general turmoil in the financial markets, which has made it much more difficult for startups to launch initial public offerings (IPOs). In the absence of a viable IPO market, being acquired starts to look a lot more attractive for small new companies.

Several notable acquisitions since 2007 include IBM's purchase of SPSS, a popular statistical

analysis software, in 2009 for \$1.2 billion;¹² Microsoft's purchase of Danger, a developer of mobile computing software, in 2008 for \$500 million;¹³ and Oracle's purchase of Sun Microsystems, a developer of querying software, in 2010 for \$7.4 billion.¹⁴ The amounts technology companies are paying for choice acquisitions are also continuing to climb. In October 2011 HP announced the \$12 billion acquisition of Autonomy, which develops software that has searching capabilities for untraditional databases like emails and text messages.¹⁵

DO TECHNOLOGY ACQUISITIONS FACILITATE INNOVATION?

This question is not new, but it is hard to answer. The issue is not simply the average return from acquisitions, as economists would measure it. Instead, the key metrics are the number of high-impact innovations that make it into the market and the speed with which they are adopted into general use. Historically, formally establishing a link between acquisitions and innovation has been difficult, because much of historical evidence tying mergers and acquisitions to innovation is qualitative, found in anecdotes and case studies.¹⁶

When acquisitions allow companies to bring new products to market efficiently and those companies can afford modifications to continue innovating to keep the products dynamic, acquisitions have successfully facilitated innovation. Technology companies that successfully acquired companies include Microsoft, Google, Apple, Facebook, Oracle, and Cisco. Over the last decade, we have seen the power of acquisitions and the resulting innovation in the form of innovation "ecosystems"—platforms on which products and services can be based. For example, Apple built up its iPhone/iPad ecosystem with a small number of judicious acquisitions, including the 2005 purchase of Delaware-based Fingerworks. Fingerworks, a small startup specializes in gesture-operated devices, a technology which appears to have been incorporated into the iPhone and the iPad. Google has created new ecosystems around the purchase of Keyhole (a 2004 acquisition that turned into Google Earth), Android (a 2005 acquisition that turned into a major operating system for

cellular phones), and YouTube (a 2006 acquisition that provides an information sharing platform worldwide).

However, many or even most acquisitions do not result in successful innovations, as noted earlier. Many of the companies listed above that acquired successfully have also acquired unsuccessfully—something that continues even today. For example, in 2009 Cisco acquired Pure Digital for \$600 million which had developed the technology for the flip video camera. Soon after the acquisition, the market for cameras went in another direction: cell phones were incorporating them into their software programs. As a result, Cisco announced in April 2011 that all flip video cameras were being discontinued.¹⁷

Uncertainty is an integral part of the acquisition process. However, it's possible to handle any particular acquisition in a more or less effective fashion. According to empirical research conducted on the subject, much of the blame for failed acquisitions comes down to their not being planned or executed correctly. Specifically, acquisitions in the technology sector sometimes fail because of what Wharton professor Saikat Chaudhuri defines as “Integrative Complexity” and “Product/Environmental Uncertainty.” Chaudhuri defines complexity as the “opportunities and challenges stemming from the interaction and joining of products, processes, people, and other resources.” He defines uncertainty as the “opportunities and challenges stemming from the unpredictability of technologies and market environments at the time of the acquisition.” In 2004, Chaudhuri conducted a study of 200 technology acquisitions over 1988-2002 to discover what went wrong.¹⁸

What did the evidence suggest? Successful acquisitions, as defined by return on investment and time to market, are more likely involve complex products but minimal uncertainty about whether the product is functional and whether there is an appetite in the market. For example, Microsoft's 2011 acquisition of Skype, an established digital communication provider with an existing customer base and products on the

market, is likely to be successful because there is minimal uncertainty. Failed acquisitions, on the other hand, tend to result from hasty purchases where information platforms between companies were incompatible and the product was not yet tested for release. Cisco's misunderstanding of the market appetite for flip video cameras, or of the developments in cell phone software, may have been what caused its purchasing of Pure Digital to be unsuccessful.

This implies that one strategy is to wait to acquire a company until the product is functional and market research is complete. Further, having a company integration strategy ready and in place facilitates getting products to market more quickly and effectively.

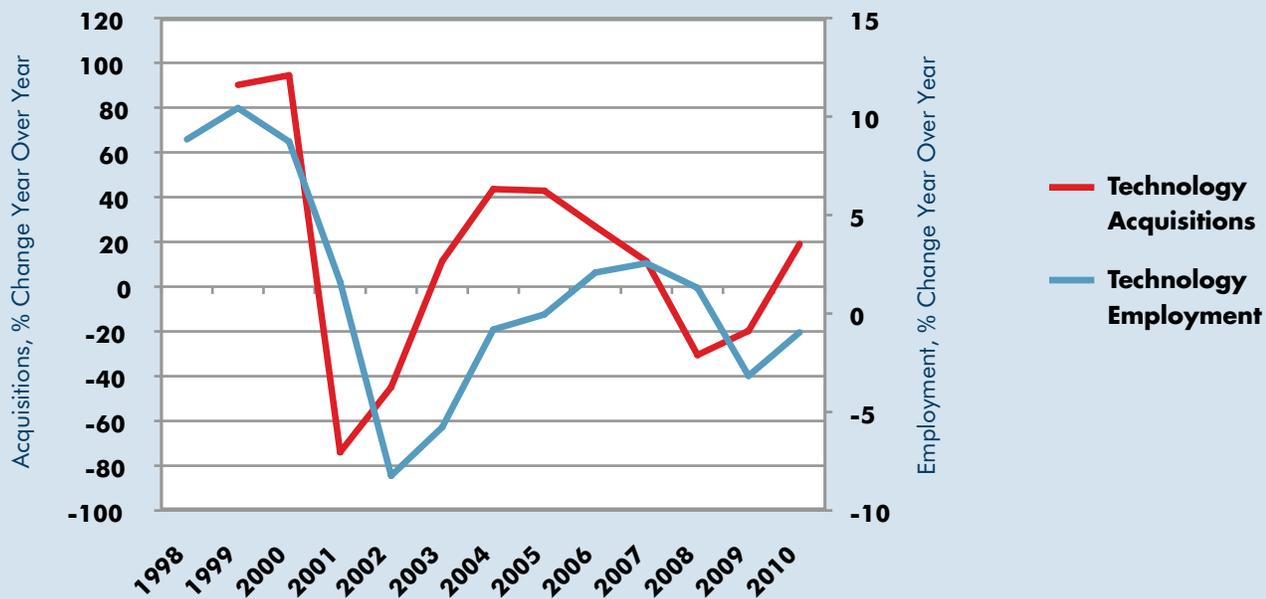
On the other hand, buying up a small company with an untested technology is riskier but allows the possibility of greater acceleration of innovation. In addition, the financial resources and entrepreneurial talent that would have gone to build the small company are available for another startup.

ACQUISITIONS, INNOVATION, ECONOMIC GROWTH AND JOBS

Over the last two decades, the technology industry's contribution to job creation and the economy are notable, with employment tracking the pattern of acquisitions in a way that is quite typical.¹⁹ Looking backward, there is a clear association between periods of large acquisition volumes and periods of economic growth and employment gains in the technology sector. First, consider the dot-com boom of the late 1990s. At a time when acquisitions were on the rise in the technology industry, so too was the industry's economic output and employment. In Figure 3, we can see how large gains in acquisitions led gains in employment during the late 1990s, a time of huge technology innovation.

Next, consider the mid-2000s, a period of excess liquidity in the markets. The excess liquidity again spurred a new charge of acquisitions in the technology sector, which corresponds with a bottoming out of the large declines in

FIGURE 3: ACQUISITIONS AND JOBS IN THE TECHNOLOGY SECTOR*



Source: Thomson Reuters, Bureau of Labor Statistics, PPI

*Technology employment is defined by Software Publishers; Motion Picture and Sound Recording; Broadcasting; Telecommunications; Data Processing, Hosting, and Related Services; Internet Publishing and Web Search Portals; and Computer Systems Design.

industry employment. Figure 3 demonstrates that employment in the technology sector continued to be led by acquisitions, falling in the early 2000s before resuming growth. Further, the second wave of growth in technology employment in the mid-2000s was at a slower pace than in the late 1990s, just as with acquisitions. During the 2007 recession, the fall in acquisitions correlates closely with another subsequent drop in employment.

These historical trends show that acquisitions, or rather the innovations coming out of acquisitions, are positively correlated with employment growth. This is not to say one of these variables solely determines the other. Rather, successful acquisitions are both a cause of and a consequence of rapid innovation, and innovation spurs economic growth and job creation. In addition to employment, we can see industry growth following a similar trend, coming in waves. Between 1998 and 2009, real industry output in technology almost doubled, increasing from \$348 billion to \$693 billion. The

majority of this growth occurred during the same periods of technology acquisition booms.

Connecting the dots, the waves of technology acquisitions in the late 1990s and mid-2000s are clearly associated with growth spurts in technology industry output and employment gains through the creation of new jobs. The rapid innovation experienced in technology stems from increases in acquisitions, growth, and employment, all feeding off of each other. The sustainability of these gains is clearly demonstrated through the 2007 recession, showing how robust gains from technological innovation can be.

ANTITRUST IMPLICATIONS

The potential benefits of acquisitions will not always outweigh the costs. But when making decisions, the DOJ and FTC should be careful not to be unnecessarily conservative in recognizing those benefits and taking into account the potential economic gains at stake. In 2005 James

Moore, a former senior fellow at Harvard Law School's Center for Internet & Society, made this observation about innovation ecosystems:

Antitrust cases that do not recognize this level of organization run the risk of ignoring and possibly damaging important collaborative, innovation-furthering public goods. Cases also run the risk of being used by opponents of a particular business ecosystem to undermine the effectiveness of an innovating community, thus making the courts unwitting tools of narrow competitive interests and inadvertently impairing collective advances that might benefit the whole society.²⁰

We don't know where our technology sector would be if Apple was not allowed to purchase NeXT or if Google was not allowed to purchase Android. But we do know that the innovational promise of the technology sector resulting from what these products gave to the information economy, and the contribution of the technology sector to the economy in the years since those acquisitions were completed, should not be ignored.

Now more than ever, at a time when the domestic economy is struggling, it doesn't make sense to pursue antitrust actions against innovative companies without clear evidence of abusive behavior. Acquisitions, when completed

successfully, can lead to innovations that in turn stimulate sustainable economic growth and create valuable jobs. Because acquisitions generally prove their value over time, and it is only the costs that are apparent upfront, the DOJ and FTC may be making biased antitrust policy that is short-sighted. Instead of only looking at the effect on customers, the antitrust regulating authorities should look at the implications to the entire economy. This could include adding a new dimension to the current antitrust guidelines—by amending the process to explicitly consider broader economic considerations. More informally, it could include promoting a new mindset about how we think about technology acquisitions—by encouraging antitrust authorities to be less dismissive about acquisitions that have great economic potential, even if the benefit to consumers cannot be quantified upfront.

The debate over whether to extend antitrust analysis to include broader economic considerations is not new, going as far back as the 1920s. Yet the arguments for incorporating the potential economic benefits in antitrust decisions are much stronger today than in the past. The trade deficit is bigger, the gap between consumption and production is wider, and globalization is farther reaching. If the U.S. is to maintain its innovative edge, antitrust policy will have to adjust.

ENDNOTES

1. Here, we consider “technology” to include info tech and the broader communications sector, given the ongoing convergence.
2. “Horizontal Merger Guidelines,” Department of Justice and Federal Trade Commission, August 2010
3. Mike Volpi, “Six Key Principles of a Successful Acquisition Strategy, Part 1,” May 21, 2011: gigaom.com/2011/05/21/six-key-principles-of-a-successful-acquisition-strategy-part-1
4. This assumes that the more startups you have, the more successful startups you end up with. That works under ordinary circumstances, but not necessarily in bubble conditions.
5. “New Friendster Site Gaining Momentum,” Kompas.com, September 2011: <http://english.kompas.com/read/2011/09/14/14221516/New.Friendster.Site.Gaining.Momentum>
6. “IBM, Siemens Sign Rolm Pact,” *New York Times*, November 1989: <http://www.nytimes.com/1989/08/18/business/company-news-ibm-siemens-sign-rolm-pact.html>
7. “Microsoft Buys Software Unit,” *New York Times*, July 1987: <http://www.nytimes.com/1987/07/31/business/company-news-microsoft-buys-software-unit.html>
8. Saikat Chaudhuri, “Can Innovation Be Bought: Managing Acquisitions in Dynamic Environments,” 2004
9. “NeXT Fans Give Up the Ghost,” *Wired Magazine*, May 2005: <http://www.wired.com/gadgets/mac/commentary/cultofmac/2005/12/69888?currentPage=1>
10. “Deal Making in High Definition,” A special report by Thomson Reuters and JP Morgan, December 2009
11. “Cisco Curbs Acquisition Strategy,” Network World Fusion, June 2001: <http://www.networkworld.com/news/2001/0621cisco.html>
12. “IBM to Acquire SPSS, Inc. to Provide Clients Predictive Analytics Capabilities,” IBM Press Release, July 2009: <http://www-03.ibm.com/press/us/en/pressrelease/27936.wss>
13. “How Much Did Microsoft Pay for Danger,” Gigaom.com, February 2008: <http://gigaom.com/2008/02/12/how-much-did-microsoft-pay-for-danger-find-out-here/>
14. “Oracle Completes Acquisition of Sun,” Oracle Press Release, January 2010: <http://www.oracle.com/us/corporate/press/044428>
15. “No More Big Software Acquisitions for HP, CEO Says,” CNBC, October 2011: http://www.cnbc.com/id/44792341/No_more_big_software_acquisitions_for_HP_CEO_says
16. Gregor Andrade, Mark Mitchell, and Erik Stafford, “New Evidence and Perspectives on Mergers,” *Journal of Economic Perspectives*, Volume 15, Number 2, Spring 2001, pp. 103-120.
17. “Cisco Gives Flip Video Biz the Boot,” CNET, April 2011: http://news.cnet.com/8301-30686_3-20053075-266.html
18. Saikat Chaudhuri, “Can Innovation Be Bought: Managing Acquisitions in Dynamic Environments,” 2004
19. Employment generally “lags” behind economic conditions, as trends in the economy work their way through to firms’ hiring decisions. In other words, employment has a delayed response to its economic surroundings.
20. James F. Moore, “Business ecosystems and the view from the firm.” *Antitrust Bulletin*, Fall 2005

About the Progressive Policy Institute



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