

**FROM INVESTOR FANTASY TO REGULATORY NIGHTMARE:
BAD NETWORK ECONOMICS AND THE INTERNET'S
INEVITABLE MONOPOLISTS**

*Bruce Abramson**

TABLE OF CONTENTS

I. INTRODUCTION.....	160
II. INVESTOR FANTASY.....	163
<i>A. Recognizing the Bubble.....</i>	163
<i>B. Prehistory of the Commercial Internet.....</i>	165
<i>C. The Internet as a New World.....</i>	167
1. The Dawn of New World Thinking.....	168
2. The Rise of the New World Paradigm.....	170
<i>a. Underlying Theories.....</i>	170
<i>b. The Internet as a Network Industry.....</i>	173
3. The Fall of the New World Paradigm.....	177
<i>a. The Ease of Entry.....</i>	177
<i>b. History of the Unwind.....</i>	181
<i>D. Network Economics and the Internet Bubble.....</i>	187
<i>E. The Internet as a New Channel.....</i>	188
1. The Changing Economics of Information.....	188
2. A Taxonomy of Online Businesses.....	189
3. Traversing the Taxonomy.....	190
<i>a. Information Goods.....</i>	190
<i>b. Physical Goods.....</i>	194
<i>F. Implications of the Paradigm Shift.....</i>	195
III. REGULATORY NIGHTMARE.....	197
<i>A. New Channel Antitrust and Merger Analysis.....</i>	197
1. Market Definition and Participants.....	197
2. Price Movements.....	201
3. Efficiencies and Potential Consumer Benefits.....	203
4. Evidence.....	206
5. The Impact on Merger Policy.....	209
6. Internet Merger Analysis.....	211

* Ph.D. (Computer Science), Columbia; J.D., Georgetown. Dr. Abramson is a Principal of Charles River Associates and an Adjunct Associate Professor of Engineering and Public Policy at Carnegie Mellon University. He may be contacted at CRA, 1201 F St. NW, Suite 700, Washington, DC 20004-1204, (202) 662-3871, babramson@crai.com, fax (202) 662-3910, www.crai.com. The author would like to thank Joe Larson, Tom Overstreet, and Cathy Johnston for commenting on earlier versions of this Article, and Doug Ostrov for helping with the research. The opinions expressed in this article are the author's alone, and do not necessarily reflect the views of either Charles River Associates or Carnegie Mellon.

B. <i>The Jobs Boards Mergers</i>	212
1. History of the Consolidation	213
2. Products, Markets, and Entry	215
a. <i>Taxonomic Categorization</i>	215
b. <i>Market Definition and Participants</i>	215
i. Products	216
ii. Prices	217
iii. Participants	219
3. The Nature of Competition.....	221
a. <i>Niche or Market?</i>	221
b. <i>Product Quality</i>	221
4. Entry and Network Economics.....	224
5. Assessing Agency Performance	225
IV. CONCLUSION	227

I. INTRODUCTION

The Internet investment bubble has come and gone. For a few years in the late 1990s, it seemed as if the people, companies, and organizations tied to the Internet could do no wrong. That perception changed abruptly, and it now seems as if they can do no right. In the meantime, large numbers of Internet firms were formed, spun out to the public, and valued at outrageous levels by ravenous equity markets. Many Internet companies took full advantage of this near-canonization; they ran through obscene amounts of cash and burned out as quickly as they had been born.

Pundits have been able to see the inevitability of the bubble's deflation with perfect hindsight. *Ex post* discussions of the bubble tend to include pejoratives like "Ponzi scheme," "irrational exuberance," "mania," or the seemingly more neutral "widespread accounting irregularities." At the same time, more than a handful of those able to exercise this hindsight lost fortunes during the bubble, some made fortunes, and quite a few undoubtedly did both.

The current widespread recognition that the downturn was inevitable notwithstanding, many questions about the bubble remain. One such question is why it occurred. Simplistic references to manias and to crowd psychology are less than entirely compelling. After all, such attitudes could be applied to any industry at any time. The unanswered question remains: Why technology stocks in the late 1990s? What was it that made these investments so attractive during that brief period? Even Ponzi schemes need a reasonable initial pitch to get started. The answer must be that investors misunderstood something. *But what was that something?*

This Article posits an answer of direct interest to the legal community, and likely of particular to the antitrust bar: network economics. A widespread misunderstanding of this theory of industrial organization — fueled at least in part by reports from the government’s case against Microsoft — led investors to discover an entire industry composed of “inevitable monopolists.” First generation, first-moving dotcoms were destined to dominate the spaces in which they played as surely as Microsoft had come to dominate the spaces in which it played. Huge monopoly rents were bound to follow. Early investors would reap benefits so large that their initial buy-in prices were almost irrelevant.

The oversimplified relationship between network economics and monopoly rents presented by the popular press, particularly in its coverage of the Microsoft trial,¹ explains the inadvertent role that both industrial organization and antitrust law may have played in helping to fuel the Internet boom. In turn, this widespread obsession with investing in — or becoming — the next powerful technology monopolist stands poised to generate a wave of litigation and merger inquiries complicated by the evidentiary trails documenting these misconceptions.

Evidence of the goals, plans, predictions, and dreams of dominance abound.² Many corporate documents, internal business plans, and communiqués with venture capitalists, investment banks, and potential investors trumpet them proudly. Company press releases and articles about the Internet from objective sources tend to confirm them. These documents are certain to emerge in any legal or regulatory matter involving any party that touched the Internet economy — as well as some that did not, but might like to in the future. These documents are likely to complicate many such matters because they go straight to the question of reasonable behavior. How should a reasonable company, executive, or investor behave in the midst of a speculative bubble? Or in more prosaic terms, can there be sanity in a world gone mad? And whether the answer is yes or no, what types of behavior should be viewed as the basis for legal liability?

While these questions are fascinating, they are beyond the scope of this Article. In fact, they are likely beyond the scope of any article that could be written today. In mid-2002, the ripples of the Internet bubble are still working their way through both the economy and the courts. Global Crossing and WorldCom were important infrastructure

1. Press coverage of the Microsoft trial was extensive throughout the trial, and almost as extensive during the subsequent appeal and hearing stages. *See generally* KEN AULETTA, *WORLD WAR 3.0* (2001) (describing press attitudes and perceptions surrounding the Microsoft trial).

2. Much of this evidence resides on the Web. Web citations in this article have been specified with a Web address. All are subject to change at the sole discretion of the party owning and/or controlling that address.

companies that helped make the Internet bubble possible. Enron made important contributions to the notion of bandwidth as a tradable commodity. The behavior that led to the downfall of these once important firms is still being uncovered. It may be years before any determination can be made about which of their actions were fraudulent and which were simply misguided. It may also be years before the last domino falls. Currently, the equity markets are being quite harsh to the entire telecom sector, implicitly discounting many firms with valuable assets because no one is quite certain which (if any) will be the next to fall.

The legal line between reasonable and unreasonable responses to an environment rife with speculation may thus take years to draw. It will unfold in Congress, in the courts, in public opinion, and in the regulatory environments governing accounting and securities trading. When that dust finally settles, a full *post mortem* article may be possible.

In the meantime, the myriad documents describing inevitable monopolization have already begun to manifest themselves in one of the legal arenas most adept at dealing with inevitable monopolists, namely merger enforcement. This manifestation brings the relationship full circle. Investors who misunderstood an economic theory made prominent by the antitrust trial of Microsoft, an actual monopolist, created a trail of fantastic evidence that saw this theory unfolding to create a world of inevitable monopolists. This evidence lay in plain sight for the merger agencies to find when some of these purportedly inevitable monopolists tried to merge. Not surprisingly, a number of seemingly strange decisions followed.³

This article is thus divided into two distinct parts, each telling half of a single story. The first part reviews the development of the Internet, from its earliest days as a research tool through the emergence of e-commerce to the recent boom and bust. This discussion focuses on the public — and industry — perception of what it means to be a “network,” and in particular on the applicability of network economics to Internet companies. The second part considers the antitrust legacy of documents created during the boom period. This discussion focuses on merger policy, and uses the Federal Trade Commission (“FTC”) inquiries into two proposed mergers of Internet jobs boards announced during the summer of 2001 as a case study.⁴

3. At least, they appeared incomprehensible to some members of the Internet community who spend more time following Internet companies than regulatory proceedings. See Keith Ragan, *Who's Minding the Merger Minders?*, E-COMMERCE TIMES, at <http://www.osopinion.com/perl/story/16414.html> (Feb. 21, 2002).

4. By way of full disclosure, I was retained by HotJobs to conduct an economic analysis of the likely competitive effects of its proposed acquisition by Monster.com, one of the two mergers in the jobs board space announced during summer 2001.

II. INVESTOR FANTASY

A. Recognizing the Bubble

Industrial organization is the microeconomic field that studies business behavior and its implications to market structures, processes, and related public policies. Thus, any theory of either the Internet or its impact on commerce is at heart a theory of industrial organization. Industrial organization and antitrust are inextricably intertwined; the majority of economic analyses applied in antitrust matters draw upon theories of industrial organization.

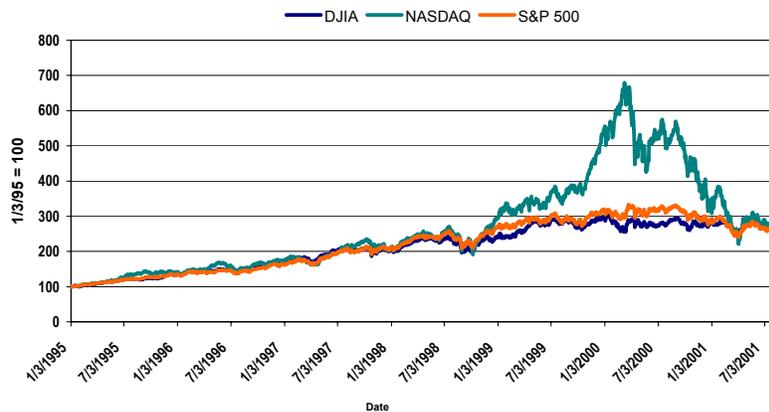
The youth of the commercially viable Internet and the consequent shortage of empirical time series data on e-commerce preclude a definitive theory of the organization of the Internet industry. Nevertheless, the relevant literature has already laid the groundwork from which two divergent theories may be inferred. These theories may be termed the “New World” and the “New Channel” frameworks. Early participants in and observers of e-commerce tended to believe the New World paradigm — so much so that the paradigm fueled a significant investment bubble. Empirical observations quickly discredited that paradigm and led to the widespread acceptance of New Channel thinking. As a result of that transition, virtually every firm involved in the Internet economy is still reeling from the speed with which the theoretical underpinnings of its business plans were undercut. Those that have been able to stay in business are struggling to develop more appropriate plans based on the sounder economic thinking of the New Channel paradigm.⁵

New World thinking began no later than Netscape’s initial public offering (“IPO”) in August 1995, but did not explode into a widespread cultural phenomenon until late 1998. While it is hard to pin down specific dates for the “tech boom,” even a casual glance at the relative price movements of several key indices, shown in Figure 1 (p. 6), demonstrates the presence of a bubble in the tech-heavy NASDAQ index running from about the third quarter 1998 into the summer of 2000, or, at the very latest, into the beginning of the second quarter of 2001. Figure 1 shows weekly closing prices of the Dow Jones Industrial Average (“DJIA”), the S&P 500, and the NASDAQ composite indices from the first trading day of 1995 through August 31, 2001. Note that the long-run return on all three indices was about the

5. This Article has consciously avoided the term “New Economy.” The New World and the New Channel paradigms are *both* New Economy theories. Both paradigms recognize that e-commerce, the Internet, and related technologies will have a significant and lasting effect on the way that business is conducted. The paradigms differ in their adherence to some of the more radical claims of early New Economy advocates, in their views of competition between online and offline firms, and in their implicit valuations of Internet properties.

same — as expected. The anomalous deviation of the NASDAQ from the other two indices between late 1998 and early 2001 both illustrates and defines the outer reaches of the Internet investment bubble.

Figure 1: The Internet Investment Bubble



Many industry analyses, financial analyst reports, company press releases, and internal corporate documents prepared throughout that period assumed that the Internet defined a new world governed by a new economic logic and new rules for corporate valuation. When the technology sector entered first a correction and then a full-fledged bear market, this theory was quickly discredited. By late 2000 or early 2001, few if any New World advocates remained. Industry observers came to view the Internet as a new channel for the exchange of information that could affect firms in a large number of industries. Standard economic logic and industry definitions rose to the forefront of consideration, and firms whose origins lay in the Internet suddenly discovered that they had to compete with their brick-and-mortar counterparts for both investment dollars and operating revenues. The acceptance of this approach marked the ascendancy of the New Channel paradigm.

Firms now attempting to operate in a New Channel environment are likely to discover themselves advocating positions that are inconsistent with those articulated in planning documents generated in the fairly recent past. Courts or regulators who hold them to their documented positions will be doing the economy a great disservice. Documents generated during the reign of New World thinking are likely to reflect that framework — and must be interpreted accordingly. Prospective actions, such as proposed mergers, must be viewed in a different light — the empirically-driven New Channel framework. In order to appreciate that distinction and to put all documents

in context it is thus critical to understand both views of the Internet and their implications to industry structure.

With those thoughts in mind, a quick detour through the history of the Internet is useful to understand how each of the paradigms evolved — and how to deal with their interaction.

B. Prehistory of the Commercial Internet

In the late 1960s, a group of academic researchers working on projects sponsored by the Advanced Research Projects Administration (“ARPA”) of the U.S. Department of Defense (“DoD”) devised a novel approach to communicating and to sharing data; they constructed a long-range network of high-speed mainframe computers located at selected universities around the United States.⁶ This network, originally known as the ARPANet, grew to encompass many universities and research institutions, as well as research activities outside the ambit of DoD programs. By the late 1980s, the ARPANet had developed into an important backbone for the American — and global — research world. In the early 1990s, the federal government withdrew its support for the network’s governance, and turned network management and administration over to a small number of private sector firms. The no-longer-ARPA-sponsored “interconnection of networks” was renamed the Internet.

The growth of the personal computer (“PC”) and of networked computing throughout the 1980s and early 1990s was not restricted to the research world. At least two other important sectors also witnessed rampant computerization: offices and homes. Virtually all offices and workplaces in the developed world became computerized during this period. Office automation began with selected administrative, accounting, and word processing capabilities, progressed to insure that a PC was placed on every desk, and eventually interconnected all those computers via a local area network (“LAN”). Companies with multiple locations began to network these LANs together to create private, often nationwide (or even global) networks.

During this same period, many homes acquired their first PCs. Like their counterparts in the business world, homeowners entered the world of computing to perform a number of business-like tasks — home finances, writing, homework, etc. — but soon discovered that simply owning the computer created an unexpected set of opportunities. Once the computer hardware was in place in enough homes, private sector companies determined that a substantial number of individual consumers would appreciate the benefits of e-mail, infor-

6. The history and growth of the Internet has been reported in many places. *See, e.g.*, Robert H. Zakon, *Hobbes’ Internet Timeline v5.6* (providing a basic Internet development timeline), at <http://www.zakon.org/robert/internet/timeline/> (last modified Apr. 1, 2002).

mation sharing, and network connectivity. These firms began to offer connectivity to their proprietary networks via modems and telephone lines. By the mid-1990s, large numbers of homes had computers with network access, and users sophisticated enough to avail themselves of information and applications developed at remote sites.

The situation in the early to mid-1990s could thus be described as a world of widespread computing power connected to one of a number of separate and often proprietary networks, but not quite the global infrastructure that we now take for granted. Further innovations in the way information was indexed and retrieved were necessary before the research-oriented Internet could evolve into its current, commerce-oriented form. A lack of robust indexing was perhaps the single greatest weakness of the research-oriented Internet. Technically, any file resident on any computer on the network could be accessed by any authorized user on any other computer on that network. As a practical matter, however, there was no systematic way for users to know what information was available or where to find it. This situation persisted until an indexing scheme developed in 1989 by Tim Berners-Lee, a researcher at the European Laboratory for Particle Physics (“CERN”) in Geneva, gained rapid and widespread acceptance.

Berners-Lee’s system combined a text formatting system called HTML (the Hypertext Markup Language), a communication standard called HTTP (the Hypertext Transfer Protocol), and an addressing scheme to locate websites called URL (the Universal Resource Locator).⁷ This combination essentially broadcast a description of every file’s content and location to every user on the network. But broadcasts are only valuable in the presence of receivers. These receivers, known as “browsers,” allowed users to locate files indexed by URL. The combination of browsers and search engines — programs designed to search keyword lists and return corresponding URLs — enabled full-scale “navigation” of the Internet. Navigability, or “surfing,” soon made the original Internet so popular that increasing numbers of previously proprietary networks felt compelled to join. They too adopted URLs, enabled keyword indexing, and insured that their network protocols were compatible with those of the ARPA-originated Internet.

These ideas completed the basic plumbing of the Internet. The convergence of multiple networks to the single global Internet, no longer focused on research, guaranteed widespread interconnection. Anyone with information to share could be reasonably certain that they could direct it to their intended audience — if only they could get the members of that audience to request it. Information sharing had suddenly become easy and cheap. Network usage by businesses and

7. For a detailed description of Berners-Lee’s work and vision, see TIM BERNERS-LEE, *WEAVING THE WEB* (1999).

consumers dwarfed usage by researchers. The Internet adopted an entirely new complexion — a focus on the commercial sector. The stage was set for the explosion of e-commerce into the public consciousness.

C. The Internet as a New World

This newly complexioned Internet gave businesses and consumers a fundamentally new way to exchange information at a low cost. While the potential commercial ramifications of this change were recognized as significant, relatively few traditional firms felt the need to jump into the online world quickly, and those that did were often perceived as being disadvantaged by their legacy systems.⁸ Furthermore, relatively few consumers clamored for such access.⁹ Once again, the initial research focus of the Internet had colored the way that the technology had matured. Early Internet browsers contained inelegant textual interfaces useful for the retrieval of text and data files.¹⁰ These browsers became popular among academic researchers, college students, and technophiles, but failed to capture the imagination of the public at large. In 1993, a group of students at the University of Illinois developed Mosaic, the first platform-independent, user-friendly, fully graphics-enabled browser. Several key members of the Mosaic team moved to the Silicon Valley and joined forces with tech-industry veterans to form a company dedicated to the improvement and commercialization of Mosaic: Netscape.¹¹

8. See generally Lorraine Harrington & Greg Reed, *Electronic Commerce (Finally) Comes of Age*, 2 MCKINSEY Q. 68, 76–77 (1996) (describing the challenges that incumbent businesses will face integrating e-commerce into their business models).

9. For example, total annual Internet sales as late as 1996 reportedly totaled less than \$3 billion. See Commonwealth of Pa., *Made in PA—E-Commerce Statistics*, at <http://web.archive.org/web/19991009201225/http://www.madeinpa.com/ecomms-stats.asp> (last visited Oct. 5, 2002) (citing an Int'l Data Corp. report from Investor's Bus. Daily (Sept. 16, 1998)).

10. Gopher, a popular, early text-based Internet browser, was developed at the University of Minnesota as a campus-wide document retrieval system. See Chris Sherman, *A Pre-Web Search Engine, Gopher Turns Ten*, SEARCHDAY, at <http://searchenginewatch.com/searchday/02/sd0206-gopher.html> (Feb. 6, 2002).

11. Jim Clark (formerly of Silicon Graphics, Inc.) and Marc Andreessen (formerly of the Mosaic team) founded Netscape in April 1994. When Netscape formally announced that it was filing for an IPO on June 23, 1995, its underwriter (Morgan Stanley) initially estimated a price of \$12–\$14 a share. The IPO took place on August 9, 1995 — only sixteen months after the founding of a company that had never turned a profit — with 5 million shares offered at \$28 per share. On the first day of trading, the stock opened at \$71, traded as high as \$74.75, and closed at \$58.25. The stock exhibited extreme volatility, selling as high as \$174 per share in early December 1995 — and then losing more than half of its value over the next few months. For a brief review of the stock's early trading history as summarized for a business school case study, see Haim Mendelson & Anne Korin, *Netscape Case Study*, at <http://www.stern.nyu.edu/~tucci/netscape/finbkgd.htm> (last visited Sept. 30, 2002). Over the next five years, a number of other widely discussed technology startups exhibited similar growth and volatility patterns following their IPOs. For a detailed review of Netscape's

1. The Dawn of New World Thinking

Netscape, the first company to base its entire existence and product line on the Internet, played a critical role in establishing the Internet as a part of the popular culture. Observers of the computer and software industries followed Netscape almost from its date of incorporation. Its flagship product, Navigator, was the first commercial browser, and its IPO stunned the market with both its rapid appreciation and its overall volatility.¹² The basic justification for the excitement surrounding the IPO of an unprofitable startup company in a fledgling industry was simple: the Internet was a surefire technological advance and Netscape would essentially own it.¹³ Anyone who wanted to access the Internet would have to pass through Netscape's browser or use Netscape's services.

Within about three-and-a-half years, this reasoning came to dominate the thinking of analysts and investors — not to mention that of venture capitalists and would-be entrepreneurs armed with ideas about Internet usage. It did not take quite as long to get the attention of other software companies — notably but not exclusively Microsoft — and to set off a race to control the Internet's browser standard. The ensuing “browser wars”¹⁴ popularized the availability of powerful, user-friendly interfaces, and helped to speed the growing popularity of the Internet.¹⁵

With perhaps a touch of irony, Netscape conceded defeat in the browser wars in late 1998,¹⁶ just about the time that the reasoning that had powered its own successful IPO was being applied to launch the next wave of Internet IPOs to stratospheric valuations.¹⁷ Various

history, see generally MICHAEL A. CUSUMANO & DAVID B. YOFFIE, *COMPETING ON INTERNET TIME* (1998).

12. See Mendelson & Korin, *supra* note 11.

13. See *id.*

14. See generally CUSUMANO & YOFFIE, *supra* note 11, at 89–155 (describing the competition between Microsoft and Netscape). Microsoft eventually won this competition, largely through a series of anticompetitive maneuvers that made it impossible for Netscape to continue functioning as a standalone business. See *United States v. Microsoft Corp.*, 253 F.3d 34, 60–62, 65–66, 68–80 (D.C. Cir. 2001).

15. In 1996–97, AOL — then, as now, one of the most important and popular providers of network access and content to the home — linked its previously proprietary network to the Internet and developed a website offering some of its proprietary content to non-members. See *AMERICA ONLINE, INC.*, 1997 FORM 10-K (1997). At about the same time, on December 1, 1996, AOL changed its fee structure from a base-plus-usage system to a flat fee for unlimited use. AOL gained a million new subscribers in the two months following the pricing change — representing a 14% increase in its customer base. See *id.*

16. AOL acquired Netscape in March 1999. See Shannon Henry, *AOL-Netscape Merger Trims 850 Jobs*, WASH. POST, Apr. 1, 1999, at E1.

17. While the general market recovery from the summer 1998 downturn helped further the tech boom, Internet stocks had been reasonably popular even during the downturn. The first day of trading for the mid-September 1998 IPO of eBay, the premiere Internet auction site, saw share prices surge from \$18 to \$54.25, before closing at \$47.37. See Jennifer Sullivan, *Investor Frenzy over eBay IPO*, WIRED NEWS, Sept. 24, 1998, available at

Internet firms began to experience rapid run-ups in their stock prices,¹⁸ as increasing numbers of investors came to believe that these new players were going to dominate the future of their sectors. Early investment provided the opportunity to own next year's monopolists at this year's prices. Apparently, the demise of Netscape — the first of the surefire next generation monopolists — had had little impact on this analysis. While some observers felt that this behavior demonstrated a widespread “irrational exuberance,”¹⁹ or even less politely a “mania,”²⁰ no one doubted that it was real — or that it was being powered by the rapid emergence of the Internet into popular culture.²¹

<http://www.wired.com/news/business/0,1367,15212,00.html>. In the immediate aftermath of eBay's success, a number of other Internet firms, most of whom had previously put their IPO plans on hold, announced that they, too, would soon go public. See Craig Bicknell, *eBay Opens IPO Floodgates*, WIRED NEWS, Sept. 25, 1998, available at <http://www.wired.com/news/print/0,1294,15253,00.html>. One of those companies, TheGlobe.com, saw its share price leap from \$9 to \$97 on its first day of trading in November 1998. See Dawn Kawamoto, *TheGlobe.com's IPO One For the Books*, CNET, Nov. 13, 1998, at <http://news.cnet.com/news/0-1005-200-335339.html?tag=rldnws>. Three-plus years later, eBay remains one of the most successful companies on the Internet, trading in November 2001 at roughly the level that it achieved by the end of 1998. Meanwhile, TheGlobe.com ceased operations on August 15, 2001. See <http://www.theglobe.com/> (last visited Oct. 15, 2002). Its IPO was viewed by many as “a critical inflection point,” during which “an overly forgiving stock market seemed to drop all pretensions of rationality.” Rob Walker, *Flash in the Pan*, N.Y. TIMES, Nov. 4, 2001, §7, at 13 (quoting GARY RIVLIN, THE GODFATHER OF SILICON VALLEY (2001)).

18. Two well-known examples of Internet retailers, eBay and Amazon.com, should suffice to illustrate the point. After its successful IPO on September 24, 1998, eBay's share price dropped before skyrocketing. By the time the year was over, its price had surpassed \$100 per share. See EBAY, INC., 1999 FORM 10-K (Mar. 30, 2000). Amazon.com reported a share price range of \$9 1/2 to \$184 5/8 during the 52-week period ending February 28, 1999 (adjusted for splits). See AMAZON.COM, INC., 1998 FORM 10-K 12 (Mar. 5, 1999).

19. Federal Reserve Chairman Alan Greenspan first applied the term “irrational exuberance” to the tech boom in 1996. See Federal Reserve Chairman Alan Greenspan, Address at the Annual Dinner and Francis Boyer Lecture of The American Enterprise Institute for Public Policy Research (Dec. 5, 1996), available at <http://www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm>. Professor Robert Shiller later used it as the title of his popular book that labeled the tech boom a speculative bubble and predicted its eventual — and rapid — deflation. See ROBERT J. SHILLER, IRRATIONAL EXUBERANCE (2000).

20. See, e.g., Robert D. Hershey Jr., *Down and Out on Wall Street*, N.Y. TIMES, Dec. 26, 1999, § 3, at 1.

21. Most (if not all) observers appreciated the relationship between the 1998–2000 boom in technology stocks and the emergence of the Internet into public awareness. To pick just one high-profile source:

What should be indisputable is that a number of new technologies that evolved largely from the cumulative innovations of the past half century have now begun to bring about awesome changes in the way goods and services are produced and, especially, in the way they are distributed to final users. Those innovations, particularly the Internet's rapid emergence from infancy, have spawned a ubiquity of startup firms, many of which claim to offer the chance to revolutionize and dominate large shares of the nation's production and distribution system. Capital markets, not comfortable dealing with discontinuous shifts in economic structure, are groping for sensible evaluations of these firms. The exceptional stock price volatility of most of the newer firms and, in the view of some, their outsized valuations, are

2. The Rise of the New World Paradigm

a. Underlying Theories

The exponential growth that began in Internet stocks gathered steam as it wound its way through the stocks of firms involved in a number of technological areas likely to benefit from the Internet's growth. By the end of 1999, the boom had spread throughout the world of technology, so that virtually any company involved in any aspect of computing, telecommunications, wireless networking, or Internet content, had become a darling of investors. Once again, consumers saw technology firms as budding monopolists — and rushed to own them before their rents bloomed. The tech boom emerged into public view as one of the most significant news stories of 1999.²²

Large and small investors labored to explain the boom. Investment chat rooms, discussion groups, and newsletters buzzed with a number of theoretical justifications for tech sector valuations. Much of this buzz drew on a less-than-complete understanding of the trade press. In particular, ideas popularized by several serious students of technology companies and markets — providing the public with accessible descriptions of cutting edge thinking about investing,²³ tech-

indicative of the difficulties of divining from the many, the particular few of the newer technologies and operational models that will prevail in the decades ahead.

Federal Reserve Chairman Alan Greenspan, Address at the Econ. Club of N.Y. (Jan. 13, 2000), available at <http://www.federalreserve.gov/boarddocs/speeches/2000/200001132.htm>.

22. The boom in tech stocks was widely reported and discussed. One representative assessment was provided by the now-defunct Industry Standard (“The Newsmagazine of the Internet Industry,” itself a victim of the downturn in mid-2001) in its 1999 year-end issue:

If 1998 was the year the Internet came of age, 1999 was the year Internet business grew up The bubble did not burst. Instead, it got bigger. And the key question for investors was no longer whether to invest in the Net, but how. Net stocks rocketed up this year, far outpacing other sectors. . . . In a strong sign that everyone — everyone — is betting on the Net, most institutional investors shed any remaining reticence about sinking money into Internet companies, and the established university endowment funds and pension funds looked to step up the amount they're putting into Internet startups. At least 16 new Internet mutual funds are about to open

10 Stories That Shook the Net, INDUSTRY STANDARD, at <http://www1.cnn.com/1999/TECH/computing/12/22/standard.10.stories.idg/> (Dec. 22, 1999). Publications not geared to the Internet community echoed this sentiment. According to USA Today,

It's impossible to look back at 1999 without looking at the future. The biggest stories on business pages were about the huge mergers in the telecommunications industries, and Wall Street's almost insatiable appetite for Internet stocks. Both trends were fed by the belief that high-tech will continue to lead and dominate businesses and industries around the world.

1999 Year in Review, USA TODAY, Dec. 30, 1999, available at <http://www.usatoday.com/life/cyber/tech/ctg959.htm> (last visited Oct. 22, 2002).

23. See, e.g., GEOFFREY A. MOORE ET AL., *THE GORILLA GAME* (rev. ed. 1999).

nology,²⁴ management,²⁵ and economics²⁶ — helped excite people who were unused to life at the cutting edge of a theory. Large numbers of online discussants attempted to apply these analyses' basic messages to nuanced investment decisions — without really understanding the nuances of the analyses.

Because relatively few of these books' aficionados heeded the warnings issued by the authors,²⁷ the investments that they advocated were often based on a flimsy foundation. One of the most common mistakes made by these investors lay in their belief that Internet firms existed as part of a fundamentally new technology — as implied by the New World paradigm — rather than as firms in various industries that made clever use of a new technology — as implied by the New Channel paradigm.²⁸ The most dangerous of these partially understood economic theories was probably the industrial organization theory of “network effects,” often conflated with a number of related but

24. See, e.g., GEORGE GILDER, *TELECOSM: HOW INFINITE BANDWIDTH WILL REVOLUTIONIZE OUR WORLD* (2000).

25. See, e.g., CLAYTON M. CHRISTENSEN, *THE INNOVATORS DILEMMA* (1997).

26. See, e.g., CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES* (1999).

27. For example, Moore et al. dedicate an entire chapter to Internet investing. See *supra* note 23, at ch. 12. Two of the chapter's key points are particularly noteworthy. First, the authors warned their readers that, although the Internet as a sector was likely undervalued, virtually all existing Internet companies were likely temporarily overvalued. Second, the authors explained that most Internet companies were not truly technology companies, but rather firms out to revolutionize other commercial sectors. As an example, they noted that Amazon.com should be viewed as a retailer, rather than as a technology play. *Id.* Note that this thinking is tantamount to warning investors that the New Channel — not the New World — provides the proper paradigm for evaluating Internet firms.

28. Perhaps even more egregious than *Gorilla Game* devotees who conflated Internet firms with technology companies, *id.*, were followers of George Gilder and Clayton Christensen who made the same error. Gilder's basic proposition was that the “telecosmic” revolution made bandwidth free. He then explored the ramifications of this proposition, and sought out companies whose technological advances and marketing strategies seemed to best take advantage of it. After several of Gilder's long-time picks began to experience rapid appreciation, his acclaim spread into the investment community at large: “Gilder, whose 1980 book ‘Wealth and Poverty’ was an important influence on President Reagan, now has an even greater influence on the market through his 60,000-circulation Gilder Technology Report, which often boosts stocks through what has been dubbed ‘the Gilder Effect.’” Howard Kurz, *Letterman Does a Number on the N.Y. Times*, WASH. POST, Sept. 4, 2000, at C1.

Christensen, a professor at Harvard Business School, studied management practices at a number of large (and once successful) companies that had been overtaken by upstart competitors — as well as those of the upstarts. His analysis basically built on Joseph Schumpeter's notion of “creative destruction” by observing that many of these large companies became obsolete despite adopting sound business practices and reasonable strategic plans. He posited that their downfall was an almost inevitable consequence of the ways in which new technologies championed by the entrants rendered the incumbents' existing products and brands obsolete. See CHRISTENSEN, *supra* note 25. While Christensen's book actually dealt with “technologies” as prosaic as disk drives, backhoes, and discount retailing, many investors seemed to view it as an indication that startups born as Internet pure plays would soon displace their powerful brick-and-mortar competitors.

distinct ideas, including “positive feedback,” “increasing returns,” and “Metcalfe’s Law.”²⁹

Network effects came into the full public consciousness of the technology community through the role that they played in the Microsoft trial.³⁰ One of the government’s key claims was that Microsoft’s control of Windows’ proprietary application programming interfaces (“APIs”)³¹ created an “applications barrier to entry”³² that facilitated anticompetitive behavior.³³ While many technology investors were hostile to the government’s case,³⁴ they were also interested in learning the economic theories behind Microsoft’s success. Their quest for

29. Both the literature and legacy archived chat rooms are full of passages along the following lines:

Web commerce . . . exploded from nothing in 1993 to \$22 Billion in 1998, with predictions of hundreds of billions of dollars early in the next century. This rapid expansion of the network is a classic example of what economists describe as ‘positive feedback loops,’ ‘increasing returns,’ and ‘network externalities.’ Behind the jargon, the dynamics are easy to follow. As more people and organizations connect to the Internet, more people and organizations create more tools and applications that make the Internet even more useful. And the more users, as well as tools and applications, there are, the more valuable connecting to the Internet becomes. As a result, more people start connecting, more tools and applications appear, and even more people sign on, ad infinitum. The technology community likes to describe this phenomenon as Metcalfe’s Law, which states that the usefulness of a network, like the Internet, grows exponentially as the number of users grows.

CUSUMANO & YOFFIE, *supra* note 11, at 4.

30. Reporting of the first round of the Microsoft trial was split. The findings of fact are in *United States v. Microsoft Corp.*, 65 F. Supp. 2d 1 (D.D.C. 1999). The findings of law are in *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000). The appellate ruling, affirming in part, reversing in part, and remanding for further consideration is in *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

31. An API is a dictionary or a grammar published by a platform developer to teach potential third-party application developers how to communicate with their platforms.

32. *Microsoft*, 65 F. Supp. 2d at 27.

33. The temptation to read too much generality into the district court’s discussion of network effects in *Microsoft* was evident early on. In the words of one commentator:

The potentially decisive impact of network effects is illustrated by the *Microsoft* case, in which network effects have been much commented upon . . . [T]he district court based its finding that Microsoft unlawfully maintained a monopoly on what it termed the ‘applications barrier to entry,’ which it described as arising from a ‘positive network effect . . .’ *Microsoft* presents a fascinating case study, although its most important lesson may be that assessing conditions of entry in the presence of network effects is likely to be a complex and highly fact-intensive process. The mere presence of network effects does not imply anything important about conditions of entry.

Gregory J. Werden, *Network Effects and Conditions of Entry: Lessons from the Microsoft Case*, 69 ANTITRUST L.J. 87, 88–89 (2001) (citations omitted).

34. Perhaps the ultimate expression of investor contempt for the government’s case against Microsoft emerged when the terms of its settlement with the Department of Justice were announced: “These columns have long covered the special-interest lobbying and political careerism that gave rise to the anti-Microsoft jihad.” Editorial, *Finally, a Settlement*, WALL ST. J., Nov. 2, 2001, at A14.

quick riches frequently began with an incomplete understanding of network effects and the ways that Microsoft had used them to such great effect. A brief exposition of basic network economics — and of the points that the Internet community neglected in its discovery of rampant network effects — is thus a prerequisite to understanding both the initial allure and the subsequent debunking of the New World paradigm.

b. The Internet as a Network Industry

The investment community appeared to believe that the Internet — the ultimate network — *had* to be a “network industry.” That belief was misguided. True network industries are relatively rare. These industries, as their name implies, have much in common with physical networks like telephone or electricity networks, which are essentially collections of end users connected by physical links. Any two items wired to the same network must be *interoperable*, or able to conform to the specifications of the network.

Not all networks require physical connections. Users of interoperable software define a *virtual* network. Examples of such software networks are the collections of all users of software that can run in Windows, or of all users of Macintosh software. These people are connected by application programming interfaces, specifications required for compatibility to which all application developers (and thus all users) must conform. Entire industries can also be examples of virtual networks. The first and best-known defining characteristic of a network industry is that the value of a network grows with its size. This phenomenon is known as “positive feedback” (or alternatively, increasing returns to scale).

Positive feedback follows standard microeconomic principles describing consumer choice. The rational choice for a consumer contemplating the purchase of a good linked to a network is to select the option that will connect her to the most valuable of the competing networks (assuming that the price for network admission is held constant). Because the most valuable network is likely to be the one with the most pre-existing members, the consumer’s rational decision to join it will make the largest network larger — and thus correspondingly more valuable to the next consumer who considers joining.

In the software world, application developers would like to access the broadest possible market. If more people own computers running Windows than Unix, Windows compatible applications will be written for a larger market than Unix compatible applications. Application designers will rationally decide that, all else being equal, they would prefer to sell to the larger market. That decision will add to the collec-

tion of Windows compatible software, thereby making Windows even more attractive to new consumers.

This example was exactly the “applications barrier to entry”³⁵ discussed in *Microsoft*. A number of operating systems had remained popular as late as the early 1990s. By the mid-1990s, the market had “tipped” towards Microsoft’s Windows, thereby earning Microsoft a monopoly of the operating systems market for PCs built around Intel’s microprocessors.³⁶ This monopoly gave Microsoft extreme negotiating power in dealing with virtually every other player in the hardware and software markets — power that it used both to earn tremendous profits and to violate antitrust laws.³⁷

Internet investors understood this aspect of Microsoft’s network power: its large market share made its products ever more desirable, and thus multiplied its negotiating power in virtually all its relationships.³⁸ Investors believed that this phenomenon was likely to be widespread throughout both the Internet and related technologies, and set out to find “the next Microsoft.”³⁹

35. *Microsoft*, 253 F.3d at 34.

36. See Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 J. ECON. PERSP. 117 for a terse description of tipping to a standard. In their words:

A final characteristic of network markets is that history matters. Outcomes in other markets can often be explained by contemporaneous consumer preferences and producer technologies, but network market equilibria often cannot be understood without knowing the pattern of technology adoption in earlier periods. Because buyers want compatibility with the installed base, better products that arrive later may be unable to displace poorer, but earlier standards.

Id. at 118–119. This description of tipping to a standard would have appeared quite at home in any of the chat rooms frequented by Internet investors during the boom. The key to appreciating Besen and Farrell’s analysis, though, lies in the first three quoted words: “A final characteristic...” Internet investors ignored analyses like theirs, and treated tipping as if it were the *only* important characteristic in network markets. With that misconception firmly in place, the equation of first movers with eventual monopolists was inevitable.

37. See *Microsoft*, 253 F.3d 34.

38. One particularly clean exposition of this incomplete interpretation of network effects appeared in The Motley Fool, a popular technology-oriented investment site:

Market share is important because the software industry exhibits increasing returns, a phenomenon explained by W. Brian Arthur of the Santa Fe Institute. His theory states that once a company gets a market share lead, it gets farther ahead while competitors fall farther behind. This happens because technology buyers are conservative and they demand technologies that are standard and work effectively with the rest of their infrastructure. As more copies of a leader’s software are sold, it increases the likelihood of its becoming the standard, causing even more copies of software to be sold and reinforcing the growth cycle.

John del Vecchio & Mike Trigg, *What the Next Microsoft will Look Like*, MOTLEY FOOL, Dec. 4, 2000, at <http://www.fool.com/news/2000/msft001205.htm>.

39. Vecchio and Trigg assert:

Attempts to find the next Microsoft have reached legendary proportions, resembling such storied endeavors as the plight of the Mayflower and Armstrong’s journey to the moon. Rather than lead

Investors seeking the next Microsoft found positive feedback everywhere. On the Internet, positive feedback meant that as more people posted information to a site, more people looked to that site for the information. As more people were known to be looking to a site, information providers or vendors would be more eager to post to that site. These growth trends would thus be mutually reinforcing, and a robust durable monopoly was bound to emerge.

This belief in widespread network effects guided investment strategies throughout the bubble. It also dictated the way in which Internet firms were born, fostered, and expected to grow. This thinking dominated virtually everyone who touched the Internet, including technologists, entrepreneurs, employees, venture capitalists, and lawyers and other professionals who reversed longstanding practices and began to accept payment in equity rather than in cash.⁴⁰

The Internet formula for success was supposed to work along the following lines: An Internet entrepreneur would develop an idea to exploit a new Internet space, typically by offering a combination of information, goods, or services that were not already offered on the Internet. A venture capitalist would provide the entrepreneur with funds sufficient to develop the first few rounds of his product, and typically to launch it on the Internet. A final round of private financing would support an advertising blitz centered on the site's launch — largely to build a brand name. This one-time advertising expense in “branding” would alert the public that a “first mover” was about to open a new Internet space. Consumers would flock to the site to ob-

investors to believe that such a company exists, however, we've chosen to identify three key factors — controlling the value chain, dominant market share, and a tectonic shift in computing — that helped Microsoft achieve world domination. A company able to garner even one or two of the aforementioned metrics could be well on its way to creating significant shareholder wealth.

Id. To pick just a few examples of these efforts, investors were directed to: AOL (see Jesse Berst, *The Next Microsoft? Now We Know*, ZDNET, Apr. 27, 1999, at http://www.zdnet.com/anchordesk/story/story_3328.html (last visited Oct. 1, 2002)); Starfish and Pumatech (see Jesse Berst, ZDNET, *The Next Microsoft Will Be Built on... Synchronization?!?*, Aug. 7, 2000, at <http://www.zdnet.com/anchordesk/stories/story/0,10738,2612219,00.html> (last visited Oct. 1, 2002)); Disney (see Rebecca Schwartz, *The Next Microsoft*, JAVA WORLD, July 1996, available at <http://www.javaworld.com/javaworld/jw-07-1996/jw-07-stockwatch.html> (last visited Nov. 5, 2001)); Sun (see *Does Sun Want to Become the Next Microsoft?*, Mar. 1998, available at <http://www.javaworld.com/javaworld/jw-03-1998/jw-03-lighthouse.html> (last visited Oct. 1, 2002)); and Energy Conversion Devices (see Joseph E. Witzman & Joanne M. Rodriguez, *I Give You The Next Microsoft...And You Can Charge It!*, GREEN PAGES, Jan. 2000, available at <http://www.eco-web.com/cgi-local/sfc?a=editorial/index.html&b=editorial/000201.html> (last visited Oct. 1, 2002)). CNN.com even reported on a conference assembling would-be successors to the Microsoft throne. See Bob Brown, *Is the Next Microsoft Out There?*, CNN, July 2, 1998, available at <http://www.cnn.com/TECH/computing/9807/02/startups.idg/> (last visited Oct. 1, 2002).

40. See ANTHONY B. PERKINS & MICHAEL C. PERKINS, *THE INTERNET BUBBLE*, 207–09 (rev. ed., 2001).

tain the information, good, or service now available for the first time in convenient online form. Suppliers would also flock to the site to serve this consumer demand. The now-sizable Internet firm would then raise additional capital by going public, and reinvest its retained IPO capital to expand the network.

By the time that a second or third mover arrived, the first mover's network would be large enough to be self-sustaining. While sufficiently large spaces might allow multiple competing networks to exist simultaneously, the rapid growth of the first mover in many spaces would have the de facto effect of precluding new entry. Either way, the self-sustaining market leader would be able to forestall most new entrants by expending only relatively modest amounts on advertising to maintain a high brand profile. At that point, the leader would increase its rates, but because of the increased value of its product (i.e., access to its network), its customers would recognize that they were actually paying lower quality-adjusted prices. At the same time, the Internet's scalability suggests that marginal costs grow only incrementally with increased network size. In other words, the leader would experience simultaneous reductions in real costs, reductions in real prices, increases in nominal prices, increases in revenues, and consequently soaring margins.

This combination of rapid branding, network effects, and eventual soaring margins — a combination that is rather rare in the physical world — was expected to abound on the Internet. Indeed, the theory had so much obvious appeal that surprisingly few entrepreneurs, venture capitalist, investors, or industry observers bothered to inquire about the full extent of its applicability.⁴¹

41. There are always exceptions to every generalization. One cautionary posting that noticed the deficient application of network theory appeared on the Australian site, shore-walker.com:

The Internet stock boom, huge though it now is, rests on one Big Theory: that in certain circumstances the Internet provides entrepreneurs with what economists call increasing returns to scale. Get in early and get big, in other words, and the Internet will provide you with huge returns after, say, five years....

Theories of increasing returns suggest the biggest spoils will go to companies that can create a virtuous circle: the more users they get, the more users they attract. ... The weird thing? This sort of increasing return remains relatively rare, even on the Internet - but investors act as if it happens on every Web site.

... Investors in today's Internet stock boom no longer feel the need to believe even the rather flaky economics of the Big Internet Stock Theory. Rather than investing in a theory, they're simply investing in a word - Internet. They're not so much Wired as Weird....

So venture capitalists flood the markets with new contenders for the Internet user's dollar. And the competition between all these well-funded sites is making sure that none of them reach profit. Rather than increasing returns, today's Internet stock boom is instead creating increasing losses.

The view of the Internet as a network industry and the New World paradigm were thus inextricably intertwined with the tech-stock bubble. Entrepreneurs and investors had to believe that they were operating in a new economic universe in which both of these ideas made sense before they could conform their behavior to either. Their behavior had to conform to these theories because otherwise they would be excluded from the Internet world; skeptics tended to receive a cool welcome. At the same time, this necessary suspension of skepticism made for a very dangerous game. It meant that if a difficulty with the underlying economic theory emerged, the tech-stock bubble would deflate, the New World paradigm would lose all credibility, and virtually all strategic plans and expectations based upon it would need to be re-evaluated.

3. The Fall of the New World Paradigm

a. The Ease of Entry

The fatal flaw in the New World paradigm was its reliance on an incomplete understanding of network economics. While interoperability and positive feedback are necessary for an industry to exhibit network effects, they are not sufficient. In order for even a monopoly network to extract rents from customers, some barrier to competitive entry must exist. Otherwise, the moment that the monopolist raises prices above competitive levels a new entrant will emerge, build a competing network, and siphon away both business and profits.

Entry barriers can arise in a number of ways. As noted above, *Microsoft* publicized the notion of a network barrier to entry. These barriers exist when a network — grown through positive feedback — also induces commitment (or exclusivity) from consumers, and in so doing locks them in. Network barriers to entry essentially signal would-be entrants not to bother competing because they are unlikely to attract any consumers. Such a sophisticated signaling mechanism is not necessary for a monopoly to remain durable. Simpler deterrents are also possible. Industries that exhibit both high fixed startup costs and high minimum viable scale, for example, pose asymmetric situations for incumbents versus entrants.

Consider a brick-and-mortar industry in which an expensive piece of capital equipment is required to produce low marginal cost goods. Firm A purchases the equipment, operates as a monopolist for many years, charges prices significantly above marginal costs, reaps substantial monopoly rents, and pays off the machine. Now firm B de-

Internet Business Investors Now Ignore Even the Simplest Rules, LIGHTHOUSE ON THE WEB, Feb. 1, 2000, at <http://www.shorewalker.com/commerce/commerce72.html> (last visited Oct. 1, 2002).

cides to enter. B must start with a large capital expenditure to purchase the machine. If B does so, A will bid prices down toward marginal cost, where B will never be able to recoup its capital investment. This situation is exacerbated if marginal production costs are high for the first few units, and do not become low until a minimum viable scale is reached. Significant startup costs can thus deter or delay competitive entry.⁴²

This type of delay is especially significant when an entrant would need to capture a large share of the market in order to achieve minimum viable scale — effectively precluding a stealthy entry and practically guaranteeing a competitive response from the incumbent(s). The relationship among sunk startup costs, minimum viable scale, and market share is critical to understanding the effect of long-run cost asymmetries. Any firm considering entering a new market must lay out some amount of startup capital. In many instances, this capital is sunk; if the would-be entrant subsequently decides not to enter before reaching minimum viable scale, those costs may never be recouped. One factor in deciding to enter a new market is thus the magnitude of the necessary sunk costs. Furthermore, the larger the market share needed to achieve minimum viable scale, the smaller the probability of success. Startup costs, minimum viable scale, and market share thus combine to define a risk premium that entrants must bear going forward — but that incumbents have already absorbed. While there is nothing inappropriate or anticompetitive about the existence of such an asymmetry, it can have a significant impact on a merger analysis if it appears likely to deter entry.

Many Internet markets do not require hefty up-front investments in capital equipment. They do, however, present their own set of startup costs — generally in the forms of intellectual capital and advertising — costs that could play a role analogous to the need for equipment in a more traditional industry. The largest general startup cost for entry into an Internet space is often branding. The advertising costs of branding are likely to be too modest in too many Internet spaces to deter much entry — even though an entrant might need to attract a significant share of a small space to achieve minimum viable

42. As a matter of economic theory, B's predicament is not truly a barrier to entry. B simply faces a short-term cost asymmetry attributable to A's earlier expenditures; A's prior foresight and investment are not anticompetitive acts. If B does decide to enter, both firms will face the same total long-term costs. Stigler demonstrated the difference between a true barrier and this type of cost asymmetry, and described the reasons that the two are often confused:

Capital requirements are often listed as a barrier to entry. Since existing firms also have to meet these requirements, they are not a barrier in our terminology. They are a determinant (if they are relevant at all) of the economies of scale — the shape of the long-run average cost curve.

GEORGE J. STIGLER, *THE ORGANIZATION OF INDUSTRY*, 70 (1968).

scale. Firms who already have vendor relationships (e.g., from their brick-and-mortar businesses) need only invest enough to build and launch a website, and to advertise their new online capabilities.⁴³ Furthermore, in many industries, minimum viable scale may be achieved through a combination of online and offline business — again favoring conventional competitors. The requisite investments are thus hardly out of reach, and the amount required is likely to decline as the pool of talented web designers grows and the demand for development shrinks.

The likely insufficiency of branding alone suggests that even initially successful first movers need an additional barrier to keep their leadership positions secure. Many Internet investors apparently believed that rampant network barriers to entry would provide this security.⁴⁴ This belief thus highlights the danger of anticipating strong industry-wide network effects and then finding only a subset of their prerequisites.

Critical prerequisites missing from many Internet spaces include commitment and lock-in. Experts in network economics generally credit lock-in as the truly valuable attribute of network ownership,⁴⁵ and antitrust law has recognized lock-in as an economic condition that enables anticompetitive behavior.⁴⁶ Perhaps more to the point, commitment and lock-in allowed Microsoft to exploit the network barrier to entry while most Internet firms — even those that arguably dominated a space — could not do so.

This exploitation is easy to explain. Consumers “commit” to a software/computing network when they purchase their first operating system. A consumer who selects Windows must sink various costs — the purchase price of Windows, the purchase prices of compatible hardware, applications, and network components, and training and education costs. Once these costs are sunk, the consumer must use the Windows-based system to recoup or to benefit from them. A consumer who decides to leave the Windows network and to purchase a competing operating system instead is likely to have to sell off the network’s other components at salvage value and to expend the time and effort necessary to learn the new system. These sunk costs lock the consumer into Windows. It is that lock-in, rather than the mere existence of the network, that allows Microsoft to impose additional costs that increase its monopoly rents. Most consumers forced to choose between bearing the costs added by Microsoft’s extraction of monopoly rents and the even higher costs inherent in switching to a

43. In merger policy terms, such potential competitors are called “uncommitted entrants.” See *infra* note 101.

44. See *Internet Business Investors Now Ignore Even the Simplest Rules*, *supra* note 41.

45. See SHAPIRO & VARIAN, *supra* note 26.

46. *Eastman Kodak Co. v. Image Technical Serv.*, 504 U.S. 451, 472–73 (1992).

competing operating system are likely to choose, rationally, to stick with Microsoft.

Commitment thus represents a selection of one network to the exclusion of others, while lock-in imposes switching costs that make it expensive to ever change that initial position. The combination constitutes a potentially powerful barrier to entry.⁴⁷ Entrants realize that their products will not only have to be superior to Windows in a price-adjusted sense, but that they will have to be sufficiently better or cheaper for consumers to willingly absorb the switching costs.⁴⁸

Industries that exhibit commitment, positive feedback, and lock-in are capable of generating the strong network effects sought by proponents of the New World paradigm. Consumers rationally decide to join the largest existing network (consumer commitment). Once they do, they are dissuaded from considering competing networks by the costs of switching (consumer lock-in). Suppliers take comfort in the stability of the locked-in consumer base, and they too join the network (third party vendor commitment). They invest to insure that their products are interoperable with the network's protocols, and thereby sink costs of their own. They too become locked in (third party vendor lock-in). These two trends are mutually reinforcing (positive feedback). Entrants are thus unlikely to attract new consumers both because vendors do not focus on the entrants' products, and because consumers are already locked in to the incumbent. They are unlikely to attract new vendors both because consumers are not interested in the entrants' products, and because the vendors are already locked in to the incumbent. Entry is thus deterred by the strength of the network effects.

This type of barrier protects Microsoft's monopoly in operating systems. It proved ineffective in the many Internet spaces where consumers could buy from multiple suppliers and suppliers could run through multiple sources — all while incurring only nominal switching costs. Many Internet firms shifted from an assumption that network economics would help them retain their customers to a focus on loyalty programs or general "customer relations management" ("CRM") techniques⁴⁹ — new names for the conventional notion that the best way to retain customers is to treat them well. For many such firms, the shift was too little and too late. Their expenditures in reli-

47. This combination is also possible in non-network industries. Lock-in and switching costs played a key role in litigation pertaining to heavy duty copying machines produced first by Kodak, and then by Xerox. *See id.*; *see also In Re Independent Service Organizations Antitrust Litigation*, 203 F.3d 1322 (Fed. Cir. 2000).

48. As a result, Microsoft's model cannot necessarily be fully applied to other industries. *See Werden, supra* note 33. Werden described the danger inherent in seeing Microsoft as representative of most industries, and stressed the fact-specific and industry-specific nature of inquiries into the presence of network barriers to entry.

49. *See generally* FREDERICK NEWELL, *LOYALTY.COM* (2000), for a discussion of CRM techniques and their application to the retention of customers on the Web.

ance on the New World paradigm left them in dire financial straits, and investors abandoned them as the tech bubble began to deflate.

The Internet investment bubble and the New World paradigm thus both emerged from confusion between the sorts of weak network effects implicit in positive feedback and the strong network effects that require an additional barrier to entry. While it does appear that positive feedback may be more prevalent on the Internet than it is in the physical world, full-blown network barriers to entry appear to be just as rare. In large part, this rarity is attributable to the Internet's interoperability across a set of open standards.⁵⁰ It is rather simple, for example, for a consumer used to buying books from Amazon.com to shift to an alternative online book supplier, and for a job seeker used to perusing the ads on HotJobs to switch to another source of classified advertising. It is hard to see how an Internet firm can guarantee retention of exploited customers without first inducing them to sink substantial costs in the network — costs that would have to be abandoned as unrecoverable and replicated if they switched to a competing provider.

All told, insufficient attention to the actual conditions of entry and the tendency to overestimate the barriers to entry created both the tech-stock boom and the New World paradigm — and doomed them both to the status of interesting historical footnotes.

b. History of the Unwind

The New World paradigm did not implode because the investing public suddenly learned the intricacies of network economics. Its demise began with some very public displays of the paradigm's incompleteness — and with the investing public's ability to infer from this empirical data the existence of a problem with their underlying theory. Perhaps the first such clear demonstration came during the 1999 holiday shopping season, the maiden voyage for many consumers and vendors attempting to navigate the waters of e-commerce. Numerous online firms advertised their services heavily,⁵¹ and a number of large

50. *But see* Mark N. Cooper & Richard Murray, *WINDOWS XP/.NET: MICROSOFT'S EXPANDING MONOPOLY*, Sept. 26, 2001, available at http://www.consumerfed.org/WINXP_anticompetitive_study.pdf (last visited January 26, 2002). Many of the innovations and improvements embodied in Microsoft's Windows XP operating system incorporate proprietary standards. Examples of these innovations include the Passport system for user verification, the .Net strategy for Internet usage, and a Media Player whose functionality is optimized for (and for some uses, restricted to) proprietary WMA-format music files. These examples suggest a strategic move by Microsoft to develop a proprietary "sub-Internet" into which consumers may be locked upon entry and use. Users who take full advantage of Microsoft's new offerings may discover that a subsequent return to interoperable competitive standards would entail substantial time and effort in data re-entry and in retraining — in other words, non-*de minimis* switching costs.

51. "[O]nline buyers face 'a lot of noise' this holiday season, complicated by the amount of advertising being done in traditional media — television, radio and print. For example,

brick-and-mortar retailers introduced their own websites.⁵² However, shortly before Christmas, Toysrus.com, the online property of Toys R Us, notified customers that they would not be receiving their orders in time for the holiday.⁵³

This high profile problem with fulfillment caused many observers to reconsider a number of their assumptions about e-commerce.⁵⁴ They noted that in addition to potential problems with delivery deadlines, online retailers were at a serious disadvantage vis-à-vis brick-and-mortar competitors. These competitors' Internet properties complemented their own distribution networks by allowing returns and exchanges to the nearest, conveniently located outlet.⁵⁵ Overall, e-tailing continued to grow, but not at the exponential rate that New World advocates had expected — and certainly not at a rate necessary to justify the valuations of the best known e-tailers.⁵⁶

Amazon.com will spend \$100 million during the fourth quarter of 1999 on traditional media just to get above the noise." Brian Edwards & Mary Ann Sabo, *New Models: Retailers Strut Their Stuff on the Web for Consumer Sales and Investors Cash*, CHI. TRIB., Dec. 20, 1999, at C1.

52. The advent of brick-and-click sites for the 1999 holiday season was widely reported. See, e.g., *id.*; Saul Hansell, *Retailers Look Back and See Online Shopping Is Gaining*, N.Y. TIMES, Dec. 24, 1999, at A1. Retailers also shared plans for further expansion and integration of brick-and-click sites. See Leslie Walker, *Bricks and Clicks Together*, WASH. POST, Jan. 20, 2000, at E1.

53. This failure was widely reported. It was also the topic of several subsequent articles that recognized the significance of this failure to the development of e-commerce in general, and to the ability of e-tailers to gain the confidence of the general public. See, e.g., Katrina Brooker, *The Nightmare Before Christmas*, BUS. 2.0, Jan. 2000, available at <http://www.business2.com/articles/mag/1,1640,5971,00.html>; Paul Elias, *Is Jeff Bezos Father Christmas?*, RED HERRING, Aug. 11, 2000 at <http://www.redherring.com/industries/2000/0811/ind-toys081100.html>.

54. The challenges of distribution and fulfillment began to attract attention even before the 1999 holiday debacle. As early as July 1999, analysts began to note that fulfillment capabilities would separate e-commerce's winners from its losers. See Abigail Goldman, *E-commerce Gets an F Without the 'D' Word*, L.A. TIMES, July 25, 1999, at C1.

55. Many traditional retailers pioneered their online properties for the 1999 holiday season, *supra* note 52. While only some succeeded, the lessons of these early experiences soon showed that "melding of 'bricks and clicks' is now considered the best route to Web profitability. But it demands innovation and seamless execution." *Will Walmart.com Get it Right This Time?*, BUS. WK., Nov. 6, 2000, at 104. While some retailers, like Walmart, took several tries before developing a reasonable Web presence, traditional retailers had assumed their place among the most important Internet retailers by the end of 2000. See *id.*; see also, *supra* note 52.

56. The general rise and fall of Business-to-Consumer ("B2C") equity prices around the 1999 holiday shopping season can be illustrated using the statistics for four then-popular e-tailers. Split adjusted (or reverse split adjusted) prices during the three month period from November 1, 1999 through January 31, 2000 were as follows:

Closing Prices	Amazon.com	Barnes & Noble	Beyond.com	Drugstore.com
11/1/1999	\$69.125	\$18.5625	\$133.125	\$34.8125
1/31/2000	\$64.5625	\$11.625	\$93.9844	\$30
MAX (period)	\$106.688	\$20.3125	\$178.125	\$49.25
Max Date	10-Dec	26-Nov	22-Nov	7-Dec

Other problems appeared to be more fundamental. Some products for Internet sales failed to generate substantial consumer interest,⁵⁷ while others demonstrated the advantages that brick-and-click operations had over pure plays.⁵⁸ At the same time, some Internet firms appeared to be doing fairly well. The premiere auction site, eBay, attracted increasing numbers of both buyers and sellers.⁵⁹ Amazon.com's U.S. books operations first showed a pro forma operating profit in the fourth quarter of 1999,⁶⁰ and its overall operations showed a profit for its 2001 fiscal year.⁶¹ E-trade and Charles Schwab & Co. led the investment world into online trading — a move that even established, staid competitors felt compelled to follow.⁶² Other apparent successes included travel sites like Travelocity and Expedia,⁶³ Priceline.com's apparent recovery from early mistakes to re-emerge as a major player in Internet sales,⁶⁴ the continuing popularity

MIN (period)	\$61.6875	\$11.625	\$90.9375	\$27.1875
Min Date	28-Jan	31-Jan	12-Jan	20-Jan

For a more detailed demonstration of the broad drop of Internet equity prices from their earlier highs, see PERKINS & PERKINS, *supra* note 40 at 289.

57. One high profile sectoral failure occurred among firms attempting to sell pet food and pet supplies on the Web. Two such companies, Petstore.com and Pets.com, were among the most anticipated Internet IPOs of 1999. By June 2000, the extent to which the potential for these sales had been overestimated was evident; Pets.com acquired Petstore.com, and announced plans to cut costs by consolidating and moving operations. Even that move proved to be too little, too late. Pets.com announced that it was shutting down its retail operations in November 2000. See, e.g., Troy Wolverton, *Pets.com Latest High-Profile Dot-com Disaster*, CNET NEWS, Nov. 7, 2000, at <http://news.cnet.com/news/0-1007-200-3420731.html> (last visited Nov. 11, 2001).

58. Online grocery sales are a case in point. In early 2001, one highly visible pure play, Webvan, acquired its main rival, Homegrocer.com. Four months later Webvan went out of business. See Miguel Helft, *The End of the Road*, INDUSTRY STANDARD, July 23, 2001, at 26; Tim Race, *Most Wanted: Drilling Down/Online Grocers; Paper? Plastic? Profits?*, N.Y. TIMES, July 16, 2001, at C11. At the same time, traditional supermarket chains were experimenting with a variety of online models, and discovering that profitable brick-and-click ventures were possible. See Dan Alaimo, *Albertson's New Dot-Com Model; The Chain Shifts to a New Fulfillment Strategy for Home Shopping*, SUPERMARKET NEWS, Apr. 2, 2001, at 1.

59. eBay is essentially a service site that sells no goods of its own. Instead, it lets sellers, both large and small, set up their own auction booths. Its revenues come from transaction fees generated by the ads posted, auctions held, and goods sold. eBay's successes continued long after the demise of New World thinking, and clearly outlived even the last vestiges of the Internet bubble: "Virtually every technology and Internet company is either treading water or drowning, but ... eBay is growing stronger and healthier every day. What started as a quaint auctioneer of useless collectibles has grown into a commerce powerhouse." Miguel Helft, *What Makes eBay Unstoppable?*, INDUSTRY STANDARD, Aug. 6-13, 2001, at 32.

60. See Amazon.com, Inc., 1999 Form 10-K (2000).

61. See Ariana E. Cha, *After Years in the Red, Amazon Posts Profit*, WASH. POST, Jan. 23, 2002, at A1.

62. See Joseph Kahn, *Schwab Lands Feet First on Net; Broker Leap-Frogs Rivals to Front of Online Trading*, N.Y. TIMES, Feb. 10, 1999, at C1.

63. See Jane L. Levere, *Private Sector; New Journey of a Travel Pioneer*, N.Y. TIMES, Aug. 5, 2001, § 3, at 2.

64. See Saul Hansell, *Technology; Priceline.com Posts a Profit on a Sharp Increase in Sales*, N.Y. TIMES, Aug. 1, 2001, at C8.

of jobs boards like Monster.com and CareerBuilder.com,⁶⁵ and the ongoing heavy traffic directed through portals like MSN, AOL, and Yahoo!.⁶⁶

These empirical observations highlight differences among the various commercial sectors attempting to use the Internet. Empirical data thus stresses the extent to which different types of Internet companies need very different business models. Some Internet firms compete directly with established brick-and-mortar companies — and are thus unlikely to retain customers once the novelty of online ordering wears off unless they can provide superior price-adjusted service. Others may exist in sectors where brick-and-click models allow firms to capture the advantages of both online and offline sales; such combinations challenge both pure plays and pure offline competitors. Still others may operate in arenas in which stand-alone Internet usage will in fact come to dominate. Each of these scenarios suggests a different type of business environment and a different type of competitive effects analysis.

Of even greater fundamental concern to investors was the evident lack of customer loyalty — even to successfully branded first movers. Consumers began to compare prices across competing sites, effectively forcing e-tailers to bid away whatever slim margins they may have been attempting to earn. Shopping bots emerged to help consumers perform those price comparisons.⁶⁷ Some bots even allowed consumers to make their purchases with no (or few) visits to the seller's site — thereby reducing the number of hits to that site and the seller's potential to gain revenue by selling advertising space.⁶⁸ While this apparent “disloyalty” was really nothing more than a case of rational consumers availing themselves of the Internet's reduced information costs and the inherent lack of commitment, lock-in, and switching costs, it helped expose the shortcomings of the New World's assumption of rampant network effects.

Investors began to focus on the bottom line. They discovered that few e-tail pure plays looked like good investments when viewed

65. See Stefanie Olsen, *Job Sites Flush with Resumes amid Dot-com Downturn*, CNET NEWS, Jan. 19, 2001, at <http://news.cnet.com/news/0-1005-200-4536900.html> (last visited Oct. 10, 2002). Increasing popularity does not necessarily translate into increased revenues (or profits) because most jobs boards allow job seekers to post their resumes free of charge.

66. See Christopher Saunders, *Yahoo!, MSN Spar over Traffic Figures*, SILICONVALLEY.INTERNET.COM, Oct. 12, 2001, at http://siliconvalley.internet.com/news/article/0,2198,3531_902921,00.html (last visited Oct. 10, 2002).

67. See Edward C. Baig, *'Shopping Bots' Are Hot to Trot*, USA TODAY, Nov. 30, 1999, at <http://www.usatoday.com/life/cyber/tech/ctg778.htm> (last visited Nov. 12, 2001).

68. Bots access the information on a seller's site, and report it back to a consumer accessing the bot site. Some sellers — or sites representing sellers — have objected to this practice. E-Bay, for example, hung a virtual “No Bots Allowed” sign on their site, and then sued an offending bot for trespassing. The District Court granted e-Bay a summary judgment on its trespass count. See *E-Bay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

through conventional retailing metrics. Money began to flow out of business-to-consumer (“B2C”) companies soon after the 1999 holiday season. By the end of January 2000, equity prices had fallen far below their highs, and in some cases below their IPO values.⁶⁹ The bubble began to deflate — slowly.

The deflation spiraled outward, spreading from sector to sector. E-tailers unable to pay for web development and software renegotiated deals with their suppliers or simply refused to pay — at times even suing for breaches of vague contractual responsibilities.⁷⁰ The removal of the gloss from the e-tailers changed investor psychology. Even successful Internet firms with real earnings prospects witnessed precipitous declines in market capitalization (if public) and access to venture capital (if private).⁷¹

Unpaid bills and increased skepticism from the investment community hit small, highly leveraged service providers hardest. Software firms and web development shops suddenly discovered that sizable portions of their receivables were unlikely to be paid. For many suppliers, this news hit just as they were contemplating their own IPOs. These firms were thus faced with the difficult choice of either stopping work, writing off large portions of their receivables, and risking litigation with B2C clients, or continuing work, aging their receivables, and hoping for an upturn in the B2C sector. IPOs were delayed and eventually cancelled, valuations dropped, and the disillusionment with New World thinking spread from B2C firms to web developers

69. See Troy Wolverton & Greg Sandoval, *E-tailing Loses Its Shine in 2000*, ZDNET NEWS, Dec. 25, 2000, at <http://www.zdnet.com/zdnn/stories/news/0,4586,2668673,00.html> (last visited Nov. 12, 2001).

70. Many such suits were filed under a variety of different legal theories. By and large, these suits appear to have arisen because parties operating on “Internet Time” failed to exercise due diligence in their contracting practices. Deliverables and delivery schedules were vague, and the interrelationships among the contracting parties and various third parties were left implicit. Few of these cases actually reached the point of trial, as many of the parties ran out of the money to pursue their claims — or came to realize that the adverse party’s finances made them effectively judgment proof. Those that were reported largely made it to court only on preliminary procedural issues — invariably requests for a change of venue. See, e.g., *Iballs, Inc. v. Wildbrain.com, Inc.*, 2001 U.S. Dist. LEXIS 13394, (S.D.N.Y. Aug. 31, 2001) (seeking to recover for unpaid services and expenses incurred in launching an Internet advertising campaign on Wild Brain’s behalf); *About.com, Inc. v. Aptimus, Inc.*, 2001 U.S. Dist. LEXIS 6102 (S.D.N.Y. May 11, 2001) (arguing about the relationship among two potentially contradictory agreements); *900 Support, Inc. v. Microportal.com, Inc.*, 2001 U.S. Dist. LEXIS 8603 (D. Or. Jan. 4 2001) (claiming plaintiff continued service to defendant, despite defendant’s failure to pay, because of representations by the defendant that its officers’ other corporations would make the payments); *Paramount Brokers, Inc. v. Digital River, Inc.*, 126 F. Supp. 2d 939 (D. Md. 2000) (contending that defendant’s “Letter of Interest” constituted a binding exclusive agreement).

71. The end of the era of “easy money” available to Internet entrepreneurs was evident by the middle of 2000. See Heather Green, *The Fight for Survival*, BUS. WK., July 24, 2000, at EB70. Some sectors appeared to be particularly hard hit. By the third quarter of 2000, many B2B stocks had fallen more than 70% from their highs, and venture capital investments were reportedly down more than 35%. See Spencer E. Ante & Arlene Weintraub, *Why B2B Is a Scary Place to Be*, BUS. WK., Sept. 11, 2000, at 34.

and Internet-focused software companies.⁷² The disillusionment continued. It moved horizontally to business-to-business (“B2B”) ventures, vertically to more conventional software firms, and outward into computer hardware, chip and component makers, optical equipment firms, etc.⁷³ By the middle of 2002, it had reached large, debt-laden telecommunication firms, like Global Crossing and WorldCom.⁷⁴ The ultimate reach of the unwind is still unknown — although it is hard to see how the bond markets and financial institutions will remain completely immune to widespread bankruptcies of sizable firms.

All told, the Internet component of the “tech wreck” provided the empirical data necessary to discredit the New World paradigm. It also changed the perception of the Internet among investors, analysts, industry observers, and the public at large. These changes in perception were stark and often harsh. Investor psychology appears to have played as large a role in the bubble’s deflation as it did in its inflation. Of even greater significance than the view from the outside, however, were the changes in perception, attitude, and behavior of industry par-

72. To pick just one example, Zefer Corp. was a large, popular Internet consulting and web development firm based in Boston, with offices in Chicago, New York, Pittsburgh, San Francisco, and London, and a total workforce of about 800. Zefer had originally planned to raise \$50 million in its May 2000 IPO. The IPO was called off, and later rescheduled for September 2000. That too was called off. See *It’s Official: Zefer Call off IPO*, INTERNET ADVERTISING REPORT, Sept. 19, 2000, http://www.internetnews.com/IAR/article/0,,2051_463951,00.html (last visited Oct. 31, 2001). Zefer closed its doors and sold off its assets about a year after it gave up on going public. See David Aponovich, *Zefer Closes Boston HQ*, INTERNET ADVERTISING REPORT, Sept. 2001, available at http://www.internetnews.com/IAR/article/0,,12_879431,00.html (last visited Oct. 31, 2001).

73. Web hosting is a good example of an Internet niche hit hard by the unwind. Web hosting companies manage and operate websites for their client companies. The business thus requires substantial capital outlays for equipment, and a constant infusion of new capital as traffic to their client sites mandates the purchase of additional servers. The demise of many of their client dotcoms, a sudden discovery of excess inventory (i.e., too many webhosting servers chasing too few clients and too little traffic), and the difficulty of securing additional funding during a downturn, all conspired to devastate web hosting firms — despite a general belief that the sector will continue to experience healthy overall revenue growth. By mid-2001, LogicTier had exited the webhosting business, Digital Island had been purchased by Cable & Wireless, and Exodus Communications had announced massive layoffs (and witnessed a share price 98% below its 52-week high). See Gwendolyn Mariano, *Olympic Web Site Host Pulls the Plug*, CNET NEWS, May 8, 2001, at <http://news.cnet.com/news/0-1005-200-5865439.html> (last visited Nov. 1, 2001); see also Jon Swartz, *Web Hosting Industry Burned by Dot-com Woes*, USA TODAY, July 31, 2001, available at <http://www.usatoday.com/life/cyber/invest/2001-07-31-web-hosting-industry-burned.htm> (last visited Sept. 30, 2002).

74. See Charles Haddad, *Why WorldCom Will Be Left Standing*, BUS. WK., Feb. 21, 2002, available at http://www.businessweek.com/bwdaily/dnflash/feb2002/nf20020221_1026.htm (last visited July 4, 2002) (explaining WorldCom’s likely resilience despite its debt load, and discussing the difference between Global Crossing, which had already failed, and WorldCom); see also Seth Schiesel, *Trying to Catch WorldCom’s Mirage*, N.Y. TIMES, June 30, 2002, § 3, at 1 (describing some indications of problems with WorldCom’s books that had been visible as early as 1999, and that eventually led to the company’s restatement of \$3.8 billion in costs).

ticipants. Many Internet firms terminated operations. Many survivors abandoned their existing plans, shed recent or planned expansions, focused on core operations, cut costs, and explored opportunities for alliances and partners. This rethinking of the Internet led to the emergence of the New Channel paradigm.

D. Network Economics and the Internet Bubble

The widespread misapplication of network economics in the rise and fall of the Internet bubble may thus be summarized rather easily. Network economics first emerged from academic jargon into the public view during the 1990s. Its popular version emphasized increasing returns or positive feedback, different names given to a phenomenon of organic growth. The Microsoft trial tied this phenomenon to commercial success in the technology sector. About the same time, the idea of global connectivity through a universal Internet also caught the public's attention. The ideas became conflated in the public mind, and network effects *cum* monopoly profits were spotted in virtually every one of the Internet's nooks and crannies. The ensuing gold rush helped fuel the inflation of Internet stock values.

The public mind was unlikely to stay fooled forever. Investors began to notice that growth and profitability were not emerging as quickly as predicted — at least given their understanding of the theoretical predictions of network economics. They realized that something had gone amiss. Some understood that crucial elements of the theory — commitment and lock-in — were missing from many parts of the Internet. Others did not need that detailed an explanation. For them, the recognition that their investments had been based on a theory that was either incomplete or flawed was sufficient. The bubble deflated when they withdrew their investments.

The investment community's Internet gold rush thus ended when the deflation began. But the Internet community as a whole could not simply withdraw because its first attempt at understanding its own industry structure was flawed. Furthermore, while the Internet may not define a New World, it remains an important innovation likely to have a broad impact. From this perspective, theories of Internet industry structure should continue to be of fairly broad interest. From the somewhat more parochial perspective of the legal community, and in particular that of the antitrust bar, a sound understanding of the industrial organization of the Internet remains crucial. Fortunately, the New Channel paradigm provides an alternative theory consistent with empirical observations to date.

E. The Internet as a New Channel

The New Channel paradigm grew out of the ashes of New World thinking. It thus begins by correcting several misconceptions central to its predecessor's demise:

- There is no such thing as a single Internet model. The potential viability of an Internet entrant into an established industry must be evaluated according to the specific characteristics of both the firm and the industry;
- The broad interoperability of virtually everything on the Internet keeps commitment and switching costs low;
- The Internet reduces information costs. While this cost reduction introduces many new business opportunities, it also reduces consumer commitment and loyalty; and
- The general lack of commitment, lock-in, and switching costs eliminate the possibility of strong network effects in most parts of the Internet. Multiple networks can coexist. While networks may grow large, the ease of entry will often prevent even a monopolist from exploiting customers.

While all of these lessons are important in trying to understand the bubble, one stands out as crucial to understanding the Internet's present and future: the reduction of information costs. The New Channel recognizes the Internet as a mechanism that changes the economics of information. All other benefits of the Internet are derived from this single enabling mechanism. The Internet thus provides a new way for firms to communicate with each other, with existing and potential new customers — in short, a new channel crucial to commerce.

1. The Changing Economics of Information

According to New Channel thinking, a rapid, rampant restructuring of the industrial terrain is unlikely. Since the Internet changes the economics of information, a number of transaction types that in the past appeared unprofitable will need to be reassessed. For some, the lack of profitability may have been attributable to the expense of collecting and/or disseminating information. In those instances, the Internet is likely to generate cost-saving efficiencies that render these transactions both viable and profitable. This change, in turn, will have a ripple effect on all other mechanisms that had been used to transact the business in question. Relative efficiencies, price/quality tradeoffs, turnaround times, and degrees of customization may all come into play. Some existing channels may disappear, some may reduce their

prices, some may integrate the Internet to form hybrid brick-and-click channels, and some may remain unchanged. Branding and first mover advantage will be no more important than they have been in the past, Internet spaces will vary from those with few to those with many competitors, and full-blown network effects may be present but are unlikely to be widespread.

The New Channel paradigm thus defines industries by the goods and/or services that vendors provide to customers, by the geographic reach of those vendors, and at times even by the demographics of the customer base. Under some rare circumstances, distribution channels may be so unique, and may differ in convenience to such a large degree, that they may segment an industry such that the vendors using the unique channel feel only modest pricing constraints from their competitors using other channels.⁷⁵ As a general matter, though, markets are likely to be defined across distribution channels.

This starting point suggests that the first step in any inquiry into the nature of likely commercial success or the boundaries of competition among firms using the Internet lies in categorizing the industry being studied. Once the industry's basic properties have been defined, the likely interaction of those properties with the transaction costs changed by the Internet may be considered. From there, the analytic tools appropriate to the type of inquiry and the type of industry should take over.

2. A Taxonomy of Online Businesses

Figure 2 (p. 33) presents a preliminary taxonomy of the commercial Internet into distinct industries and markets. It should serve as the starting point for all investigations into the likely impact of the Internet on industry structure, whether for purposes of investment, entrepreneurial entry, contract design, antitrust analysis, or regulatory review. Although this taxonomy is based on Internet ventures to date and is likely to undergo significant change in the not-too-distant future, the primary division of information goods and physical goods appears to be fundamental and is unlikely to change.

It is important to stress that the impact of reduced information costs differs throughout the taxonomy. While a full exposition of the different technological, commercial, practical, and legal differences separating the categories is beyond the scope of this paper, a brief overview of New Channel industry-specific analyses should highlight

75. One fairly recent and high profile examples of this phenomenon occurred in the context of office supplies, where the court ruled that pricing in superstores was only minimally constrained by competition from the mail order and local stationery store channels. *See* Federal Trade Commission v. Staples, 970 F. Supp. 1066 (D.D.C. 1997). This topic is discussed in greater detail in *infra* § III.A.1.

the importance of the paradigm shift to the technological, business, and legal communities (not to mention to future investors).

Figure 2: Taxonomy of Internet Businesses

1. Information Goods	2. Physical Goods
a. Single Use Information Goods <ul style="list-style-type: none"> i. Information Only <ul style="list-style-type: none"> 1. News 2. Frequently Asked Questions (FAQs)/Infomediaries ii. Rights and Permission <ul style="list-style-type: none"> 1. Tickets 2. Ticket/Infomediary Hybrids 3. Events/Real-time Streaming Media iii. Advertising <ul style="list-style-type: none"> 1. Broadcast/One Way 2. Matching Services/Two-Way iv. Other 	a. Commodities <ul style="list-style-type: none"> i. B2B/Vertical Exchanges ii. B2C/e-tailers iii. Auction Sales
	b. Branded Goods <ul style="list-style-type: none"> i. B2B/Vertical Exchanges ii. B2C/e-tailers iii. Auction Sales
b. Multiple Use Information Goods <ul style="list-style-type: none"> i. Software ii. Periodical Archives iii. eBooks iv. Music v. Movies vi. Reusable Streaming Media vii. Other 	c. Collectibles <ul style="list-style-type: none"> i. Auctions ii. Fixed-Price Merchant Sales iii. Fixed-Price P2P Sales
	d. Durable Goods <ul style="list-style-type: none"> i. High End ii. Low End
	e. Perishable Goods <ul style="list-style-type: none"> i. Groceries ii. Others
	f. Customizable Goods
	g. Other

3. Traversing the Taxonomy

a. Information Goods

An “information good” is anything that can be reduced to a series of bits. If the only items being transferred from sellers to buyers are bit strings, the Internet can have a profound effect on cost by allowing the entire transaction to take place online. The information goods half

of the taxonomy thus suggests the industries most likely to be revolutionized by the Internet. This casual (and not particularly controversial) observation notwithstanding, the impact of the Internet to date has differed by information good. In particular, there is an obvious split between information goods provided for single use and those sold for multiple reuse. In a traditional offline model, revenues for reusable information goods are generated either by a pay-per-use fee or by a pay-per-copy fee. The ease of producing multiple copies of digital goods, however, has strained that model. Many of the legal battles involving copyright infringement that surround the online provision of books, music, archived material, etc., have emerged from this tension⁷⁶ — effectively highlighting the extent to which the legal regimes, the technology, and the business models operating in these industries have become inextricably intertwined.

On the single use side, the three basic categories of information goods have each raised different types of issues. Pure information goods, such as news providers or sites answering frequently asked questions (“FAQs”) or providing general information, have proven to be quite popular — if not always lucrative.⁷⁷ The basic challenge in running such a site is convincing users to pay for that information. While some subscription services may yet succeed,⁷⁸ and others have attempted to charge for timely provision of the information as op-

76. *See, e.g.,* A&M Records, Inc. v. Napster, Inc., 239 F. 3d 1004 (9th Cir. 2001) (prohibiting Napster from operating a system through which third party users could copy, exchange, and transfer digital files containing copyrighted music without the authorization of the copyright holders); N.Y. Times Co., Inc., v. Tasini, 533 U.S. 483 (2001) (finding that newspapers and magazines who made their archives available to electronic database providers were republishing material in a new format, thereby infringing the copyrights of freelance writers who retained the rights to such republications); Random House, Inc. v. Rosetta Books, 150 F. Supp. 2d 613 (S.D.N.Y. 2001) (finding that the publication of contracts that transferred the right to publish material “in book form” from authors to book publishers did not also transfer the right to publish electronic books).

77. The experience of CNET Networks, an important branded Internet company best known for its provision of consumer information about computers and electronics, provides a good example of the difficulties inherent in reaping profits from a FAQ site. CNET’s primary source of revenue is banner advertising, not payments provided by users who visit its various Internet properties. During calendar year 2000, the company estimated that “millions of online users viewed more than 12.2 billion pages” through CNET’s Internet properties. During this same period, revenues from CNET’s Internet operations were \$245 million, or roughly 93% of the company’s total revenues. Operating losses for the year were about \$317 million. *See* CNET NETWORKS, INC., 2000 FORM 10-K (2001).

78. WSJ.com, the online version of the *Wall Street Journal*, operates one of the few generally profitable subscription-based revenue models on the Web. *See* WSJ.com — Subscribe, at <http://interactive.wsj.com/14regchoice.html> (last visited Sept. 28, 2002); *see also* Melanie Austria Farmer, *WSJ.com Set to Cut Staff*, CNET NEWS.COM, at <http://news.com.com/2100-1023-254951.html?legacy=cnet> (Mar. 29, 2001). Even WSJ.com, however, is only partially funded by its subscription revenues. Advertising revenues remain an important component of the property’s viability. *See id.*

posed to delayed postings,⁷⁹ their ability to sustain an operating profit remains an open question.

The other categories of single use information goods may offer better prospects for profitable Internet businesses. Advertising revenues — set at least in part by the amount of traffic driven through a site — remain central to many Internet models, and competition for them can be fierce.⁸⁰ Two-way advertising sites began to show profits in 2001,⁸¹ and ticket-selling travel sites continued to dominate e-commerce, reportedly accounting for as much as two-thirds of all online spending by the end of 2001.⁸² The sources of these apparent successes are not too hard to discern.

On the rights and permissions front, a ticket is a very simple form of a contract — backed by both a collection of default legal rules and specific contractual rules enumerated on the ticket. Tickets may be the ideal item for Internet distribution — particularly when they provide entry into a commoditized, well-understood, or easily describable event, such as a specific flight, a game between two named sports teams, or a concert by a known band. Such “simple” tickets need little explanation, and can be described as pure information goods. Internet technology does a marvelous job with this type of good. Servers maintain an inventory database of tickets, which are sold online via credit card at a fixed price on a first-come-first-served basis. Passwords can be used for security purposes, or IDs can be checked at a door when entry is sought. By and large, the entire transaction can be conducted online. Furthermore, one major drawback of many Internet transactions — illegal copying — is less of a problem for tickets than for other information goods. By their very nature, tickets convey permission to *enter* some activity or event at some later date. Just as the web server maintained the ticket inventory, a database maintained on-site at the event may be used to track admission. Illicit copying may thus be reduced by requiring entrants to produce identifying information. The role of the Internet in simple ticket sales is thus a straightforward example of a convergence of technological and legal interests: A ticket sale is an exchange of rights — a purely informa-

79. This approach, known as “versioning,” is used commonly with financial data. Yahoo! Finance, for example, provides free American stock quotes delayed fifteen to twenty minutes throughout the trading day. See Yahoo! Finance, at <http://finance.yahoo.com/sd> (last visited Sept. 26, 2002). See also SHAPIRO & VARIAN, *supra* note 26, at ch. 3, for a detailed discussion of versioning.

80. See Saunders, *supra* note 66.

81. Monster.com, for example, reportedly posted a \$51 million profit for the quarter ended September 30, 2001. See Keith Regan, *Jobs Giant Monster.com Scares Up More Profits*, ECOMMERCE TIMES, at <http://www.newsfactor.com/perl/story/14609.html> (Nov. 6, 2001).

82. See Maty Anee Ostrom, *E-tailers Retool for Profitability*, MERCURY NEWS, Nov. 12, 2001, available at <http://www.siliconvalley.com/docs/news/svtop/etail11201.htm> (last visited Jan. 26, 2002).

tional transaction. Internet transactions, by reducing the cost of information exchange, reduce the costs of ticket sales.⁸³

In advertising, the one-way variant is ubiquitous. Coca-Cola pays someone to advertise Coke, in the hopes that some potential customer will see the ad and make an additional purchase. While it is certainly conceivable that some consumer somewhere could take out an ad seeking a cola supplier to recommend a beverage, such behavior runs counter to empirical experience. The seller broadcasts a message that he hopes a consumer will hear. Internet advertising can thus be expected to follow the same pattern as advertising elsewhere — and so far, it has. Websites make claims about the number of viewers (or “eyeballs,” in Internet lingo) matching a desired demographic that they can deliver; advertising rates are based, at least in part, on the number and quality of deliverable eyeballs.⁸⁴ They must compete for these advertising dollars with every other channel commanding the occasional and partial attention of these eyeballs, including newspapers, television, radio, and billboards. While advertising pricing remains more art than science, it is quite likely that in the long run, pricing for ad placement on websites will depend on the same type of factors as pricing elsewhere — demographics, number of eyeballs, time/space placement — factored through conventional wisdom or empirical observation about the general effectiveness of different types of media for different types of advertising.

Two-way advertising is less common. By and large, two-way ads emerge in markets in which both buyers and sellers are prone to advertising. Examples include matchmaking, employment, barter, and collectibles. In all of these areas, either or both the “seller” and the “buyer” may advertise. In the matchmaking context, for example, the line between buyer and seller is ill-defined; the transaction is in many ways symmetric. The unique feature of two-way advertising is that it requires matching. Anyone who enters into such a transaction has a set of filtering criteria necessary to find an appropriate match. Few people approach a matchmaking service seeking a randomly selected mate. Companies do not assign random jobs to employees. Barter ser-

83. Consumers for whom ticket purchases are not simple may require additional help. While much of this help could be available online in the form of FAQ pages or infomediary sites, a number of issues may complicate the business of Internet companies attempting to succeed in these sectors. From a technological perspective, user-friendly infomediary sites are hard to design. From a business perspective, Internet companies that provide valuable information — or even personalized service on demand — are likely to charge a premium to cover their increased costs. As always, price differentials create possibilities for both free-ridership and arbitrage.

84. The development of appropriate metrics for setting rates for advertising on the Internet is an open question. See Maryann Jones Thompson, *The Measure of Web Success*, INDUSTRY STANDARD, Feb. 22, 1999, available at <http://www.thestandard.com/article/display/0,1151,3501,00.html>. In particular, a number of issues related to the classic economic formulation of the principal/agent problem complicate the attribution of credit and/or blame for converting eyeballs into click-through commercial activity.

vices work because people gain goods or services that they want. Collectors collect specific items, not just “things.” Thus, the keys to successful two-way advertising are matching and filtering — algorithmic tasks at which computers are particularly adept.

Advertising — one-way, two-way, and their interrelationship — is discussed in greater detail in Section III.B., where it serves as the basis for a worked case study on the impact of the Internet paradigm shift on merger policy: the consolidation of large, general purpose, Internet jobs boards.

b. Physical Goods

The prospects for Internet sales of different types of physical goods require a much more detailed — and industry-specific — analysis. It is much harder to capture the nuanced differences among categories of physical goods than among categories of information goods. Nevertheless, a few general observations are probably worth noting:

First, despite the initial excitement surrounding e-tailing, “revolutionary” change is much less likely in the sale of physical goods than in the sale of information goods. All physical-good transactions are likely to continue to involve an exchange of information between seller and buyer, agreement on a price, and proffer of payment, followed by physical fulfillment (including possibly return and replacement).

Second, prospects for Internet sales may be related to the extent to which a buyer knows what to expect upon delivery. Thus, items that are essentially commodities or branded may prove to be easier to sell than those that are experiential, tactile, or sensual.

Third, some vendors of mass-produced goods have discovered that the Internet provides an easy mechanism for taking customizable orders.⁸⁵ One of the barriers to customization has long been the challenge of determining customer preferences. In these consumer goods markets, the decrease in information costs lowers the costs of customizable goods — to the point that they may become available at only a small premium over their mass produced counterparts.

Fourth, collectibles also seem to sell well on the Web,⁸⁶ despite the general rule noted above that consumers like to know what they are getting. Although collectibles do tend to be one of a kind, the Internet has reduced their costs in a significant way. Perhaps the greatest challenge facing most collectors was the ability to locate the good they wanted — a search cost, or an information cost. By reduc-

85. See, e.g., NIKEiD, at http://nikeid.nike.com/nikeid_home.jsp (last visited Sept. 26, 2002) (offering a range of customizable Nike shoe styles).

86. This is illustrated by the continuing success of e-Bay. See Helft, *supra* note 59.

ing this cost drastically, the Internet makes various types of collecting cost-effective, and can thus be expected to impact the sale of collectibles.

Fifth, considerations related to fulfillment also play a role. Perishable goods in particular require timely delivery and careful handling. Expensive distribution channels — such as those required for individualized delivery in response to a web order rather than bulk delivery to a retailer — can have a dramatic effect on the total price required for delivery of a good.⁸⁷

These points illustrate the importance of industry-specific analyses of the markets and of the competitive environments surrounding Internet ventures. They also suggest that the technological, business, and legal issues affecting online merchants of physical goods are likely to vary widely by industry. In this way, they highlight the impact of the paradigm shift on virtually every aspect of the Internet.

F. Implications of the Paradigm Shift

The shift from New World to New Channel thinking has a huge number of implications. It changes the ways that entrepreneurs conceptualize building businesses around the Internet and the ways that they present their ideas as business plans. It changes the ways that venture capitalists and other providers of startup funds evaluate those business plans and make investment decisions. It changes the ways that stock analysts assess valuation and equity prices for publicly-traded Internet firms, and the ways that investors respond to those assessments. It changes the ways that going Internet concerns perceive their competition and feel constrained by their offline competitors. It changes the ways that traditional brick-and-mortar companies integrate the Internet into their own business models and the ways that they respond to new online competition. Finally, it changes the ways that antitrust analysis construes markets and likely competitive responses — thereby also changing determinations about which Internet mergers should be allowed and which should be challenged.

Perhaps the most obvious implication of the demise of the New World paradigm is that Internet business plans can no longer rely on rampant network effects to do their work for them. Many early Internet ventures seemed to believe that they would be able to extract monopoly rents once their network's inevitable growth had passed a critical point; all that they needed to do to set events in motion was to launch a credible website and to advertise their way to a valuable brand. This approach is defunct — and deservedly so. Entrepreneurs

87. The failure of the grocery sites provides a good case in point. See Helft, *supra* note 58; Race, *supra* note 58.

must now develop business plans that show reasonable prospects for profitability.⁸⁸

The New Channel paradigm also suggests some general guidelines that could prove useful in predicting which Internet business plans demonstrate a reasonable likelihood of success. First and foremost, any viable Internet venture must begin by identifying the customer base that it expects to attract, as well as the ways in which those customers' needs are currently being met. Next, it needs to recognize that everyone currently meeting those needs is likely to remain a viable competitor — possibly by adopting an Internet approach designed to appeal to their current customers. The nascent Internet venture also needs to realize that much of what it offers is a reduction in information, search, and transaction costs — and to consider the extent to which its potential customer base is likely to value those savings (in many cases, consumer willingness to trade money for time). Finally, the would-be entrepreneur will have to determine whether or not commitment, lock-in, and switching costs will be sufficient to sustain a customer network if and when one is built. In the absence of such lock-in, a second Internet mover may be able to free ride, to adopt all of the innovator's good ideas, to avoid its mistakes, and thus to hold costs down.

These guidelines suggest the need for full competitive effects analyses. Incumbent brick-and-mortar firms are unlikely to simply sit around and watch their customers depart for points online, and Internet second movers are likely to free ride wherever possible. These responses from both incumbents and entrants could place severe constraints on an entrepreneur's prospects for success. Each of these concerns is implied by the structure of the New Channel paradigm. In the future, both entrepreneurs and investors are likely to consider them — and to demand credible responses to them — on a regular basis. They thus suggest a very different pattern of Internet expansion and investment than was witnessed under the New World paradigm.

Of perhaps even greater significance to the legal community — and, in particular, to the antitrust community — is the legacy of documentary evidence generated during a period of widespread subscription to a since-debunked theory of industrial organization. The vast majority of documents concerning the Internet written during the boom are likely to have relied on a set of discredited assumptions about industry structure. Sound policy must rest on the contemporary — and better-informed — view. As a result, it is imperative to understand both frameworks before reaching a conclusion about a specific merger. Only with such an understanding can informed policies be set to guide the appropriate economic development of com-

88. See Steve Hamm, *The New Netpreneurs*, BUS. WK., Oct. 1, 2001, at EB12.

petitive firms who make heavy use of the Internet. Agency decisions concerning mergers are likely to be particularly susceptible to the challenge posed by these New World documents, believed when written, but now recognized as being at odds with the technological and business environments facing companies who do business on the Internet.

III. REGULATORY NIGHTMARE

A. New Channel Antitrust and Merger Analysis

Many of the questions central to the development and analysis of viable Internet business plans and investment strategies are equally central to antitrust analysis and merger policy. The similarity of concerns hinges on a very basic point: it is not possible to conduct a meaningful inquiry into the likely conduct of any firm, whether new or incumbent, without understanding the competitive contours of the market(s) within which that firm operates. The most straightforward forum in which to discuss these issues is probably merger policy — largely because the Merger Guidelines⁸⁹ (“Guidelines”) provide a useful framework for considering market definition, consumer response, and competitive effects, and because recent merger inquiries provide a useful worked example of the significance of the paradigm shift to antitrust concerns.

1. Market Definition and Participants

The Guidelines recognize that antitrust issues only really arise in concentrated markets,⁹⁰ and thus begin the inquiry by defining the markets relevant to the merger being studied. This inquiry “focuses solely on demand substitution factors — i.e., possible consumer responses.”⁹¹ The Guidelines’ key analytic tool in this inquiry, the SSNIP test, defines markets in terms of likely demand responses to “a Small but Significant and Nontransitory Increase in Price.”⁹² The

89. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (1997) [hereinafter GUIDELINES].

90. *See id.* § 1.0.

91. *Id.*

92. The SSNIP test generally assumes a five percent increase sustainable through the foreseeable future. *See id.* § 1.11. As a practical matter, the “foreseeable future” tends to be about two years. Note that in a market characterized by declining prices, the SSNIP test need not posit an actual turnaround. In such markets, the SSNIP test would consider prices elevated above the level that they would have achieved in the presence of competition. The formal definition of the SSNIP test is:

A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the

market definition exercise thus considers products, make/buy options, and prices. Entry, while an important factor in the overall analysis, is not part of the market definition exercise; as a supply response, it is deferred until the market has been defined and the inquiry has shifted to identifying participants, assessing market shares, measuring concentration, and predicting competitive effects.

The basic market definition analysis may be illustrated by the proposed merger of eWidgets and Widgets.com, two firms whose sole product is the widget sold online throughout an uncontested geographic area. The agency would begin its iterative inquiry into market definition by hypothesizing an online widget monopolist throughout the relevant area who imposes a unilateral SSNIP on online widgets. The agency would then attempt to predict likely consumer responses. If the price increase appeared likely to be profitable — an outcome that the New Channel paradigm suggests will occur only rarely — online widgets would define the product market for the remainder of the inquiry. While such a channel-specific market definition might appear odd, it would not be without precedent. Channel-specific markets have been found, for example, in mergers that differentiated department stores from other purveyors of similar goods, or traditional grocery stores from other outlets for groceries, such as hypermarkets, convenience stores, and warehouse and club stores.⁹³

Perhaps the most widely discussed recent parallel to an Internet-only widget market arose during Staples' failed acquisition of Office Depot in 1997.⁹⁴ Staples contended that the appropriate market definition was "the overall sale of office products."⁹⁵ The FTC countered with a market defined as "the sale of consumable office supplies through office superstores,"⁹⁶ thereby implying, for example, that a

only present and future producer or seller of those products in that area likely would impose at least a 'small but significant and nontransitory' increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.

In determining whether a hypothetical monopolist would be in a position to exercise market power, it is necessary to evaluate the likely demand responses of consumers to a price increase. A price increase could be made unprofitable by consumers either switching to other products or switching to the same product produced by firms at other locations. The nature and magnitude of these two types of demand responses respectively determine the scope of the product market and the geographic market.

Id. § 1.0.

93. *See, e.g., Bon-Ton Stores, Inc. v. May Dep't. Stores Co.*, 881 F. Supp. 860, 869 (W.D.N.Y. 1994) (accepting a definition of a "traditional department store" submarket, distinct from other purveyors of the same goods, in a private action to enjoin a department store merger joined by the State of New York).

94. *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1069 (D.D.C. 1997).

95. *Id.* at 1073.

96. *Id.*

paper clip sold at a superstore and an otherwise identical paper clip sold through a mail order catalogue were in different markets. Staples described this market definition as “‘contrived’ with no basis in law or fact,”⁹⁷ and pointed in particular to the peculiarity of incorporating a distribution channel into a product definition. While the Court eventually accepted the FTC’s proposed definition, it stressed the importance of empirical data in reaching such a counterintuitive conclusion.⁹⁸ Similarly compelling evidence should likely be required before otherwise identical widgets sold online and offline were deemed to lie in separate markets.

In assessing this evidence, the theoretical and practical availability to consumers of both alternative widget delivery channels and meaningful make/buy decisions would be considered.⁹⁹ For an Internet-only widget market to be accepted, the agency would have to demonstrate a class of consumers for whom neither of these alternatives appeared to be viable — in other words, consumers locked into the hypothetical monopolist. The agency would then have to demonstrate that the hypothetical monopolist could exploit this locked in

97. *Id.*

98.

[T]he Commission has argued that a slight but significant increase in Staples-Office Depot’s prices will not cause a considerable number of Staples-Office Depot’s customers to purchase consumable office supplies from other non-superstore alternatives such as Wal-Mart, Best Buy, Quill, or Viking. On the other hand, the Commission has argued that an increase in price by Staples would result in consumers turning to another office superstore, especially Office Depot, if the consumers had that option. Therefore, the Commission concludes that the sale of consumable office supplies by office supply superstores is the appropriate relevant product market in this case, and products sold by competitors such as Wal-Mart, Best Buy, Viking, Quill, and others should be excluded.

The Court recognizes that it is difficult to overcome the first blush or initial gut reaction of many people to the definition of the relevant product market as the sale of consumable office supplies through office supply superstores. The products in question are undeniably the same no matter who sells them, and no one denies that many different types of retailers sell these products. After all, a combined Staples-Office Depot would only have a 5.5% share of the overall market in consumable office supplies. Therefore, it is logical to conclude that, of course, all these retailers compete, and that if a combined Staples-Office Depot raised prices after the merger, or at least did not lower them as much as they would have as separate companies, that consumers, with such a plethora of options, would shop elsewhere.

The Court acknowledges that there is, in fact, a broad market encompassing the sale of consumable office supplies by all sellers of such supplies, and that those sellers must, at some level, compete with one another. However, the mere fact that a firm may be termed a competitor in the overall marketplace does not necessarily require that it be included in the relevant product market for antitrust purposes. . . .

Id. at 1074–75 (emphasis added).

99. For further discussion of the make/buy decision, see *infra* § III.A.4.

consumer class in some way that would increase its profits. Two common examples of such exploitation illustrate theoretical approaches in different types of industries. In some settings, it may be possible to identify locked in consumers and to price discriminate by raising only their prices. If this can be achieved, the hypothetical monopolist could extract rents from its locked-in clientele while providing its other customers with no price-oriented reason to switch suppliers.¹⁰⁰ In other settings, price discrimination may prove to be impractical. When that occurs, the profitability of an overall price increase hinges on the tradeoff between the definitional increase in per-unit revenues on retained sales and the likely decline in unit sales. In either case, the agency would have to explain the theoretical mechanism for extracting excess profits, show that it could be implemented, and demonstrate empirical support in order to successfully block the merger. A market for which this demonstration is possible passes the SSNIP test.

If the online widget market fails the SSNIP test (i.e., the SSNIP is considered likely to induce enough demand substitution to render the SSNIP unprofitable), a broader market must be evaluated. Suppose, for example, that consumers are considered likely to shift their behavior and to start buying their widgets offline. A new market definition would be posited to include all widgets, both online and offline. The SSNIP test would be applied to this broader product market — and continually reapplied as long as demand substitution suggests that consumers face reasonable alternatives to the hypothetical monopolist.

When a market finally passes the SSNIP test, the agency turns its attention to the enumeration of market participants, and to the analyses of entry conditions and of likely competitive effects. The list of market participants should include both incumbents and uncommitted entrants (i.e., firms that have already sunk many of the costs necessary to enter and could thus enter the market quickly and at relatively low additional cost).¹⁰¹ The inquiry then progresses to a full competitive

100. Firms that practice price discrimination may earn a bad reputation, even among customers who are not hurt by it. Such customers may decide to switch suppliers despite the lack of a pricing problem, simply to avoid becoming the next “victim” of a price-discriminating supplier. Amazon.com’s “dynamic pricing” experiment, for example, which devised user-specific prices based on past purchases, earned the firm some bad press — despite an acknowledgement that the practice was likely to become widespread as the technology for gauging a consumer’s willingness to pay improved. See Paul Krugman, *What Price Fairness?*, N.Y. TIMES, Oct. 4, 2000, at A35.

101. In a Guidelines analysis of market share, firms not currently producing or selling the relevant product in the relevant area are attributed shares as likely entrants if their inclusion is considered to be an accurate reflection of probable supply responses. See GUIDELINES, *supra* note 89, § 1.32. As a general rule, candidates for uncommitted entrant status are those firms who have already sunk many of the costs necessary to enter. These firms are frequently active participants in either related product markets or adjacent geographic markets. In the case of an e-tailing market, brick-and-mortar retailers who sell identical products

effects analysis of the SSNIP, including considerations of market shares, industry concentration, entry, and competitive responses. If that analysis indicates that the proposed merger would lead to a market so concentrated that higher prices could be sustained profitably, the agency will have a *prima facie* case to oppose it.¹⁰² If the parties still wish to merge, they will have to meet the burden of proving that countervailing efficiencies are likely to generate large enough consumer benefits to tip the balance in their favor.¹⁰³

2. Price Movements

Merger analysis thus begins with a SSNIP test positing a price increase — or, at the very least, an elevation of prices above the levels that would have emerged in a competitive market. In order to gain insight into likely demand and supply responses to future SSNIPs, the agencies and the parties frequently look to past SSNIPs. This empirical inquiry involves fixing a product and then looking backward through time to see what happened the last time that its price increased. Price increases, however, are usually expressed in nominal terms — or occasionally in real terms that factor in inflation. In either case, they are studied for a fixed product. In the case of the Internet, and in particular in the case of information goods, this inquiry into the movement of nominal prices may not be particularly meaningful.

Recall that the type of strong network effects posited by proponents of the New World paradigm require all three attributes of commitment, positive feedback, and lock-in. The demise of the New World paradigm was attributable in large part to the absence of commitment and of lock-in. It had nothing to do with a weakness in thinking about positive feedback. In fact, many Internet-available information goods are most valuable to the seller when they are broadly disseminated, and most valuable to the buyer when they may be gleaned from multiple sources. These values should be reflected in pricing.

The impact of positive feedback on pricing studies is profound. Price comparisons are only meaningful in a quality-adjusted sense. A product that has doubled in quality while raising its nominal price by 10% has actually sustained a dramatic price decrease, not an increase.

through different channels are likely to be considered uncommitted entrants into the online market. In an online advertising or information market, offline firms providing the same or similar services will often qualify as uncommitted entrants into the corresponding Internet market.

102. See *United States v. Baker Hughes Inc.*, 908 F.2d 981, 984–86 (D.C. Cir. 1990) (explaining that while the government’s showing of a potentially dangerous market concentration constitutes a *prima facie* case of anticompetitive effect, it may be rebutted by a number of issues, explicitly including both ease of entry and merger-specific efficiencies).

103. See *id.*

In the Internet realm, the steady increases in traffic attributable to both increases in overall Internet usage and consolidation of eyeballs as weaker Internet companies cease operations continuously improve the quality of many Internet products (i.e., the value of accessing the larger network). This value increase is particularly significant to sites whose primary source of revenue lies in advertising sales. As discussed above, Internet advertising prices tend to be based on the number of eyeballs from the desired demographic that the hosting site is likely to direct to the ad — a metric consistent with the general notion that the relevant price of an advertisement is the price per viewer rather than the price per ad placement. The more valuable the network, the more valuable its advertising space. Thus, nominal prices should be expected to increase simply as a reflection of increased value — or at the very least to decline at a rate that balances generally negative economic conditions and a downward reassessment of the value of Internet advertising (i.e., attributable to the paradigm shift) against the increased value of the specific network on which advertising space is being purchased.

Furthermore, pricing under the New World approach followed some very strange patterns. Many Internet firms priced to gain market share rather than to recoup expenses.¹⁰⁴ The logic behind this strategy was straightforward; firms sustained present losses in the expectation that after they developed a valuable brand name their profits would be sufficient to recoup their start-up losses. Many Internet firms made large up-front investments, and were never able to recoup their outlays. As long as the New World paradigm remained in vogue, they financed operations by raising equity (or occasionally debt). Once New World thinking was dispelled, that option disappeared. Many went out of business,¹⁰⁵ while others were forced to raise their prices.¹⁰⁶ This price increase, in turn, slowed the rate at which they were able to lure new customers online, and may have even helped

104. See, for example, Hal R. Varian, *Online Commerce Creates Strange Competition*, N.Y. TIMES, Aug. 24, 2000, at C2, for a discussion of this sort of “penetration pricing.” Varian notes that while the penetration pricing strategy was popular during the Internet boom, the subsequent bust caused many members of the Internet community to rethink its utility.

105. It is hard to know with any certainty either how many Internet firms have existed or how many of them have ceased operations. By any measure, though, the failure rate has been impressive. According to Internet Week, at least 210 Dotcoms folded in 2000. See David M. Ewalt, *210 Dotcoms Went Belly Up in 2000*, INTERNET WK., Jan. 4, 2001, available at <http://www.internetweek.com/story/INW20010104S0003>. USA Today’s report on the 2001 Webby Awards (the Internet’s attempt to mimic the Oscars) suggested that the situation was at least as grim among the most highly regarded Internet companies as it was among the rest of the pack. By USA Today’s count, one-fifth of the firms that had been nominated for Webbys in 2000 had failed over the subsequent fourteen months, and 538 Internet companies had shut down over that same period. See Jon Swartz, *Webbys Go On Despite Dot-Bomb Threat*, USA TODAY, July 18, 2001, at 5B.

106. See Varian, *supra* note 104.

lead some consumers who were already online back into the brick-and-mortar world.

Taken together, then, the constant shifts in product quality and the past adoption of a flawed pricing strategy complicate the SSNIP test. Pricing under the New World paradigm was likely to reflect several unusual considerations. Firms frequently set unsustainably low (or even zero) prices to entice new users onto the Internet. They maintained them at those levels to build market share and to develop powerful brands. As both their markets and their shares grew, the value of their network increased. Eventually, as New World thinking dissipated, Internet firms had to introduce more realistic prices. As New Channel thinking became more pervasive, the perceived value of the entire medium declined. At about the same time, the economy became sluggish and Internet firms felt the same price pressures affecting many other industries. In other words, there has never been a period of stable Internet pricing policies, and past behavior is unlikely to be much of a guide to future behavior. As a result, whatever data may be available about past price shifts is unlikely to convey much useful information about either demand or supply responses in the face of future SSNIPs.

3. Efficiencies and Potential Consumer Benefits

Market definitions and demonstrations of concentration are only part of the story in merger analysis. Parties whose proposed mergers appear to lead to undue concentration may still merge if they are able to show the agencies (or the courts) that consumers would be likely to benefit from the merger.¹⁰⁷ All such claims tend to be met with at least some skepticism. Firms are in business to maximize their own profits. While they may have no particular aversion to helping consumers, they are likely to do so only if they can see how it will help their bottom line. Thus, one question likely to arise during any consideration of efficiencies is why the firms chose to merge in the first place. The realities of the Internet's current business environment

107. "[M]ergers have the potential to generate significant efficiencies by permitting a better utilization of existing assets, enabling the combined firm to achieve lower costs in producing a given quantity and quality than either firm could have achieved without the proposed transaction." GUIDELINES, *supra* note 89, § 4. Generic examples of merger-specific efficiencies include cost reductions and the development of new or improved products. The Guidelines caution, however, that not all efficiencies are cognizable — and further, that not all cognizable efficiencies are given equal weight. *See id.* The structure of the Internet — and in particular the challenges associated with businesses whose fixed and overhead costs frequently dwarf their marginal costs — suggests that many of the efficiencies likely to be realized through Internet mergers may not fall into the Guidelines' preferred categories of marginal cost reduction. Because the Guidelines are simply guidelines, however, both agencies and courts may be persuaded, on occasion, that they provide poor descriptions of the industries or firms being evaluated.

provide a number of useful insights that could help reduce natural skepticism, many inherent in the abruptness of the paradigm shift.

The rush to New Channel thinking had an obvious and negative impact on Internet firms. Some were revealed as bad bets that relied on business plans that may have made sense under a New World paradigm, but that were unsound under a New Channel paradigm. These firms were victims of changing perceptions (or alternatively, they were short-term beneficiaries of widespread misperceptions whose good luck eventually ran out). The validity of their underlying business models never changed. What changed was the lens through which their plans were viewed, or the perceptions of the business community.

Reality did change, however, for other classes of Internet firms, as once-available funding became hard to secure. Many firms whose business plans outlined sound approaches to building profitable companies in broadly defined, competitive markets were unable to secure the funding that they needed to continue because of the generally poor perception of Internet firms; these firms essentially died by contagion.¹⁰⁸

Still other Internet firms adapted to these changes and learned that while they were offering products or services that could compete favorably with offline providers, they needed to rethink their revenue models and their business plans. Simple reliance on the magic of network effects was insufficient in a broad market attempting to exploit a New Channel. These firms had to cut back on their advertising, rethink their approach to growth, and focus on profitability.¹⁰⁹ Some of them discovered that their safest route lay in partnering or merging with an established offline firm.¹¹⁰ Others sought to combine their efforts in a merger of Internet properties.¹¹¹

108. See *supra* notes 72–73.

109. See Bob Tedeschi, *Success Using Contrary Notions: Grow Modestly and Actually Make Money Doing Business on the Web*, N.Y. TIMES, July 30, 2001, at C8.

110. Online grocer Peapod, for example, was acquired in stages by Royal Ahold NV, a Dutch conglomerate whose holdings already included the Giant supermarket chain. See Martha McNeil Hamilton, *Royal Ahold Wants All Peapod Shares*, WASH. POST, July 17, 2001, at E1. In a somewhat higher profile deal, Amazon.com and Toys R Us developed a co-branded store at Toysrus.com. The firms agreed to share responsibility for the store, with each corporation focusing on its own areas of strength. See Nora Macaluso, *Amazon, Toys 'R' Us Ink E-Commerce Pact*, ECOMMERCE TIMES, at <http://www.ecommercetimes.com/perl/story/3994.html> (Aug. 10, 2000). Amazon subsequently developed a number of other such partnerships, effectively changing the profile of both the site and the company. By early 2002, commentators were describing Amazon.com as more of a mall than a global superstore. See Cha, *supra* note 61.

111. In late 2000, for example, Homestore.com — a leading Internet site for home sales and residential real estate information — acquired Move.com, formerly the real estate portal of Cendant Corporation (parent company of three national real estate brokerage franchises, Century 21, Coldwell Banker, and ERA). See, *Homestore.com, Inc. Agrees to Acquire Move.com from Cendant Corporation, Significantly Extending the Internet's Largest Home and Real Estate Marketplace*, PR NEWSWIRE, at <http://www.cendant.com/>

Such combinations promise several benefits to the consuming end of the Internet community. First, they increase the likelihood that a valuable Internet brand can continue to exist despite the financial difficulties of its owner. While the New World emphasis on branding failed to produce the desired strong network effects, it did still generate a number of recognizable — and valuable — Internet brands.¹¹² Consumers already comfortable with these sites are likely to appreciate their perpetuation, albeit under changed or merged ownership. Vendors for whom these sites supply advertising space are likely to appreciate an increase in the financial stability of the Internet firms with whom they have contracted. Partnerships and mergers allow pure plays to diversify their product line and thus to gain at least some protection against the vicissitudes of the business cycle. This diversification is particularly evident when one party also possesses offline assets, but it remains true even when a merger of two pure plays leads to a firm with a diverse array of Internet offerings.

Second, mergers may allow Internet firms to operate more efficiently by combining their operations and shedding overhead. Many Internet businesses operate at close to zero marginal cost. Their primary costs lie in personnel, equipment, and general office expenses (e.g., rent, electricity, telephones). Consolidation through merger enables a reduction in both fixed costs and total costs. Because firms in zero marginal cost industries cannot cover total costs with marginal cost pricing, their prices must exceed their marginal costs. Reductions in total costs are thus likely to lead to price reductions, which in turn benefit Internet consumers.

Third, mergers consolidate eyeballs. Paying customers value many Internet goods, and in particular information goods like advertisements, according to the number and the quality of eyeballs that they can deliver. The history of the commercial Internet has shown that pricing is unlikely to be directly proportional to the number of eyeballs delivered. Exponential growth in total Internet usage has led

media/press_release.cgi/Corporate/10389 (Oct. 27, 2000). The deal closed on February 16, 2001. See, HOMESTORE.COM INC., FORM 8-K (Feb. 16, 2001), Despite the creation of the largest offering in its space — and an important step towards becoming the “dominant” online residential real estate network — Homestore.com’s stock price fell by about 90% in the twelve months following the announcement of its acquisition. CNET’s acquisition of rival ZDNet created “one of the largest media properties on the web,” Jon Rhine, *CNET Acquires ZDNet for \$1.6B*, S.F. BUS. TIMES, July 19, 2000, available at <http://sanfrancisco.bcentral.com/sanfrancisco/stories/2000/07/17/daily21.html>. This acquisition similarly failed to extract the types of rents that early Internet investors might have demanded. CNET’s stock dropped more than 75% in the twenty months that followed the announcement of the acquisition.

112. The value of a recognized Internet brand name accounts for a number of corporate investments and partnerships that might otherwise appear odd. Perhaps the best example of such an alliance was media giant Bertelsmann’s expressed willingness to invest in Internet music pirate Napster. See Matt Richtel & David D. Kirkpatrick, *In a Shift, Internet Service Will Pay for Music Rights*, N.Y. TIMES, Nov. 1, 2000, at C1.

to significant increases in the number of eyeballs delivered by many sites, and noticeably smaller increases in nominal prices — resulting in a lower quality-adjusted price.¹¹³ Furthermore, advertisers wishing to ensure that they reach as large a percentage of their target audience as possible are likely to spread their advertisements across competing sites. A consolidation of eyeballs to a smaller number of sites may thus allow advertisers to reach all of the same Internet users at a lower total cost.

While the consumer benefit of eyeball consolidation may be countered by a decrease in advertiser negotiating power, it does suggest the need for a balancing test. While durable monopolies for Internet advertising are unlikely to serve consumers well, neither are highly unconcentrated markets. Stable oligopolies with a small number of players are likely to allow advertisers to maximize their reach while minimizing their costs.

The repositioning and consolidation of various Internet firms thus promises several different types of potential consumer benefits — continuity and stability, lower prices, and higher quality products. These benefits are likely to occur in different combinations, in different amounts, in different Internet spaces. Proposed mergers in appropriately defined unconcentrated markets should not reach this stage of the merger analysis — although the parties would certainly be well-advised to consider them when contemplating the deal and when devising their post-merger business plans. Proposed mergers in concentrated — possibly even Internet-only — markets will have to investigate these issues on a case-by-case basis. Because few if any of these benefits were discussed in much detail in New World documents, available evidence may again be less helpful in the Internet context than it is in analyzing mergers within established industries.

4. Evidence

Much of the discussion of merger analysis to this point has been fairly mundane. The analysis itself was described in a manner that is not unique to Internet firms, and the challenges of understanding price movements and efficiencies parallel those that arise in non-Internet industries. The greatest complication added by Internet mergers is likely to lie in the difficulty of extracting meaning from documents and data. The speed with which an entire theory explaining the behav-

113. Monster.com's pricing provides a case in point. Its price for posting a single ad rose from \$275 to \$295 in January 2001. This price shift represents a nominal increase of about 7.2% — appreciably below Monster's increase in traffic. Because value to its advertisers is measured in terms of either eyeballs delivered or appropriate resumes maintained on file, this nominal price increase almost certainly represented an actual decline in quality-adjusted price. By mid-2002, the price had risen to only \$305. See Single Job Solutions Home, at <https://secure.monster.com> (last visited Oct. 13, 2002).

ior of Internet firms was born, achieved widespread popularity, and died renders statements based on that theory inherently suspect.

Virtually everything written about the Internet between late 1998 and mid-2000, if not between mid-1995 and early 2001, adhered to the New World paradigm. The same view is likely to be echoed in the documents of Internet firms themselves. The New World paradigm guided both the behavior and the statements of all Internet participants as long as it was accepted widely. Entrepreneurs who foresaw strong network effects and market dominance received ample funding; those who did not were unlikely to secure any funding at all. Thus, even those Internet players who may have recognized the flaws in the paradigm were likely to play along because they had little real choice. As noted in the Introduction, this challenge is but a single manifestation of the broader question: What constitutes reasonable behavior in the midst of a speculative bubble? Merger analysis is but one example of the legal inquiries likely to be complicated by the abundance of documentary evidence supporting a widely held world view that turned out to be more fantasy than reality.

In the merger context, the New World view implied almost uniformly narrow channel-specific markets. Online commerce was viewed as almost a world apart from its offline counterpart — and the greater the information content of the good in question, the stronger the belief in the uniqueness of the Internet. For the entire information goods half of the taxonomy, offline firms were not considered to represent serious long-term competition. Demand substitution was not really taken seriously because no other method of communicating information was seen as a viable substitute for the Internet. Supply substitution was not taken seriously because branding and strong network effects provided a tremendous advantage to the first mover to enter and to sink the requisite costs — thereby effectively precluding entry almost by assumption.¹¹⁴

While many observers may have remained skeptical of the rather extreme tone of these characterizations, most appeared to believe that they were more-or-less on target, and to accept them in at least a weak form. As long as even a weak form of the New World paradigm persisted, narrowly defined Internet-only markets were likely to pass the SSNIP test simply because reasoning similar to the SSNIP test underpinned the thinking of the entire investment community. Investors were betting substantial sums on the validity of the underlying economic theory, and entrepreneurs were striving to perpetuate that reliance. In such an environment, it was difficult for anyone to make a compelling case that the economic basis of the investment boom was

114. See discussion *supra* § II.C.b.2.

entirely implausible — and those who tried were either ignored or castigated.¹¹⁵

The behavior of both investors and entrepreneurs thus appeared to validate the theories underlying the New World paradigm. Apparent validity fueled further behavioral adoption of this investment behavior — which, in turn, strengthened perceptions. This feedback loop in which perception guided behavior and behavior strengthened perception appeared to validate New World thinking. The NASDAQ bubble shown in Figure 1 (p. 164) may be the clearest illustration of the paradigm's behavioral impact.

The investment community eventually realized that its acceptance of the economic underpinnings of the New World paradigm was misguided. Entrepreneurs, investors, analysts, and observers all came to adopt New Channel thinking. Internet firms realized that they compete in broad markets where demand substitution, supply substitution, and rapid competitive entry are feasible. Consumers of many Internet information goods displeased with an attempted price increase by their Internet supplier may have the option of internalizing the task of providing information. This type of decision, a classic backward integration (or make/buy) option under which firms internalize services that can be provided more cost-effectively in-house than by outsourcing, may also affect the assessment of market participants (and even where it does not affect that calculation, it does represent a potential loss in sales and thus a constraining demand side response).¹¹⁶ In many ways, the unwind of the Internet boom made the “make” end of make/buy even more attractive. When large numbers of qualified web development firms (and individual programmers) saw their business

115. Even many respected economists remained guardedly optimistic about the validity of the economics underlying the technology boom. When Robert Shiller first published *IRRATIONAL EXUBERANCE*, *supra* note 19, in 1999, for example, his argument that the market's rapid rise represented the middle of a speculative bubble was hardly a matter of universal acceptance. In the words of economist and *New York Times* columnist Paul Krugman:

Mr. Shiller believes that the whole stock market, not just the Dow, is inflated by a speculative bubble. I'm sympathetic but not entirely convinced. The social and psychological hallmarks of a bubble...are plain to see, but so is the spectacular pace of technological progress. I'm not sure that the current value of the Nasdaq is justified, but I'm not sure that it isn't.

Paul Krugman, *Dow Wow, Dow Ow*, N.Y. TIMES, Feb. 27, 2000, § 4, at 17.

116. The importance of backward integration to market analysis was articulated clearly in *United States v. Baker Hughes*, 908 F.2d 981, 982–83 (D.C. Cir. 1990). Under the *Baker Hughes* formulation, the government's ability to demonstrate that a proposed merger would lead to a highly concentrated market suffices only to shift the burden back to the merging parties to demonstrate why the resulting concentration would not harm consumers. In *Baker Hughes*, as well as in numerous subsequent cases, the sophistication of the consumer base and the ease of backward integration were accepted as evidence that even a hypothetical monopolist would be unable to exploit consumers. The most recent application of this principle was probably *United States v. Sungard Data Systems, Inc.*, 172 F. Supp. 2d 172, 190–93 (D.D.C. 2001).

decline, they dropped their prices (or entered the job market). This sudden wave of available skilled labor — often with experience designing exactly the types of services that consuming firms were considering internalizing — put even further pressure on Internet suppliers.

5. The Impact on Merger Policy

The business environment described above reflects the reality of the Internet after the demise of New World thinking. Agencies evaluating documents and data must be prepared to recognize that statements made in a drastically different business environment may no longer reflect reality. In that sense, the paradigm shift is crucial to merger policy not only in its demonstration of a new theoretical outlook, but more significantly as an indication of the importance of the empirical data that is just now beginning to emerge.

Recall that New World thinking arose as a matter of pure theory. No reliable data about consumer attitudes toward Internet shopping, for example, were available because most consumers were new to the Internet and e-commerce was a novel and untested idea. Adoption of the Internet was rapid, and many projections about e-commerce expected its growth to follow the same trajectory. Many observers also touted the Internet's potential to cut costs and to increase convenience. They thus believed that once consumers tried shopping over the Internet they would become quick converts. The formula was simple. People would join the Internet at an exponential rate, sample the novelty of Internet shopping soon thereafter, and never go back to the mall. The lone bottleneck seemed to be supply. There had to be enough Internet vendors selling a sufficiently broad array of goods to both attract and retain consumers. As a matter of theory these propositions may have been debatable, but they could not be disproved in the absence of data.

In fact, exponential growth did occur — for a while — in apparent support for the theoretical predictions of the New World view. The theory's incompleteness became clear as the data continued to accumulate. Internet firms incurred delivery bottlenecks, high delivery costs, and even higher return costs. While Internet shopping continued to grow, its growth rate slowed — much sooner than the New World theory would have predicted. Brick-and-click combinations arose to blur the boundary between Internet vendors and their conventional counterparts. In short, the empirical data was unable to sustain the New World view and led, in turn, to the current acceptance of the New Channel paradigm.

From the perspective of the regulatory agencies, this history need not change merger analysis in any significant manner. What it should

do is change expectations and presumptions. Had the hypothetical eWidgets/Widgets.com merger been proposed in 1999, the agencies would have had scant empirical data with which to work, a popular theory of industry structure suggesting that Internet widget sales defined a distinct product market, and signals from the financial markets tending to support that theory. Under such circumstances, the online widget market would have been likely to pass the SSNIP test, and entry of other firms would have been viewed as unlikely.¹¹⁷ Careful scrutiny would thus have been warranted, and a merger that consolidated some key players in a concentrated Internet space would have been allowed only if the parties were able to demonstrate sufficient countervailing efficiencies.¹¹⁸

By 2001, empirical data had become available, the prevailing theory of industry structure had shifted to support a broad channel-independent product market definition, and the signals from financial markets tended to support *that* theory. While an inquiry into the possibility of a narrow market might still be warranted, the agencies' working assumption should be that such a finding would be unusual. Significant and striking empirical data should be necessary to reject a broad market not delineated by channel of distribution (i.e., to accept an Internet-only market).

In short, the significance of the paradigm shift to merger policy should lie in the agencies' presumptions and attitudes, rather than in the mechanics of their analyses. An agency accepting the discredited New World paradigm should insist on ample empirical data supporting a broad market before allowing a merger to be consummated. By way of contrast, an agency accepting the contemporary New Channel paradigm should challenge mergers that increase concentration significantly in a narrowly-defined universe only if empirical evidence supports the narrow online definition — or if warranted because of concentration concerns in the broader market. Regulators who detect numerous New World documents generated by and about the merging

117. This statement is hypothetical because few Internet firms tried to merge during the height of the boom. An interesting case study *might* have been provided by CNET's acquisition of ZDNet in mid-2000. *See supra* note 111. Both sites specialized in the provision of news and consumer information related to technology. By most accounts, they were the two most valuable Internet properties in that narrow space — a niche that New World thinking might have viewed as ripe for monopolization. *See* Jen Muehlbauer, *CNET-Ziff-Davis: One More Confusing Merger*, INDUSTRY STANDARD, July 20, 2000. The firms' revenue models, however, indicated why no merger inquiry was necessary: virtually all of their revenues come from advertising. As a result, while the combined firm might dominate its niche, CNET faces fierce competition from all other sites in all other spaces for Internet advertising dollars. *See* 2000 CNET NETWORKS, 2000 FORM 10-K. The FTC allowed the waiting period to expire without requesting further information from the parties. *See* Press Release, CNET Networks, CNET Networks Acquisition of Ziff Davis Inc. One Step Closer to Completion (Sept. 5, 2000) at <http://www.cnet.com/aboutcnet/0-13613-7-2702230.html> (last visited Sept. 27, 2002).

118. *See supra* note 107.

firms should recognize their underlying basis and accept them as reliable if and only if they are consistent with empirical data. Otherwise they should recognize that these documents convey an unreliable description of either the business environment in which these firms currently operate or the future of their industry as it is likely to unfold. Under such circumstances, documented claims about the nature of competition or the possible Internet-only character of the market should be met with skepticism; broader channel-independent markets are likely to continue being the norm.

In a similar vein, efficiency arguments should probably be met with less skepticism than they might otherwise be. All Internet firms have suffered a severe letdown, and all survivors are reconsidering their role within the New Channel paradigm. Mergers that might not have been contemplated under other circumstances could provide significant consumer benefits.

The ultimate message to the agencies is not that all Internet mergers should be allowed. It is rather that if a strong version of New World thinking is adopted, almost all potential Internet mergers will appear to be anticompetitive. Furthermore, the strongest form of New World thinking is likely to be found in a firm's own documents and press releases from the bubble period. Adherence to the views expressed in these documents is likely to either prevent beneficial mergers or magnify the transaction costs of consummating acceptable mergers through a lengthening of the approval process. The general lack of commitment to Internet properties and of entry barriers on the Internet suggests that harmful Internet mergers may be few and far between. The agencies should reserve both their scrutiny and their opposition for those few cases where they are truly warranted.

6. Internet Merger Analysis

All told, the agencies are likely to find themselves in more-or-less the same bind as all other Internet participants. With past beliefs debunked, little past behavior is indicative of likely future behavior. Documents and data will reflect unfounded beliefs and aspirations that are unlikely to ever be realized. Such evidence is unlikely to provide an accurate picture of either the current or likely future business environments. Agency inquiries must be driven by a New Channel approach, economic theory based on standard merger analysis principles, and an understanding of the appropriately defined market.

Figure 3 outlines a series of questions that should help agencies determine which Internet mergers truly require careful scrutiny. These questions are not meant to replace those that are asked in all mergers analyses. They are designed to help determine whether the agencies should reach an early termination and let the merger be consummated

or issue a second request and apply further scrutiny. These questions may arise in different orders, and may achieve different levels of importance, in different Internet sectors. By and large, they demonstrate that Internet mergers are likely to raise the same issues as mergers in more conventional industries: the acceptability of close substitutes, the alternative options available to consumers (i.e., demand substitution), the prospects for entry (i.e., supply responses), the applicability of historical data, and the likely consumer benefits.

Figure 3: Early Termination or Second Request?

Questions Guiding the Investigation of a Proposed Merger of Two Internet Pure Plays
<ul style="list-style-type: none"> • Where does this sector fit in the Internet taxonomy? • Is backward integration (make/buy) a reasonable option for consuming firms? • Are offline firms competitive with online firms? • Would uncommitted or committed entrants feel invited into the market if prices rose? • Has the market ever experienced a legitimate increase in quality-adjusted prices? • Are consumers likely to experience decreasing prices as the merging firms see their total costs decline due to the efficiencies of consolidation? • Is eyeball consolidation likely to give consumers significant quality increases in the Internet products that they purchase?

B. The Jobs Boards Mergers

The recent consolidation of the Internet's leading jobs boards provides a useful case study in the analysis of Internet mergers. Jobs boards are among the premiere examples of two-way advertising or matching services. Internet companies in this category collect resumes from potential job seekers, sell advertising space to employers wishing to post job openings, and offer to sell a number of other matching or notification services to their advertisers.

The jobs board space is heavily populated; some estimates of the number of employment-related sites at the end of 2000 exceeded 40,000.¹¹⁹ Many of these sites cater to a single company, sector, region, or ethnic or linguistic group, rather than to all potential job

¹¹⁹ PETER D. WEDDLE, WEDDLE'S JOB-SEEKERS GUIDE TO EMPLOYMENT WEB SITES 2001, at iv (2001).

seekers. Relatively few jobs boards with a universal focus have expended the capital necessary to develop into valuable Internet brands. Six such boards have been involved in the recent wave of consolidation: Monster.com (“Monster”), Flipdog.com (“Flipdog”), HotJobs.com (“HotJobs”), Yahoo! Careers, CareerBuilder.com (“CareerBuilder”), and HeadHunter.net (“HeadHunter”).

1. History of the Consolidation

The alignment of the leading general-purpose jobs boards began to change in the spring of 2001. The first blockbuster deal was signed between Yahoo! Careers and HeadHunter in late March: HeadHunter became Yahoo!’s exclusive supplier of employment-related content and Yahoo! essentially ceased being an independent player in the jobs board space.¹²⁰

About two months later, TMP Worldwide, the parent company of Monster (the largest of the jobs boards), bought Flipdog from Whiz-Bang Labs.¹²¹ Monster’s acquisition plans did not end with FlipDog; it also attempted to purchase HotJobs, by many measures its largest direct competitor.¹²² The FTC issued a second request and launched an investigation into the potential anticompetitive consequences of the Monster/HotJobs deal.¹²³

Following quickly on the heels of that request from the FTC, CareerBuilder — an Internet property owned by the Tribune and Knight Ridder newspaper chains whose site links to the employment sections of the newspapers in those chains — announced its own plans to acquire HeadHunter.¹²⁴ This deal promised to combine the third and fourth largest universal jobs boards, again according to most metrics. The press release announcing the deal bragged that: “The CareerBuilder/HeadHunter combination creates a formidable force that is positioned to close the gap on Monster....”¹²⁵ CareerBuilder saw itself and Monster heading into a duopoly atop the jobs board space — a

120. See *Headhunter.Net Secures Content Deal with Yahoo!*, INTERNETNEWS, Mar. 7, 2001, at http://www.internetnews.com/bus-news/article/0,,2381_707411,00.html (last visited Sept. 27, 2002).

121. See Martin Stone, *Monster Grabs FlipDog, Seeks to Buy Swedish Site*, WASHINGTONPOST.COM NEWSBYTES, May 30, 2001, at <http://web.archive.org/web/20010605060256/http://newsbytes.com/news/01/166243.html> (last visited Sept. 27, 2002).

122. See Clint Boulton, *TMP Feeds the Monster HotJobs*, BOSTON.INTERNET.COM, July 2, 2001, at http://boston.internet.com/news/article/0,1928,2001_794841,00.html (last visited Sept. 27, 2002).

123. See Nora Macaluso, *U.S. Wants Details on HotJobs-Monster.com Merger*, ECOMMERCETIMES, Aug. 14, 2001, at <http://www.ecommercetimes.com/perl/story/12785.html> (last visited Sept. 27, 2002).

124. See Press Release, The Tribune Company, Careerbuilder, Knight Ridder and Tribune Company to Acquire Headhunter.Net (Aug. 24, 2001), at <http://www.tribune.com/about/news/2001/headhunter.htm> (last visited Sept. 27, 2002).

125. *Id.*

situation that typically raises antitrust concerns. The parties should thus not have been surprised when the FTC launched an inquiry into their deal, as well.¹²⁶

The FTC allowed the second deal to close first.¹²⁷ CareerBuilder quickly reworked itself, Headhunter, and the employment sites and print employment sections of its more than seventy affiliated newspapers into one large, interlinked, information pool.¹²⁸ Careerbuilder also assumed Headhunter's contract with Yahoo!. Yahoo!, however, had ideas of its own. Four months into the FTC's investigation of the Monster/HotJobs deal, Yahoo! announced a superior offer for HotJobs. HotJobs accepted Yahoo!'s offer just before Christmas 2001 and terminated its merger talks with Monster.¹²⁹ The FTC determined that because Yahoo! was not even an independent player in the space, little scrutiny of this deal was required.¹³⁰ The deal closed in February 2002,¹³¹ and two months later Yahoo! terminated its relationship with CareerBuilder.¹³²

These thirteen months of consolidation suggest a number of interesting questions — perhaps the most obvious of which is whether the jobs boards niche really warranted government scrutiny. No one doubted that Monster, HotJobs, CareerBuilder, and Headhunter were the most valuable brands in the space. The key areas of inquiry were thus whether the space constituted a well-defined antitrust market, and whether entry barriers were high enough to preclude rapid entry if a hypothetical monopolist controlling the space attempted to raise prices. Numerous New World documents suggested both that the market was well defined and that entry was unlikely; careful scrutiny possibly leading to a challenge thus appeared to be warranted. New Channel thinking — and the business environment surrounding the space by the summer of 2001 — brought the accuracy of those documents into question. By the time that the deals were announced, an

126. See Sean Madigan, *FTC Vets CareerBuilder-HeadHunter for Antitrust Issues*, WASH. BUS. J., Sept. 18, 2001, available at <http://washington.bcentral.com/washington/stories/2001/09/17/daily18.html> (last visited Sept. 27, 2002).

127. See *FTC Grants CareerBuilder Permission to Bag Headhunter*, WASH. BUS. J., Nov. 6, 2001, available at <http://washington.bcentral.com/washington/stories/2001/11/05/daily21.html> (last visited Sept. 27, 2002).

128. See www.careerbuilder.com or www.headhunter.net (last visited Sept. 27, 2002).

129. See Larry Dignan, *Yahoo the Victor in HotJobs Courtship*, CNET NEWS.COM, Dec. 27, 2001, at <http://news.com.com/2100-1023-277417.html?legacy=cnet> (last visited Sept. 27, 2002).

130. See Federal Trade Commission, Number of Early Terminations Granted Between 01/25/02 12:00:00 AM and 01/25/02 11:59:00 PM, at <http://www.ftc.gov/bc/earlyterm/2002/01/et020125.htm> (last visited Sept. 27, 2002).

131. See Press Release, Yahoo! Inc., Yahoo! and HotJobs Announce Completion of Merger (Feb. 13, 2002), at <http://docs.yahoo.com/docs/pr/release938.html> (last visited Sept. 27, 2002).

132. See Jeff Clabaugh, *Yahoo! Careerbuilder Part Ways*, WASH. BUS. J., Apr. 18, 2002, <http://washington.bizjournals.com/washington/stories/2002/04/15/daily51.html> (last visited Sept. 27, 2002).

Internet-only market appeared to be unlikely to pass a SSNIP test, and barriers to entry were hard to find.

The story of this consolidation thus raises many of the theoretical issues outlined in Section III.A. A more detailed discussion of the industry — along the lines recommended by the New Channel paradigm — should help to fill the outline surrounding the FTC’s inquiries and the relevance of the shift away from the New World paradigm.

2. Products, Markets, and Entry

a. Taxonomic Categorization

Jobs boards are Internet-only businesses serving two communities: individuals seeking jobs and employers seeking to hire new employees. The boards provide a suite of free services that allow job seekers to post their resumes and to browse ads placed by employers. They earn revenues by selling advertising space to prospective employers, by providing those employers access to their accumulated resume databases, and by informing employers of employees whose skills appear to meet the employer’s criteria.

In taxonomic terms, jobs boards fit neatly into a single category. Because nothing physical is transported, the product must be an information good. Because revenues arrive via the sale of advertising space it is an advertising good, and because the services involve matching the objectives of two distinct user classes it is a two-way matching service. With this definition in place, standard market definition exercises may begin with a SSNIP test applied to online two-way employer/employee matching services.

b. Market Definition and Participants

The formal market definition exercise for a merger of two jobs boards begins with a SSNIP test applied to the narrowest possible relevant market, here by hypothesizing a single present and future seller of online two-way employment advertising. It then poses a simple question: Would a 5% increase in this monopolist’s real quality-adjusted prices be profitable?

The first part of the answer lies in demand substitution. The profitability of a price increase is always a function of the number of consumers likely to pay it; other consumers might choose to backward integrate (i.e., to conduct the services in-house), to leave the market altogether, or to substitute related products. The nearest substitutes to online two-way employment matching are likely to be offline employment matching services and online and offline broadcast employment advertising.

i. Products

Employment advertising defines a spectrum of services. At one extreme lies the one-way ad: A client firm posts a job opening and collects responses from applicants. All that the posting employer needs from its “supplier” is space — and eyeballs. Many different media can deliver space and eyeballs: billboards, newspapers, TV, radio, web sites, etc. What’s more, these ads don’t need to be specific — particularly in the Internet age. All that they have to say is: “We’re hiring. Here’s our contact information. If you might have skills appropriate to one of these job categories in one of these metro area locations, please visit our Web site.” This sort of ad has been around for a long time — and has amply demonstrated its utility to filling some but not all types of jobs.

High-end executive search firms define the other extreme. These firms allow their clients to outsource everything but their ultimate decision. Executive search firms are given detailed, specific criteria within which to conduct their searches, and are expected to do virtually all of the screening and initial interviewing themselves. By the time that they return to their clients, they are expected to have narrowed a large field down to a very small number of qualified candidates. The client company itself then only has to choose among the small, pre-screened set.¹³³ In somewhat more technical terms, executive search firms apply a combination of matching algorithms, heuristics, and personally crafted search techniques to perform maximal filtering.

Between these two extremes lie many possible variations. Some placement and search firms may filter (or screen), albeit at a less careful and detailed level than would be expected of an executive search

133. To pick just one example, the website operated by Glocapsearch, an executive search firm, includes the following instruction to job seekers:

We send your resume to our clients. Weighing your background with our interview comments versus the clients' needs, we send your resume to clients whenever there is a clear fit. If there is an opportunity to which you've applied but have not been sent, this means that our client may have temporarily halted the recruiting process due to internal issues (pending deals, etc.), may already have a full pipeline of candidates from which to choose (which is sometimes the case if you've applied to an old posting), or we have determined that you were not appropriate for that opportunity. ANYTIME we send your information to one of our clients, you will get an email with the name of the firm, the job position summary and a website URL for the company if they have one. In turn, if you do not get an email from us, it almost always means your resume has not been sent out to that client. AT NO POINT SHOULD YOU EVER CONTACT ONE OF OUR CLIENTS WITHOUT OUR PRIOR INSTRUCTION.

Glocapsearch.com, *Our Process with Financial, Management, & Marketing/Advertising Candidates*, at http://www.glocap.com/gs_ourprocess.jsp (last visited Sept. 27, 2002) (formatting in original).

firm. Others may simply be clearing houses or repositories, whose message to potential applicants takes the form: “Many employers contact us with jobs. Send us your resumes, select a couple of applicable keywords from our list, and we’ll direct your resumes accordingly.” Online two-way matching services compete directly with such conventional firms. In fact, these two-way online matching firms may be viewed as front-ends for their more conventional competitors. Once upon a time, employment firms were offices filled with employee resumes and employer ads; members came to search the files describing potential jobs or applicants. The Internet brought much of this activity online.

Jobs boards thus combine three functions:

Broadcasting: They broadcast either general or specific job ads, and charge employers for posting these ads;

Collection: They collect resumes, and thus serve as a resume repository. Resume posting is usually free to job seekers; and

Filtering: They organize and filter the resumes that they have collected, and sell a variety of related services to employer clients.

The hypothetical monopolist posited for the SSNIP test would thus be the only online provider of all three services.

ii. Prices

Now suppose that this three-function niche were monopolized and a price increase were imposed, per the SSNIP test. Would disgruntled customers have viable alternatives? Broadcasting is easy to achieve elsewhere. Portals, other popular websites, and various conventional media all offer opportunities for broadcast ads. In particular, media that target a specific interest group, demographic, or geographic region, provide excellent opportunities for firms wishing to target likely job applicants with a broadcast employment ad — both online and offline.

The other two tasks, resume collection and filtering, are not quite as widespread; few conventional media outlets or one-way websites offer these services. Prior to the introduction of the Internet, resumes were generally collected, sorted, and filtered by recruitment agencies and/or by corporate Human Resources (“HR”) departments. In response to a unilateral price increase by the hypothetical monopolist, some consumers might shift some or all of their business to these conventional suppliers — recruitment agencies representing an outsourcing to a rival third-party vendor, in-house HR departments a backward integration. Consumers that chose these alternatives would

thus divert business from the hypothetical monopolist. Sufficient sales diversions will nullify the profitability of the SSNIP.

Outsourcing and backward integration must be considered separately. In terms of outsourcing, it is significant that brick-and-mortar recruitment firms and Internet jobs boards are highly dissimilar businesses. Traditional recruiters either work as headhunters paid by employers to *find* a job candidate, or as advisors and trainers to job seekers attempting to increase their prospects for securing appropriate employment. In either case, these recruiters tend to offer personalized service for a premium price. Consumers attempting to choose between online and conventional recruiting services are thus likely to recognize the price/quality tradeoff. Those who prefer individualized service are likely to prefer the conventional recruiters; those attracted by lower prices will tend towards the Internet. While a SSNIP imposed by a hypothetical Internet monopolist might drive a few marginal customers to conventional recruiters, a mass exodus appears unlikely.¹³⁴ Most consumers who have chosen the Internet provider are likely to pay its newly elevated price rather than the constant — but much higher — price demanded by the conventional firm. The hypothetical Internet monopolist is thus not likely to feel much of a price constraint emanating from conventional offline recruitment offerings.¹³⁵

Backward integration by corporate consumers, on the other hand, is likely to pose a real threat to online two-way advertisers. Many companies maintain their own HR departments (or at least some capability to screen resumes, to arrange and conduct interviews, and to reach hiring decisions). These departments frequently operate servers and file systems that collect and store resumes received in response to various broadcast ads. Many such companies also possess the algorithmic, heuristic, and/or human infrastructure necessary to perform mid- and final-stage filtering. The number of companies possessing these capabilities is likely to grow with the number of corporate websites — and to continue growing as increasing numbers of job-seekers come to expect corporate websites to link to current job openings. Firms with this overhead in place who still employ online two-way matching services are likely to pursue multiple recruitment strategies; they are likely to purchase broadcast ads directing job seekers to their corporate sites, while simultaneously paying the two-way services for additional advertising, resume collection, and preliminary filtering. If

134. Price differentials between conventional firms offering personalized service and Internet jobs boards are often substantial — as much as several orders of magnitude. In that framework, any price shift that can fairly be called “small” is unlikely to shift any but the most marginal consumers. As a result, the preference exhibited by consumers is likely to be robust.

135. Conventional recruiters do pose a constraint as potential entrants into the online space. The point of this argument is simply that their offline offerings are unlikely to constrain Internet prices.

the hypothetical monopolist increases prices, these customers can easily change the balance between the two strategies. In addition, for a number of practical technological reasons detailed below, the product — specifically the filtered collection of resumes — delivered by a hypothetical monopolist is likely to be of low quality. Consumers seeking a higher quality product will almost be forced to internalize more of the work and thus to shift more of their advertising dollars to broadcast ads. Their response to the SSNIP is thus likely to include reduced expenditures on two-way services, an increased tendency towards backward integration, and possibly increased purchases of broadcast ads to publicize that backward integration.

The ability of large numbers of consumers to abandon online two-way services in favor of increased (online and offline) broadcast ads and increased backward integration suggests that the narrowly defined market of online two-way employment advertising is likely to fail the SSNIP test. Assuming that it did fail, the hypothesized market would likely be broadened to include one-way broadcast advertising sources — possibly including both online and offline outlets. The hypothetical monopolist would thus control all present and future outlets for employment advertising, and would be well positioned to profit from a price increase. While consumers could still increase their backward integration with respect to resume collection and filtering, the difficulty of obtaining effective broadcast outlets implies the profitability of the SSNIP.

The appropriate market for this inquiry thus appears to be all employment advertising — thereby suggesting that jobs boards are competing for recruitment dollars with all other vendors hoping for a share of corporate HR budgets. This market is heterogeneous. Suppliers provide consumers with different combinations of services that vary in both quality and price, and consumers trade price against quality. Because of the ubiquitous possibility of backward integration by consumers, pricing is likely to be constrained throughout the market.

iii. Participants

With the market appropriately defined through considerations of demand substitution, the inquiry next turns to the enumeration of market participants. This enumeration begins with all current suppliers, and then adds uncommitted entrants — firms who could enter the market within a year without sinking or stranding substantial costs.

The number of firms currently offering to sell employment-advertising space is already quite large. In addition, there are at least two important classes of likely uncommitted entrants: (i) conventional

recruitment firms without a substantial online presence;¹³⁶ and (ii) Internet firms currently offering only broadcast ads. Firms in either of these categories could develop an Internet presence easily, and their incentives to do so would only be enhanced by the SSNIP.

Conventional recruitment firms' status as uncommitted entrants arises because they are likely to already possess sizable resume databases for the types of jobs and geographic regions that they serve. Their online properties could — but would not have to — continue to focus on those niches. In either event, their primary obstacle is likely to lie in advertising or branding; they would have to make a capital expenditure to inform their current and potential clientele of their new online focus. This likely reduction in both the amount of startup capital required to enter and the sunk costs likely to be abandoned in case of a failed entry attempt reduces the risk incurred by attempted entry. In a Guidelines analysis, market share is attributed to such "uncommitted entrants" who could enter within one year and without substantial sunk costs.¹³⁷ Conventional recruitment firms that may not meet the technical requirements of uncommitted entrants (in the Guidelines' sense) are still relevant to the analysis. They are likely to be able to enter within two years of a SSNIP, and thus present potential supply responses that constrain pricing.

Companies currently providing only one-way broadcast ads may incur somewhat larger costs in building a resume database. These costs may be somewhat offset by the potentially lower costs of extending (rather than building) an Internet brand name. Again, some such potential entrants may qualify as uncommitted entrants and be attributed market share in calculating industry concentration. Many of those that are not should still qualify as committed entrants capable of constraining prices.

The entry of either type of firm into the online two-way employment matching space would pose a direct threat to incumbent jobs boards. Even consumers whose preference for online two-way advertising is so extreme that they are insensitive to price increases are likely to find at least some of these new entrants attractive. The appropriate list of market participants thus includes all firms currently selling employment advertising space plus all conventional recruitment firms capable of porting parts of their operations to the Internet.

136. Many traditional recruitment firms are developing an Internet-enhanced framework. To date, their efforts have been met with varying degrees of success. Korn/Ferry, in particular, took a foray into online recruiting with a carved-out Internet-only subsidiary called FutureStep. See http://www.futurestep.com/cndt12/sign_in/welcome.asp (last visited Sept. 27, 2002).

137. See GUIDELINES, *supra* note 89, at § 1.3.

3. The Nature of Competition

a. Niche or Market?

The market definition exercise determined that the jobs boards occupy a recognizable niche within a heterogeneous market. While their prices are constrained by all players in the broad market, their toughest direct competition comes from firms who occupy the same niche, namely the other jobs boards. In addition to the existing players in this niche, potential (and likely uncommitted) entry from both conventional recruitment firms and Internet firms already active in similar spaces plays an important role in disciplining both the current players and a hypothetical future monopolist.

Consumer response to entrants who arrive to take advantage of an opportunity created by an exploitative hypothetical monopolist is likely to be positive precisely because jobs boards exhibit positive feedback without either commitment or lock-in. Resume posting appears likely to exhibit a particularly weak set of commitments and switching costs. Because two-way employment advertisers tend to allow applicants to post their resumes free of charge, the main cost to the posting is the applicant's time. People seriously seeking jobs are more likely than most to invest the relatively small amount of time retyping information (or possibly even just reattaching a word processed file). Many job seekers are thus likely to post their resumes on multiple sites simultaneously.¹³⁸ Once that occurs, multiple sites are likely to possess resume databases that are large enough to begin winning business away from the monopolist. In addition, resume collection and filtering only become useful services once the resume database has achieved minimum viable scale. The notion of a database that is "large enough" is central to understanding the ways that the two-way matching niche product differs from those offered by other niches. This understanding, in turn, hinges on the algorithms and heuristics that enable search, matching, and filtering services.

b. Product Quality

Recall that one of the reasons that the narrowly defined online employment matching market failed the SSNIP test was that most employers maintain an HR infrastructure capable of maintaining at least some resumes in a database and of performing some filtering. These capabilities are necessary because an employer seeking to hire

138. The customer overlap as defined by Media Metrix reportedly suggest significant overlaps among the major jobs boards. See *Tribune Company, Knight Ridder and Career-Builder Conference Call*, Aug. 24, 2001, at <http://web.archive.org/web/20010902051401/http://www.tribune.com/about/news/2001/hhuntcall.htm> (last visited Sept. 27, 2002).

an employee would like to collect a “manageable” number of “directed” resumes. In other words, the objective is to collect resumes from potential employees who possess the desired skills, who are currently seeking work, and who might consider working for that employer.

The amount of filtering that the employer must perform in-house is a function of *both* the size of its supplier’s database and the efficacy of the supplier’s filtering algorithm; the more viable candidates supplied, the tougher the employer’s in-house task. Thus, once the applicant pool has become large enough and rich enough to more-or-less guarantee that all openings will be filled by competent applicants capable of performing the work, additional resumes generate unnecessary expense by overwhelming HR screeners. Positions that require “the best” person are unlikely to be filled through casual advertising; these are the positions for which the fine-tuning of a high-end executive search firm appears most appropriate. The closer to an appropriately sized, appropriately targeted group of resumes the online service can provide to the employer, the less work the employer has to do in-house. The highest quality product that an online service could deliver would thus be a package containing an appropriate number of resumes from suitably qualified applicants.¹³⁹

And therein lies a source of inherent difficulty for large two-way matching firms. Online services need ongoing investments in matching and filtering technology in order to insure that their products remain of suitably high quality. Large firms will have to make these investments while still price constrained by one-way broadcast ads and in-house operations. Furthermore, potential entrants will not have to be quite as sophisticated — simply because their databases are smaller. While there is undoubtedly a minimum viable scale that must be attained before a database can deliver a reliable product, that scale

139. According to Karen Osofsky, a co-founder of the e-recruiting consulting firm Tiburon.com:

Large, impressive advertising campaigns have resulted in huge brand recognition and site traffic. Sounds great, right? Wrong! These sites have generated so much traffic that companies are inundated with responses, most of which are from candidates who are not qualified for the positions. This has created a huge bottleneck for recruiters, who are doing their best to efficiently manage their processes.

Now that layoffs have increased, particularly across the tech industry, this albatross has grown even larger, leaving many recruiters frustrated and overwhelmed. With 2001 contracts ending and no resolution to this problem in sight, many companies are ready to try new things. Niche sites should capitalize on this fast — before Monster and its other large companions come out with more innovative technology to directly address these problems.

Karen Osofsky, *Job Board Trends: Going Niche*, ERDAILY, Oct. 25, 2001, at <http://web.archive.org/web/20021023075103/http://www.erexchange.com/articles/default.asp?d=H&CID={2F89B17D-53C3-460A-9411-14D8A613BE9E}> (last visited Sept. 27, 2002).

is certainly below the size of the industry leader. After all, database sets are expected to grow with time. If the industry leader was able to provide a reasonable candidate set several years ago when its database contained X resumes, then a new entrant with X resumes in its current database should be able to provide a comparable product today — even though the leader may now have 10X resumes on file.¹⁴⁰

This new entrant will thus be able to compete — essentially by providing last-generation technology. When is last-generation technology acceptable? While there is no clear-cut answer to this question, a general principle seems to be that when the objective is to do a “reasonable” job rather than an often ill-defined “optimal” job, recent but not cutting edge technology is often sufficient.

The flip side of this issue is that a powerful filtering algorithm can create its own set of challenges. No type of filtering is likely to please job seekers and employers simultaneously. In particular, job seekers who are summarily filtered out of too many searches may be unhappy with the number of interviews that they receive. They may get filtered out for a number of reasons. One may be that they are not very good. But that explanation may be overly simplistic because the filter can only be designed to search for proxies of quality. Another more likely reason is that their background is a less than perfect match with the keywords and criteria input by the employer. People with non-traditional backgrounds and skill sets will find themselves at a disadvantage in any filtering algorithm. This problem may be particularly acute among people considering mid-career career changes, or whose work on a specific technological project and/or product may have left them unaware of the broadly defined skills that they actually possess. Some of these folks may also be a bit behind the times in terms of technical jargon and their use of keywords, as terms of art in technical fields tend to rotate fairly quickly.

A matching service with an online filtering algorithm and a huge database is likely to filter these people out. Automated filtering may thus leave a substantial set of reasonably well qualified, disgruntled job seekers with few choices but to turn elsewhere — possibly to smaller or startup jobs boards. Competitors with smaller databases are less likely to filter them out during the automated stages. These candidates’ prospects of getting an interview would thus be enhanced by working with someone smaller than the dominant incumbent. This situation creates another opportunity for entry.

140. One indication that Monster, possessor of the largest resume database, recognized the increasing importance of filtering, can be found in the details of the FlipDog acquisition. See Stone, *supra* note 121. WhizBang had launched FlipDog less than a year before selling it to Monster, and used the site to demonstrate the ability of its proprietary extraction technology to assemble sizable databases very quickly. Monster’s purchase of FlipDog included access to WhizBang’s techniques for extraction and filtering. See <http://www.whizbang.com/solutions/ssflipdog.html> (last visited Jan. 25, 2002).

4. Entry and Network Economics

The entry argument gets back to New World thinking. Is entry into the niche really possible? Are network effects rampant? Why should a job seeker post a resume to any site but the leader? The answer lies in recalling the shortcoming of the New World paradigm's emphasis on network externalities: jobs boards are likely to exhibit positive feedback, but neither commitment nor lock-in.

Recall that the basic idea of positive feedback is that the marginal consumer's rational choice is the most popular brand, thereby enhancing the value of that brand and making the *next* consumer that much more likely to make the same choice. In the realm of jobs boards, suppose that a job seeker decides to post her resume on the Internet. She is likely to recognize the virtues of posting her resume on the site with the largest collection of potentially suitable jobs and the best contacts with potentially suitable employers. The largest database would consequently grow with the addition of her resume. Employers are similarly likely to gravitate towards the advertising outlet with the greatest talent pool from which to draw — namely the site with the largest database. And so, both potential employees and potential employers will be attracted to the largest existing network. This attraction will thus enhance the network and fulfill the predictions of positive feedback.

Positive feedback alone, as discussed above, is insufficient to deter entry. Commitment and lock-in are also needed. In the current environment, most corporate advertisers place ads on at least two boards, some on more than two, and few sizable employers (if any) rely on Internet jobs boards as their only source of recruiting. Furthermore, there is a significant overlap between the resume databases maintained by the leading jobs boards.¹⁴¹ This overlap reflects the not-too-surprising fact that many job applicants wish to maximize the reach of their resumes, notice the fairly minimal costs associated with “disloyalty,” and thus post their resumes on multiple boards.

This lack of necessary commitment suggests that network externalities are unlikely to be strong enough to deter entry. Beyond that, lock-in is also hard to imagine. Suppose that a hypothetical firm with a dominant position in the two-way employment niche attempted to impose switching costs, say by demanding long-term exclusive contracts from potential employers. In all likelihood, such a demand would backfire. Because of the existence of alternative channels (including many outside the rather narrow jobs board niche) high-profile employers would be likely to bolt — and to do so loudly. The niche-dominating firm would begin to lose important clients, and thus begin

141. See *Tribune Company, Knight Ridder and CareerBuilder Conference Call*, *supra* note 138.

to unwind the positive feedback effect that it needed to continue to attract job seekers. A mass exodus of high profile employers would be likely to invite a new entrant. Because no firm can lock up all available resumes, the entrant would likely arrive on the scene with some high profile employers — and thus attract a substantial number of resumes fairly quickly.

Once again, the absence of commitment and lock-in suggests that even a hypothetical monopolist who dominated the jobs board niche could not profit from a SSNIP. Of perhaps even greater significance to merger analysis, though, is the extent to which the prevailing theoretical predictions changed when the world shifted from a New World to a New Channel paradigm. Documents reflecting a New World view tended to indicate a belief in strong network effects, and suggested that an online SSNIP would be profitable. Thus, the resolution of the antitrust inquiry would hinge on entry and backward integration. New Channel thinking indicates that such an outcome is unlikely. Thus, anyone attempting to interpret documents based upon the discredited New World paradigm must recognize the lack of realism inherent in the underlying theory.

5. Assessing Agency Performance

This entire exercise was motivated by the FTC's decision to issue second requests in two jobs boards mergers — and to conduct a six-month long investigation into one of them that terminated only because it was mooted by a superior offer. Were these agency actions justified?

Ample documentary evidence exists to justify both decisions. New World documents cast Internet spaces as virtually impenetrable once branded, and the four parties proposing mergers were the most valuable brands in their space. The New Channel analysis outlined above, on the other hand, suggests that careful scrutiny was not really warranted. While the market definition exercise suggesting a broader market was far from dispositive, the entry analysis alone should have been sufficient to terminate the inquiry early and to allow both mergers to proceed. The number of likely uncommitted entrants, the ease of backward integration, and the lack of commitment and lock-in should have overwhelmed any lingering New World doubts. Figure 4 (p. 70) summarizes the different analyses appropriate under the two paradigms. The agency's choice of an Internet paradigm essentially set the stage for the inquiry. The adoption of a New World view leads quickly to the determination that these mergers warrant considerable scrutiny. The adoption of a New Channel view leads equally quickly to an indication that early termination is warranted.

Figure 4: Summary Impact of Paradigm Shift on Jobs Boards Merger Analysis.

Paradigm	New World	New Channel
Market Definition	<ul style="list-style-type: none"> • Internet-only provision of all three services (broadcasting, collection, filtering). • Conduct SSNIP Test: <ul style="list-style-type: none"> ◦ Generalized on-line broadcast ads unlikely to constrain pricing because of lack of resume collection and filtering; ◦ Off-line recruitment firms unlikely to constrain pricing because they already charge orders of magnitude more for personalized service; ◦ Newspapers and traditional advertisers unlikely to constrain pricing because they are old economy and by definition passé. <p>Therefore, narrow market definition applies.</p>	<ul style="list-style-type: none"> • Jobs boards sell classified advertising space with add-ons. • Conduct SSNIP test: <ul style="list-style-type: none"> ◦ General on-line and off-line broadcast ads, coupled with backward integration, provide substantial competition; ◦ Brick-and-Mortar recruiting and executive search firms are likely uncommitted entrants; ◦ Newspapers are likely uncommitted entrants; ◦ Pricing constrained by (at least) these three sources. <p>Therefore, broad market definition needed.</p>
Entry	<ul style="list-style-type: none"> • Branding is expensive; • Network effects create network barrier to entry; • Only committed entry possible. No uncommitted entrants; • Successful committed entry unlikely unless incumbents create the opportunity. <p>Therefore, as-is market shares in narrow Internet-only market paint accurate picture of industry concentration.</p>	<ul style="list-style-type: none"> • Backward integration likely; • Uncommitted entry likely; • Filtering needs limit practical database growth and create opportunities for niche entry; • Branding by newspapers and recruiters unlikely to be expensive; • Many trained personnel seeking jobs. <p>Therefore, current market shares say little about market structure in case of SSNIP.</p>
Conclusion	<ul style="list-style-type: none"> • Careful scrutiny warranted. • Challenge likely. 	<ul style="list-style-type: none"> • Little or no scrutiny warranted.

The jobs boards mergers thus provide a concrete illustration of the impact of the Internet paradigm shift on merger policy.¹⁴² Both proposed mergers should likely have been challenged by an agency adhering to the New World paradigm and granted early termination by an agency that recognized the New Channel paradigm. There appears to be no set of circumstances justifying a period of careful scrutiny and deliberation leading to ultimate approval.

142. They also fueled a sense of confusion among Internet observers. See Ragan, *supra* note 3.

IV. CONCLUSION

The Internet investment bubble has taken its place in economic history. The terrain beneath the commercial Internet remains shaky. While widespread agreement remains that global connectivity will have a significant impact on commerce, many Internet observers now tend to eye specific proposals warily.

The legacy of the bubble continues to be felt through growing parts of society, as its relationship to the broader technology sector and to the economy writ large becomes increasingly clear. This Article explored a connection that has heretofore received fairly little attention: the bubble's impact on commercial litigation in general, antitrust analysis in particular, and most specifically on merger policy. The exploration considered two aspects of the relationship among the bubble, network economics, and antitrust: it assessed the inadvertent role that the search for network monopolists may have played in fueling the bubble, and it studied the ways in which the misconceptions that drove bubble can now complicate antitrust analysis.

While both inquiries were presented in some detail, their basic lessons may be summarized fairly succinctly:

- Empirical observations have changed perceptions of e-commerce;
- Different perceptions of the Internet imply different approaches to market definition;
- Documents based on discredited assumptions about e-commerce are unreliable indicators of the current and/or the future business environments;
- Many Internet spaces do, in fact, exhibit positive feedback;
- Relatively few Internet spaces require commitment and lock-in;
- Most Internet spaces do not present full-fledged network barriers to entry; and
- Jobs boards provide an example of a sector in which legacy attitudes caused regulatory agencies to apply considerable merger scrutiny where little was warranted.

The Article thus described two aspects of the bubble that have received far less than their fair share of attention: the role of poorly applied network economics and antitrust theories in the bubble's rise, and the impact of fantastic documents on the legal representatives of firms attempting to survive its fall. It showed the importance of understanding what happened during the bubble — and what guided thinking about the Internet at various moments in time — to providing effective legal representation of Internet firms. While its sole concrete

illustration lay in the realm of merger analysis, comparable issues and evidence trails are likely to arise in many if not all legal contexts relating to either the Internet investment bubble or its subsequent unwind. Evidence reflecting the fantasy world of the investment bubble is likely to provide nightmares for regulators and for counsel for years to come.