ANTITRUST FOR HIGH-TECH AND LOW: REGULATION, INNOVATION, AND RISK

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Ronald A. Cass*

Severe limitations on antitrust enforcement officials’ knowledge and the potential impact of ill-advised investigations and prosecutions on markets suggest that officials should exercise extraordinary caution in enforcement of restraints on single-firm conduct. Although it is common to depict antitrust enforcement as protecting market competition while other forms of regulation are seen as intrusions (justifiable or not) into market operation, antitrust enforcement has characteristics and risks similar to other forms of regulation. Government antitrust enforcement can be especially problematic, as it requires discretionary selection among an extraordinary range of possible targets, imposes significant burdens on companies that are under investigation or subject to suit, invites efforts by individual firms to motivate officials to deploy resources against rivals, and can seriously disrupt competition among firms. Antitrust authorities need to exercise special care in making enforcement decisions respecting conduct of individual dominant firms in high-technology industries, where antitrust enforcers’ abilities to understand and predict industry evolution are most limited and where enforcement actions are most likely to rest on debatable predicates about the effects of specific conduct. This article examines government enforcement decisions respecting four prior targets and draws lessons for enforcement going forward.

JEL: D73; K20; K21; K40; L20; L40; L41

I. ANTITRUST’S REGULATORY RISK

Speaking against a measure that would apply antitrust law to the railroad industry, Senator Mike Lee declared that “federal and state agencies enforce antitrust laws in order to forestall the
need for burdensome and long-lasting government regulation.” 1

Senator Lee’s objection to rules that would add overlapping layers of legal control under the jurisdiction of different administrative officers is certainly sensible, but the apparent dichotomy he draws between government enforcement of antitrust laws and “burdensome and long-lasting government regulation” is not.

Government enforcement of antitrust laws carries risks very similar to other forms of regulation. In addition to very serious problems in defining meaningfully the conduct that contravenes antitrust law, there are considerable difficulties attached to government’s implementation of the law and risks associated with it. Government antitrust enforcement requires discretionary selection among an extraordinary range of possible targets, imposes significant burdens on companies that are under investigation or subject to suit, invites efforts by individual firms to motivate officials to deploy resources against rivals, and can seriously disrupt competition among firms.

Understanding the regulatory implications of antitrust enforcement is especially critical now that antitrust authorities are bringing or considering bringing antitrust enforcement cases against a substantial number of leading firms in high-technology industries. Among the companies publicly identified as actual or potential antitrust targets in recent months are Facebook, Apple, Yahoo, Google, IBM, AT&T, Microsoft and Intel. Antitrust authorities need to exercise special care in making enforcement decisions respecting high-technology industries, starting with appreciation of the potential pitfalls of all regulatory schemes – including antitrust. Traditional problems of regulation generally and of antitrust enforcement specifically are exaggerated in high-technology sectors, where antitrust enforcers’ abilities to understand and predict industry evolution are most limited and where enforcement actions are most likely to rest on debatable predicates about the effects of specific conduct.

Rather than demonstrating special caution in venturing into this set of cases, however, antitrust enforcers seem anxious to engage the leading high-technology firms while markets are evolving at a rapid pace. The principal theories supporting aggressive use of antitrust laws to constrain dominant firms in

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high-technology or other “network industries” provide both malleable bases for enforcement and misleading predictions of the costs and benefits of enforcement. The problem arises in part because, while the concerns over network effects are dynamic, the principal tools for antitrust analysis – especially respecting definition of the relevant market – are static. These tools almost inevitably orient enforcers’ decisions toward excessive concern with one part of what, rightly understood, is a much larger competitive picture, even though the composition of the larger picture is difficult to predict. Examination of some past government enforcement decisions is instructive on the risks such decisions entail, factors that should be considered in making such decisions, and presumptions that should guide decision-makers.

II. REGULATION: FORMS AND FAILURES

Antitrust as a form of economic regulation fits comfortably within the range of government controls over economic activity. Old-style regulation primarily consisted of class-based restrictions (the feudal system), exclusive licenses for certain occupations (the guild system), or religiously inspired restraints on practices such as money-lending. By and large, these forms of regulation limited efficient economic activity either in service of religious scruples or as a means of shifting economic rewards to favored individuals or classes. Technological and sociological changes led Western nations to embrace relatively unfettered economies based on private property and market-based competition, upending most of the older forms of regulation, but the personal interests that supported limiting entry to occupations and constraining some specific economic behaviors did not disappear. In part for that reason and in part for reasons related to limitations on knowledge, experience demonstrates the difficulty of matching effective regulatory tools to actual problems, and regulation notoriously risks creating new problems that are worse than those that intervention was intended to cure.

Modern economic regulations can be sorted into four broad classes. First, occupational regulations or occupational licensing schemes restrict entry into an astounding array of economic activities. By the middle of the 20th Century, in the United States such regulations were imposed on hundreds of occupations, including “beekeepers, embalmers, lightning rod
salespersons, barbers, septic tank cleaners, taxidermists, tattooers, tourist guides, cotton classers, textbook sellers – and lawyers.”

A second class of regulation consists of special obligations imposed on specific industries, often combined with entry restrictions as well. Examples have included airline regulation, train and trucking regulation, regulation of radio and television – the provinces of many of Washington, D.C.’s historic “alphabet agencies” (CAB, ICC, FCC). Within that second class are industries that are regarded as “natural monopolies,” industries where only one firm efficiently can serve a market, including many utilities (delivery or transmission of cable television services, natural gas, electricity, and land-line telephony are examples, or at least that was the theoretical argument for their regulation). A third category consists of health and safety regulations, such as those overseen by the Food and Drug Administration or the US Department of Agriculture. Last, there is a set of “fair play” regulations – prohibitions on fraudulent practices, cheating on weights and measures, and a variety of other “unfair” business practices (such as misrepresentation, mislabeling, and trademark violations).

All of the forms of regulation have been criticized as less congruent with public welfare than regulations’ proponents assert (argument over precise measures of public welfare, or over the bona fides of the concept of a collective welfare, can be set aside for now; the relevant point is not the details of any measure of public good but the degree of divergence between regulatory schemes and any thoughtful definition of public good). Milton Friedman, for instance, gave a savagely clear-eyed review of occupational licensure, observing that licensure typically reduces options for the least knowledgeable and most impecunious members of society (those it ostensibly serves) and is supported not by them but by members of the licensed profession whose status and incomes correlate positively with limitations on entry. Even the most seemingly laudable efforts to protect the public against fraudulent or dangerous services

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3 See MILTON FRIEDMAN, CAPITALISM AND FREEDOM 138-160 (Univ. of Chicago Press 1962); see also WALTER GELLHORN, INDIVIDUAL FREEDOM AND GOVERNMENT RESTRAINTS 106-51 (Louisiana St. Univ. Press 1956).
through the institution of licensing screens turn out in practice to have unattractive side-effects — and, of course, Friedman’s explanation is that the supposed side-effects in reality are often the primary goals of the licensing system, keeping competitive provision of services at bay, which necessarily limits options, raises prices, and leads to problems of access and allocation.

Similarly, the second class of regulations — industry-specific regulations — has been the subject of any number of scathing critiques. Many of these start with the assumption of public-interested intent in the initiation and general design of the regulations, but conclude that even the smartest and most public-spirited central decision-makers lack the ability to accumulate and evaluate the massive amounts of changeable, real-time information needed to craft and implement effective regulations. The “law of unintended consequences” doesn’t guarantee that regulatory initiatives will produce results worse than the initial situation, but unforeseen effects of regulation very often produce problems that are bigger, more complex, and more pervasive than the problems regulatory designers had in mind.

Not to be left out, health and safety regulation also has been shown to have substantial flaws, including in many cases a strong bias against new products and technologies. And even fair play regulations, such as those embodied in numerous securities and banking rules, can misalign incentives and generate unforeseen risks. Many analyses of the periodic financial crises and stock crashes trace back at least in part to misdirected regulations.

As Fred Kahn observed after reviewing the extensive literature on regulations (mainly, but not exclusively, of the

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second class), “a consensus was emerging in the early 1970s among disinterested students that regulation had suppressed innovation, sheltered inefficiency, encouraged a wage/price spiral, promoted severe misallocation of resources by throwing prices out of alignment with marginal costs, encouraged competition in wasteful, cost-inflating ways, and denied the public the variety of price and quality choices that a competitive market would have provided.”7 In addition to the litany of complaints Dr. Kahn provides, regulation commonly encourages rent-seeking behavior that is both wasteful in itself and, when successful, influences government officials to act in ways that harm the public.8 Critics of much industrial regulation (including industry or enterprise support programs referred to as “industrial policy”) point to both of these negatives – the costs associated with unintended consequences of regulatory interventions and the costs of rent-seeking – as reasons for resisting this form of regulation.

III. ANTITRUST ENFORCEMENT: REASONS AND RISKS

Antitrust law, in contrast to standard industrial regulation, has been lauded frequently as America’s fundamental economic charter, one that provides salutary ground rules for business. That sentiment has been voiced even by strong critics of most economic regulatory initiatives.9 The classic statement, endlessly repeated, is Justice Hugo Black’s declaration that “The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade.”10

Application of antitrust laws by government officials,
however, has the same risks and problems associated with other forms of regulation, including other “fair play” regulations.\textsuperscript{11} It requires considerable information on how particular firms and particular markets work, on the effect of particular business practices, and on the costs and benefits of intervening to stop a particular practice as opposed to allowing market forces to limit its effects. Over time some practices – horizontal price-fixing cartels, for example – have been evaluated sufficiently often in a sufficiently broad set of contexts to allow relative confidence in concluding that they are very often likely to produce consumer harm that is not readily limited by market forces.\textsuperscript{12} But an array of other practices cannot be classified as detrimental in the same way and many settings require considerable information that is apt to be beyond the reach of government officials to evaluate the costs and benefits of enforcement activity.

Indeed, in one sense antitrust enforcement may be even more problematic than many types of industry regulation. Government antitrust enforcement necessarily requires selection of enforcement targets. Depending on the degree to which the conduct that might trigger enforcement is clearly circumscribed, this selection process could give administrators greater discretion than many regulatory programs entail – and in fact that is what has occurred in at least one major segment of antitrust enforcement.

Given the state of the law – and, far more, of theory and international practice\textsuperscript{13} – on the “monopoly” or “dominance” side of antitrust (competition) law, officials now enjoy a relatively open field in selecting enforcement targets, even though this is precisely the part of antitrust law where legal actions are most difficult to defend as preventing or limiting consumer harm. Academic theories designed to combat perceived (and to some extent, no doubt, real) limitations on classical economic analysis of business competition in imperfectly competitive markets posit that firms can advantage themselves and harm others by engaging in conduct that does not seem problematic in a clear way – in the way in which a price-fixing cartel would be – but

\textsuperscript{11} See generally \textit{The Causes and Consequences of Antitrust: The Public Choice Perspective} (Fred S. McChesney & William F. Shugart II eds., Univ. of Chicago Press 1995) (\textit{Causes and Consequences}).

\textsuperscript{12} While the presumption of harm from horizontal price-fixing is justified, that does not mean that such behavior is always harmful.

nonetheless has the effect of “raising rivals’ costs.” That impact on competitors’ prospects, in turn, can help expand or maintain a leading firm’s dominant position; the raising-rivals’-costs approach would make this a presumptive violation of monopolization or abuse-of-dominance provisions in antitrust law.

Almost any conduct by a leading firm, however, can have the effect of raising rivals’ costs. While additional screens can be used to restrict the impact of what is essentially an open door to enforcement prospects, the tests that have been put forward do not provide sufficiently clear and exacting limitations on this concept to put effective bounds around the set of acts that can trigger antitrust enforcement activity. Under theories like raising-rivals’-costs, thus, antitrust enforcement authorities can essentially initiate action against any leading firm for conduct that on its face is not readily distinguished from the ordinary business operations of a competitive firm. This broad discretion creates considerable risk that the process of picking and choosing among potential targets will distort competition in much the same way that implementing highly targeted (firm-specific) industrial policy might.

In rapidly-changing high-technology industries, the problems can be especially acute and can threaten innovation as well as

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16 See, e.g., Ronald A. Cass & Keith N. Hylton, Preserving Competition: Economic Analysis, Legal Standards, Microsoft, 8 GEO. MASON L. REV. 1, 11-14 (1999) (describing, inter alia, a complaint by Salop & Romaine that Microsoft’s contracts with firms using its PC operating system did not all expire on the same date (assertedly creating a coordination problem and raising entry costs for makers of competing operating systems in violation of the antitrust laws) and explaining how changing Microsoft’s approach would have a similar impact on rivals’ costs and provide the same basis for alleging a violation of the antitrust laws) (Preserving Competition).
18 See Cass & Hylton, Preserving Competition, supra.
19 For evidence that competitive rivals seek just that result from public antitrust enforcement and at times are effective in helping to obtain it, see, e.g., William H. Page, Microsoft and the Public Choice Critique of Antitrust, 44 ANTITRUST BULL. 5, 11 (1999).
competition. High-technology industries are often characterized by large up-front investments in research and development, intense competition for breakthrough innovations, and large economies of scale as well as potential “network effects” that produce big gains over some time period for the most successful innovators. These are the characteristics of “winner-take-all” or “winner-take-most” markets. For some antitrust scholars and enforcement authorities, these characteristics make it especially critical to take action swiftly to prevent entrenchment of a dominant firm’s position or its expansion (into other product or geographic markets or through increased market share) beyond the ambit of existing leadership. For those antitrust enthusiasts, the fear is that network effects will provide a ratchet toward ever-increasing dominance and ever-decreasing competition: the more valuable it is for people to share the same network (physical, technological, social), the more different things will be drawn into the orbit of the dominant firm, just as astronomical entities with greater masses inevitably exert stronger attractive powers on other objects in space. The message from these scholars and officials is that it is best to err on the side of enforcement.

The characteristics that often lead to dominance within a particular market sector, however, invite investments not only in contesting the initial innovation but also in finding follow-on improvements and, even more, in discovering the next, game-changing innovation, something that can come at unpredictable times from unpredictable sources and can swiftly up-end market expectations. Even markets that are not “contestable” in the immediate term (in the sense of firms being able to enter on a temporary basis to constrain pricing flexibility, even,
theoretically, in a monopoly market)\textsuperscript{24} may in fact be contested in a more meaningful way at each critical stage of development and especially contested if one recognizes that the relevant market over the longer term encompasses the next generation of products that will supplant the current generation.\textsuperscript{25} That recognition keeps temporarily successful firms wary of losing their position as market leaders at the same time that leading firms appear sufficiently dominant over a market segment to attract both complaints from rivals and antitrust attention from government officials.

If successful firms trying to stay on top in industries that can change rapidly and unpredictably often become targets for antitrust scrutiny, rational calculations of innovation costs (investments that help firms succeed) will necessarily include the (discounted) cost of contesting antitrust challenges as well as the costs of directly pursuing innovation. Antitrust inquiries can exact extraordinarily high costs from target firms, both in direct expenditures and in distraction from core business operations.\textsuperscript{26} That is true even for inquiries that do not result in suits, as enterprises facing the possibility of a long, expensive lawsuit (and, if the suit is lost, a potentially expensive and disruptive remedy) obviously will respond by trying both to persuade enforcement authorities that their conduct has been lawful and to avoid conduct that will increase the prospect of an action being filed. Both the direct and indirect costs of reacting to the enforcers’ inquiries can be extremely large. While rivals will applaud such impositions on a leading enterprise, there often is little reason to expect that these inquiries will be socially beneficial – at least if pursued beyond an initial, cursory review.\textsuperscript{27}

Further, the costs of antitrust inquiries and prosecutions by enforcement authorities will influence behavior of prospective targets before any specific investigation is begun. As the

\textsuperscript{24} See William J. Baumol, John C. Panzar & Robert D. Willig, Contestable Markets and the Theory of Industry Structure (Harcourt, Brace, Jovanovich 1982).


\textsuperscript{26} As discussed in the following section, IBM is an example of both of these points: responding to the litigation brought by the United States in the late 1960s cost the firm over $1 billion, which would be the equivalent of approximately $4-5 billion in 2010, and led to management decisions that cost the firm even more, out of concern over their effect on both the immediate and potential future antitrust litigation.

\textsuperscript{27} See discussion infra, Section IV.
expected costs associated with antitrust investigations and litigation rise, incentives decline for investment in the activities that will generate potential antitrust enforcement, including investments in initial innovation, follow-on improvements, and aggressive competitive conduct (often exactly the sort of conduct that results in lower prices, improved products, and reduced costs of acquisition, access or operation for consumers). “Aggressive competition” may sound problematic to antitrust enforcers and antitrust-enthusiast academic theorists; imagine, however, a business that wants to succeed by offering not the “lowest prices guaranteed” but just “low-ish prices, sometimes.” There is a considerable difference to consumers from the contrasting approaches indicated by those different undertakings, and consumers tend to benefit from the more aggressively competitive approach. Excessively vigorous antitrust enforcement activity inevitably translates into insufficiently vigorous competition in exactly the markets the enforcers and theorists want to make competitive.28

In addition to the problems caused by the investigations and suits themselves – problems that exist even if suits are not won by the government or, indeed, if they are not brought after serious, extensive investigation – there is a special problem that needs to be considered in cases where the government wins (by succeeding at judgment or by inducing settlement that is something other than an effective capitulation by the prosecution). In cases where the government succeeds in its suit, the question of remedies becomes acute: what remedy will prevent the problems the government has identified, deter similar offending conduct in the future, and make the market work better for consumers? In fast-moving high-tech industries, that is not an easy question to answer. Imposing a remedy that looks essentially like a version of industrial regulation, as the European Commission did in its litigation against Microsoft, or breaking up a company, as occurred with AT&T following its 1984 settlement with the Department of Justice, even if sometimes beneficial, inevitably has costs for consumers and for society – and these costs can exceed the costs of tolerating “abuses” by the dominant firm.

28 Not only will potential target firms behave in ways that are less conducive to providing lower prices (and other benefits) to consumers; so will other firms. Similar strategic interactions are observed in many aspects of behavior addressed by antitrust law. See, e.g., Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263 (1981); Keith N. Hylton, *Antitrust Law: Economic Theory and Common Law Evolution* 223–226 (Cambridge Univ. Press 2003).
The remedial question has been tackled by others, and will not be the focus of this paper. Instead, the focal point here is the question of what government enforcement authorities should be doing when considering whether to bring enforcement actions. The suspicion of wrong-doing is not uncommon in any competitive business setting, but it is another matter altogether to find real problems that violate the law and that will not be corrected by ordinary market forces (or will not be moderated sufficiently to lower substantially the potential benefit from government-initiated antitrust intervention). Looking at some examples of past government assessments of potential antitrust targets suggests lessons for future decisions.

IV. GHOSTS OF ANTITRUST PAST

Four notable antitrust enforcement initiatives targeting iconic American enterprises – IBM, Microsoft, General Motors, and AT&T – provide a window onto the way that government enforcement efforts function and the sorts of considerations and information available to enforcement officials when they are making their decisions. These four episodes include three long-running antitrust actions and one instance in which the government, after years of investigating and gearing up for a prosecution, ultimately decided against litigation.

The IBM Case

The paradigmatic case for ill-conceived antitrust enforcement may be the action filed against IBM as President Lyndon Johnson’s administration departed in 1969. This was the Ramsey Clark Justice Department’s signature antitrust enforcement action. The Department accused IBM of illegally monopolizing the market for computers. A great deal has been written about the substantive side of the case, which, among other things, rested on the government’s assertion that IBM violated Section 2 of the Sherman Act by bundling sales of its mainframe computers with sales of software and maintenance

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services. There is a great deal to criticize in the concept at the heart of the IBM case, given the almost universal use of similar bundling practices, even in the most aggressively competitive markets, and the evidence that these practices often benefit consumers. Even for those who are not entirely sold on the arguments against tying theory in general, the central assertions in the IBM case seem questionable.

Even more problematic, however, was the government’s position on the relevant market within which IBM operated and which IBM was asserted to monopolize. The Department of Justice defined the market narrowly to include only general purpose electronic digital computers, a definition that excluded a large number of other computers. That market definition did not take account of the reality of competition in the marketplace from numerous machines that, if not providing the same computational heft as IBM’s mainframes, nonetheless offered computing options that in combination could certainly substitute for mainframes. No doubt, the suggested market definition was useful strategically, but it also probably fit sincere views of those in the Department overseeing the case that IBM was in fact a heavyweight astride the computer market, actively working to prevent others from competing effectively.

DOJ’s view of the market was demonstrably too narrow to capture the actual competitive conditions among those providing and utilizing computing equipment, but even more, it seriously misjudged the way the computer market more broadly conceived was evolving. Judge (and former antitrust litigator and prominent antitrust official) Michael Boudin, writing shortly after the case had ended, explained the difference between what the officials saw and what was actually occurring and about to occur in the market:

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33 See, e.g., FISHER, MCGOWAN & GREENWOOD, supra, at 61-75.
When the government began its investigation, IBM appeared to be an even more powerful figure, operating in a narrower market, than it is today. In the mid-1960's, IBM was triumphing over such other giants as RCA and General Electric in the production of mainframe computers. Newer competitors, including leasing companies and specialized computer companies, had barely begun to emerge. Mini- and microcomputers, product lines in which IBM has been less dominant (though gaining fast), had not yet posed their present challenge. Distributed data processing was just developing, as was foreign competition.34

From the vantage of twenty years after the government’s capitulation in the *IBM* case, it’s clear that IBM’s early success in smaller computers (noted by Judge Boudin) did not last, making the lasting dominance of IBM over computing hypothesized by the government at the start of the antitrust case even less sensible. It’s clear as well today just how much the development of smaller computers was able to replace functions formerly performed by mainframes,35 despite the supposition that there was not real competition between them.

In addition to the weakness of the underlying allegations, from an economic perspective, those who have studied the *IBM* case have reported the toll the case took on the company.36 Simply on the financial side, the case was a significant drain on the company, costing IBM something on the order of $1 billion (a figure that would be equivalent to between $4 and $5 billion today).37 As Don Waldman observed, “[t]he opportunity costs of spending $1 billion on antitrust defense are astounding.”38 He supposes that making an investment of that magnitude in

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35 This occurred both through rapid increases in the computational power and date storage capacities of the smaller computers and through developments such as linked-distributed computation that changed the way computers are used.
38 Waldman, supra, at 141.
developing a suitable PC operating system would have completely changed the fortunes of IBM and Microsoft\textsuperscript{39} – and it would follow as well that this might have altered the fortunes of the entire array of computer makers tied to the evolution of Microsoft’s operating systems.

More significant than the draw on IBM’s funds were two other byproducts of the antitrust litigation: the distraction of its executives from planning and executing functions necessary to IBM’s long-term business interests, and the active discouragement of decisions that would have benefitted the business but might have triggered further antitrust action.\textsuperscript{40} The government collected more than 750 million documents, pried into every aspect of the firm’s operations, and threatened to impose severe sanctions on the firm for practices that seem indistinguishable from what competitors normally do – an inquiry that “paralyzed IBM.”\textsuperscript{41} Bill Kovacic noted both the inhibition on aggressive competition and the distraction from focusing on the core business considerations, saying “The diversion of firm personnel to support the case, as well as the time employees spend in casual conversation or mental speculation about the status of the case, silently bleeds the company’s creative resources and blurs its competitive vision.”\textsuperscript{42}

It is not possible to know what would have happened without the antitrust suit. Perhaps IBM would have moved aggressively to develop a better operating system for smaller computers. Perhaps it would have invested in Microsoft. Perhaps it would not have allowed Microsoft to enjoy free rein in licensing the operating system they collaborated on to others or would have insisted on a share of the proceeds from that part of the business. What is clear is that the market was evolving in ways that undermined the position of dominance IBM had enjoyed and that this evolution had roots that predated the case, as well as tracing to decisions reached during and after the litigation.\textsuperscript{43} The Department of Justice lawyers plainly did not

\textsuperscript{39} Id.

\textsuperscript{40} See CARROLL, supra, at 57.


\textsuperscript{42} Kovacic, Designing Remedies, supra, at 1289.

\textsuperscript{43} See, e.g., Crandall & Jackson, supra (detailing some of the predictions made by players in the computing hardware and software businesses – including Gordon Moore’s eponymous law respecting computing power and prices – and the investments in the mini-computer side of the market that were being made, but not necessarily recognized or appreciated, by those engaged in the IBM antitrust battle).
foresee those developments, which led to an unnecessary suit and ultimately a decision to abandon the case, even if the legal precedents may have provided some prospect for winning. 44 Judge Boudin summarized the saga:

*United States v. IBM* appears in retrospect to be one of the great misadventures in antitrust litigation. After thirteen years of discovery and trial, a legal cast of thousands, and millions of dollars in litigation costs, the United States obtained dismissal of its own complaint and conceded that its case was ‘without merit.’ 45

In the end, the case stands for the proposition that government officials, even with the benefit of extensive investigation and expertise, are unlikely to appreciate the most important sources of competition to enterprises that dominate a particular market and are especially prone to ill-advised interventions based on theoretical objections to market structure. 46

*The Microsoft Case*

Conventional antitrust wisdom has it that the government’s case against Microsoft Corporation was essentially a reprise of the *IBM* case three decades later – and a sort of karmic turn in the evolution of computing, so far as Microsoft’s success can be traced to IBM’s leaders’ fears of further attention from antitrust enforcers if the company pushed forward with investments in firms or technologies that might compete with IBM’s. This view of the *Microsoft* case is only partly right. But the case does share some common ground with *IBM*.

Like *IBM*, the case developed by the Federal Trade Commission and DOJ challenged the then-dominant technology company in the area of computing that looked destined to dominate that sector for the foreseeable future, asserting that a variety of its contracting and licensing practices unduly restricted rivals’ ability to compete. Like *IBM*, the government’s case viewed Microsoft’s conduct largely through the lens of its impact on competitors, with assertions of consumer harm developed as derivative of the limitations on competing businesses. And like *IBM*, the government’s case rested on a relatively narrow market definition, looking only at operating

44 See Boudin, *supra*, at 839-40.
45 Boudin, *supra*, at 835.
46 See Cass, *Competition in Regulation*, *supra*, at 134.
systems running on IBM-compatible personal computers (a definition that, for instance, excluded Apple’s operating system). While the first iteration of the government’s enforcement effort focused exclusively on contract and licensing issues, the second round (coming in the late 1990s) also alleged that Microsoft violated the Sherman Act by including an Internet browser in its operating system and by offering the browser at no charge. This count was similar to the charge that IBM had unlawfully bundled together its hardware, software, and services, but moved beyond IBM in pinning the government’s arguments more fully to the concept that network effects explain both the motivation for Microsoft’s conduct and the harm done by it to competition in the market.

As with IBM, the Microsoft litigation has spawned considerable argument respecting the economic and legal theories that underlay the government’s case (or, more accurately, cases). Some of the government’s assertions about Microsoft’s contracting practices and license terms demonstrate the incredibly flexible nature of the raising rivals’ costs approach, leaving Microsoft subject to challenge no matter what it did on some scores. Assertions respecting the bundling of a browser with the PC operating system had the quality both of at least arguable internal inconsistency (essentially making Microsoft guilty of over-charging and under-charging for its operating system) and of freezing development of Microsoft’s most important product, depriving it of the ability to include features routinely incorporated in competing operating systems. The government’s reliance on network effects arguments has been challenged as well on grounds that it endeavored to lower the bar for finding a Sherman Act Section 2 violation and that it mischaracterized the operation of the market. Network effects may explain some of the working of the computer operating system market, but not all; scholars point out, for example, that these effects did not suffice to induce consumers to use Microsoft’s Internet browser when that browser did not work

48 See, e.g., Cass & Hylton, Preserving Competition, supra.
well enough to satisfy their needs. Moreover, if the PC operating system market is characterized by strong network effects, much of the observed market outcomes would occur naturally regardless of the course Microsoft charted.

While the case had a number of twists and turns, culminating in a nominal win for the government, the most far-reaching conclusions were not upheld and in particular the test the government argued for on tying was rejected by the U.S. Court of Appeals for the D.C. Circuit. The appeals court’s decision crafted a special rule for tying in computer software cases, one that created a substantially higher hurdle for the government than prior precedents suggested and certainly far higher than the rule urged by the government and accepted by the District Judge. Argument on the right test continues, but the government has not won a major tying decision in the aftermath of Microsoft and no doubt will face an uphill battle on that front in any high-technology case, not simply cases involving computer software.

Above all, the Microsoft case should be seen as another example of the difficulty of predicting the evolution of markets and the strong likelihood that government antitrust enforcers will take too limited a view of the scope of market competition (reflected in too narrow a definition of the relevant product market). As Bob Crandall and Chuck Jackson explain, the market definition urged by the government and adopted by the district court looks unduly narrow in at least two critical respects. First, the definition artificially omits features that are routinely included in operating systems from Microsoft, Apple, GNU/Linux, and other major sources of PC operating system software. That was true at the beginning of the Microsoft case and has become even more evident over time as operating systems increasingly incorporate additional features valued by users. Crandall and Jackson suggest the state of play in operating systems as of 2010, using Apple’s product as an example:

49 See, e.g., LIEBOWITZ & MARGOLIS, supra.
50 See, e.g., Nicholas Economides, The Microsoft Case: A Case Study for MBA Students, at 10 (Apr. 2003).
52 The District Court’s opinion is at United States v. Microsoft Corp., 87 F.Supp 2d 30 (D. D.C. 2000).
Currently, Apple’s OS X includes a calculator, a chess game, the New Oxford American Dictionary and Oxford American Writer’s Thesaurus, a DVD player, a font manager, media center software (Front Row), a personal calendar application, Apple’s iTunes digital jukebox, email software, software for limited editing of PDF files, the Safari web browser, a simple text editor that includes such features as smart quotes and kerning, a backup application, a data and equation graphing application, and an X11 windowing package.\textsuperscript{54}

The expansion of operating systems mirrors the evolution of other products, especially complex, high-technology products, which frequently include features valued by a large number of consumers in order to raise the value of the product and decrease search and acquisition costs. The smartphone is an example, consisting of a cell phone, an Internet browser, calculator, camera, date-book, note pad, address book, alarm clock, and dozens of other features. Conceiving it as a phone with other features grafted on misses the point – consumers value a product that has the other features embedded as well, much as automobile purchasers value being able to acquire a product that already has a music system, navigation system, climate control, and other features that go beyond the drive train, chassis, and engine.\textsuperscript{55}

The second dimension in which the government’s market definition was too narrow looks to products that either did not exist at the time the Microsoft case was initiated or that seemed to the untrained eye to have been very distant from the world inhabited by PC operating systems. Crandall and Jackson point to the roles that tablets and smartphones play today, functioning in ways that overlap with PCs; the operating systems running on those devices necessarily are competitive in significant measure with the operating systems running on PCs.\textsuperscript{56} In fact, recent studies show that the majority of time spent on smartphones now is devoted to activities other than telephone

\textsuperscript{54} Id., at 29.
\textsuperscript{56} Crandall & Jackson, supra, at 37-38.
The same point holds for other products, such as servers, and for cloud computing as well, which increasingly offers an alternative to the PC and to a variety of features typically included in the PC operating system. The smarter the cloud and the more consumers rely on it, the less they need in a PC or its operating system. Although the government drew a picture of Microsoft as a company without serious competition, the company’s leaders recognized that the next generation of high-tech firms – companies like Google – had the potential to turn the Internet into a substitute for much of what was being done by the PC and the systems that make it run. As with IBM, no one can say what Microsoft would have done without the distraction and concerns introduced by the various antitrust actions it faced (at home and abroad), but it is plain that the real competitive threat to the company came from innovations that lay outside the market as government officials saw it.

General Motors – The Case That Wasn’t

Well before Microsoft was under antitrust scrutiny – indeed, before it was incorporated – antitrust enforcers were taking a long, serious look at another company that seemed to be an


58 Bill Gates’ widely-discussed 1995 memo to others in the company about the potential the Internet posed to up-end traditional models of computing it was as a plea for taking over the Internet browser market, and thus a piece of the picture being put together by antitrust enforcers and Microsoft competitors depicting a monopolist bent on eliminating rivals through tie-ins and other means. In fact, it is more evidence of prescience that the threats to PC-based software would come from outside the market for those products as drawn by antitrust enforcers. As with IBM, seeing the sources of competitive perils is not the same as being able to address them effectively, especially when confronted with serious legal risks.

59 Some commentators assert that without the Microsoft antitrust case, Google would not have been created or, at a minimum would not have flourished. See, e.g., David Streitfeld & Edward Wyatt, U.S. Escalates Google Case by Hiring Noted Outside Lawyer, NY TIMES, Apr. 26, 2012, available at http://www.nytimes.com/2012/04/27/technology/google-antitrust-inquiry-advances.html?pagewanted=all. The strong part of this assertion looks a bit counterfactual, as the creation of the basic algorithm at the heart of Google’s success and the founding of the company antedate the filing of the major antitrust action by the Department of Justice in May 1998. See Larry Page and Sergey Brin Biography, ENCYCLOPEDIA OF WORLD BIOGRAPHY, available at http://www.notablebiographies.com/news/Ow-Sh/Page-Larry-and-Brin-Sergey.html. The softer part, whether Google would have succeeded to the extent it has, is conjecture, but it simply reveals the difficulty of knowing how markets would develop without the government handicapping one player.
unstopable colossus, due in large measure to network effects. The company was General Motors (GM). From the mid-1930s to the mid-1970s, GM was the dominant automobile firm in the U.S. and, at least for most of this period, the world. It was the largest corporation, measured by sales or profits, year after year. GM was not merely a corporate giant – it was gigantic by almost any measure for any enterprise. In 1965, for example, revenues at General Motors “exceeded the combined general revenues of the state and local governments of New York, New Jersey, Pennsylvania, Ohio, Delaware, and the six New England states.”

General Motors accounted for between 40 percent and 50 percent of automobile sales in the U.S. during this forty-year stretch. Its success was attributed, among other things, to what are often termed indirect network effects – effects dependent on the number of people using a product or service but not necessarily on the ability of those people to interconnect directly with one another. General Motors had a large network of dealers, including dedicated after-purchase service expertise, which was a critical consideration for many consumers in choosing which automobile to buy. Not surprisingly, when buying a car, consumers want assurance that there will be sufficient quantities of parts available for repairs far into the future and that repairs services will be available at locations convenient to them. The larger the number of cars sold by a given company, the easier it is to support a repair network; conversely, the larger the repair network, the more valuable the car (other things equal) and the easier it is to make additional sales.

62 The Massive Statistics of General Motors, FORTUNE (Jul. 15, 1966), quoted in MORTON MINTZ & JERRY S. COHEN, AMERICA, INC.: WHO OWNS AND OPERATES THE UNITED STATES at 6 (Dell Pub. Co. 1971). This collection of states included three of the top five by population and five of the top ten, not to mention America’s (and the world’s) largest city.
63 See White, supra, at 119.
65 This is the essence of the First Circuit’s decision in Grappone, Inc. v. Subaru of New England, Inc., 858 F.2d 792 (1st Cir. 1988), discussed in Max Schanzenbach, Network Effects and Antitrust Law:
Those who were thinking about the economics of the car market in the 1950s, 1960s, and 1970s did not conclude that network effects in the automobile business led inevitably to a tipping point that would send all or almost all the purchasers to the company with the most sales and service franchises. But commentators did conclude that considerations flowing from economies of scale affecting service availability and related matters helped limit the number of car companies that could compete effectively (not coincidentally offering an explanation for the continuing decline of companies over that period). In the mid-1960s and again in the mid-1970s, federal antitrust enforcement authorities (first in DOJ, then in the FTC) were concerned enough with the concentration of the automobile industry among the “Big Three” U.S. auto makers, and with GM’s dominance in particular, to reach at least tentative decisions to file charges against GM for unlawful monopolization and to seek a break-up of the company.

The cases were prepared after decades of GM dominance and, simultaneously, the Big Three (GM, Ford, and Chrysler) American car companies’ market share staying at 80 to 90 percent of the U.S. market. But, as Tim Muris (former FTC Chairman) notes, the antitrust enforcers’ concerns about enduring market dominance were oddly timed, to say the least. The issue here was not one of market definition but of understanding the dynamics of the market. One of the key assumptions behind the move to break up GM was that foreign auto makers would not provide significant competition to domestic products in the U.S. market. The assumption was based on retrospective evaluation of the U.S. automobile market and personal experience of a small number of government officials based on the East Coast. The information needed to at least generate some skepticism about the foreign-cars-don’t-matter assumption, however, was not inaccessible, witness Muris’s description of his reaction at the time:

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66 See, e.g., John S. McGee, *Economies of Size in Auto Body Manufacture*, 16 J. L. & Econ. 239 (1973); White, supra. The decline of alternatives to the leading U.S. automobile makers over much of the period seemed to be a continuation of a trend that held from the early 1920s, when there were roughly 90 U.S. auto makers.


68 Muris, supra, at 4-5.
Having grown up in California, where foreign cars were increasingly prominent, I found this conclusion bizarre. At that time, I owned a Toyota Corolla; like many other baby boomers, I did not own an American-made car until I discovered the SUV in the 1990s, when I also purchased a Saturn.69

As the last round of charges was being prepared, import shares in the U.S. car market were rising rapidly, and would continue to rise steadily over the next decade before pausing, then rising again. Imports accounted for an average of less than one percent of U.S. car sales between 1946 and 1955 and roughly six percent between 1956 and 1965, but that figure rose to more than 10 percent between 1966 and 1970, more than 15 percent between 1971 and 1975, over 20 percent between 1976 and 1980, and more than 25 percent between 1981 and 1985. By 2009, non-American brands accounted for over half the U.S. automobile market; GM, Ford and Chrysler (which had been bought and sold by German auto maker Daimler Benz and in 2009 was acquired by Italian auto maker Fiat) together accounted for the same share of the market that GM alone had commanded 30 years earlier, with Honda’s U.S. sales exceeding Chrysler’s and Toyota’s surpassing Ford’s.70

Changing reputations for service and quality and changing demands for fuel efficient vehicles no doubt played a role in the movement among brands’ market shares.71 While these were not entirely predictable in 1965, there certainly was enough evidence by 1975 that these factors were sources of potentially significant changes in the U.S. car market and in the fortunes of GM and others. As Muris notes, that was not sufficient to keep the antitrust enforcers from trying to move forward, though by the early 1980s the changes taking place in the market were sufficiently clear to end the effort to break up GM. At that time, the company had, between 1970 and 1980, slid from first to eighth place in the ranking of most valuable American firms. When the financial crisis hit in 2008-09, GM appealed to the

69 Id. at 5.
71 See, e.g., Chyi-Ing Lin, Jer-Shiou Chiou, and Ben-Chieh Liu, Product Quality, Gasoline Prices, and Japanese Shares in the U.S. Automobile Market, 2 INT’L J. BUS. 61 (1997); White, supra, at 121-25.
government for an infusion of federal funds to keep the company afloat.\textsuperscript{72} By the time the antitrust authorities were making their final effort to end what they saw as GM’s long-run dominance, in other words, its run was coming to an end.

\textit{The AT&T Case}

Another major case for government antitrust enforcement was the long-running investigation and litigation against AT&T, culminating in the Modified Final Judgment of the district court in 1982 and the firm’s break-up in 1984. The case, filed in 1974, asserted that AT&T, the dominant telephone company for a century, had suppressed competition in the long-distance and terminal equipment markets. The divestiture of various parts of “Ma Bell’s” operations separated its businesses into regional holding companies that oversaw local telephone services and a core set of long-distance and research functions.\textsuperscript{73}

The goal for antitrust authorities was to inject increased competition into the long-distance telephone services market and bring down long-distance costs. That succeeded, if judged only by the change in market shares. AT&T went from more than 90 percent of long-distance revenues in 1984 to less than 40 percent in 2000.\textsuperscript{74} How much of this change can be connected to the antitrust case and its remedy, however, is questionable. As Eli Noam has argued, there is ample reason to think that similar changes could have occurred in other ways.\textsuperscript{75} During the post-divestiture period, the market was changing in several dimensions, most notably the technology for delivering communications services and the nature of demand for those services. Within a few years, pieces of the broken up system began recombining, and twenty years on, one of the original “Baby Bell” regional operating companies acquired what remained of AT&T (changing its name to keep the iconic label).

What made this case exceptional, more than anything else, was that the pricing of the market that antitrust officials

\textsuperscript{74} See Crandall & Jackson, \textit{supra}, at 15.
targeted, telephone services, was controlled primarily by other government officials. AT&T was a regulated monopoly. Its prices and practices were subject to government supervision. And the conduct that was deemed suspect by antitrust enforcers was directly responsive to decisions of the Federal Communications Commission (and, to some extent, the courts). For decades, the FCC had followed a policy of pushing telecommunications providers, primarily AT&T and other components of its Bell system, to provide “universal service” at relatively uniform rates, regardless of geography and actual costs. That policy meant that the telephone companies used funds provided by higher charges for long-distance services to subsidize services for rural and other higher-cost users.\footnote{See, e.g., KAHN, supra, vol. II, at 147-52; MITCHELL & VOGELSANG, supra, at 162-63.}

When the technology of long-distance service began to change in the 1950s and 1960s, AT&T naturally resisted steps that would have facilitated competition. Increased competitive provision of long-distance services would have the effect of eroding the revenue source for the subsidies without limiting the obligation to subsidize high-cost users. The typical regulatory response against such “cream-skimming” (real or perceived) is to restrict competition.\footnote{See, e.g., KAHN, supra, vol. II, at 7-10.} But the FCC and the courts permitted competitive entry in relatively high-revenue facets of the market, setting up the steps taken by AT&T to protect its revenue stream.\footnote{See, e.g., In re Applications of Microwave Communications, Inc., 18 F.C.C.2d 953 (1969), aff’d, 21 F.C.C.2d 190, (1970); In re Specialized Common Carrier Services in the Domestic Public Point-to-Point Microwave Radio Service, First Report and Order, 29 F.C.C.2d 870, reconsideration denied, 31 F.C.C.2d 1106 (1971), aff’d sub nom. Washington Utils. & Transp. Comm’n v. FCC, 513 F.2d 1142 (9th Cir. 1975).}

The FCC’s continued imposition of subsidy arrangements without insulation of the revenue stream that supports it had the following consequences: first, AT&T took steps to disadvantage its rivals in the competitive part of the market (to protect the revenues used, among other things, for the cross-subsidy); second, antitrust officials brought the litigation aimed, among other things, at preventing that response; and, third, AT&T repeatedly asked the FCC either to relieve it of expensive obligations to subsidized customers or to impose similar obligations on competitors.\footnote{[cite follow-on cases; note that the effort to prevent loss of valuable parts of the monopoly included equipment (witness Hush-a-Phone decision) as well as service components]} It is not clear that the defense
AT&T mounted, rooted in the argument that significant portions of the telephone industry arguably constitute a natural monopoly (at least within the set of technologies in use at the time of the litigation) was sound. At the same time, there is considerable question whether the underlying case brought against AT&T stood on solid economic and legal ground. There was sufficient difficulty making the case it set out to make that, part-way through the litigation, the government shifted a key claim to the novel assertion that AT&T’s prices were set “without regard to cost” (as opposed to the well-established legal ground that the prices were predatory). Whether the industry in relevant part constituted a natural monopoly, it is questionable how competing firms would have fared afterward if not given preferential treatment for an extended period, including for many years access to facilities that AT&T had an obligation to provide.

In a real sense, the antitrust suit was the product of a sharp difference of visions between antitrust enforcement officials and officials charged with regulating the telecommunications industry. The technology of the industry was changing, and within a generation the seemingly inevitable and indestructible monopoly of AT&T had ended, victim of shifts to cellular telephony, enhanced data communications, and changing cost structures for communication as well as a dramatically changed regulatory environment. Whether the regulatory authorities did well or poorly, it is doubtful that antitrust authorities had better information or better legal basis for endeavoring to remake the industry.

V. LESSONS AND SUGGESTIONS

The four antitrust cases discussed in Part IV share the characteristics of much industry regulation. All four episodes targeted firms that had become leaders in their industries, selections based in part on the supposition that the firms’ leadership was being extended or expanded due to conduct that

80 See, e.g., David S. Evans & James J. Heckman, Natural Monopoly, in BREAKING UP BELL, supra, at 127-50. See also, Peter W. Huber, Michael K. Kellog & John Thorne, GEODESIC NETWORK II: 1993 REPORT ON COMPETITION IN THE TELEPHONE INDUSTRY (Geodesic Co. 1992).
81 See, e.g., William A. Brock, Pricing Predation and Entry Barriers in Regulated Industries, in BREAKING UP BELL, supra; [add’l cites]
disadvantaged competitors. That behavior is not atypical for regulatory agencies, which are commonly responsive to concerns of competitors in regulated industries; indeed, such concerns are the genesis for much of the body of regulations in fields outside antitrust. Further, in all but one of the antitrust cases discussed here, the conduct at issue looked a great deal like ordinary competitive conduct. In particular, use of networks to promote business dealings is neither nefarious nor confined to monopolies, and bundling features or products together is a nearly ubiquitous practice, utilized by businesses in the most highly competitive fields as well as by dominant firms.

Much like any other government official who faces arguments against regulatory intervention as a matter of course, antitrust enforcement officials commonly tend to discount arguments against government engagement in a particular matter. That suggests, in particular, skepticism respecting assertions by enforcement targets that challenged conduct is pro-competitive. Naturally, companies that are under investigation will claim that their conduct increases efficiency, reduces cost, or raises value to consumers. Those are the explanations that generally defeat antitrust actions. At the same time, the arguments against the efficiency or consumer benefit of the targets’ actions should be viewed with equal skepticism, as they are pushed principally by people with every bit as great an interest in slanting the argument.

This stand-off makes the predispositions of the government enforcement officials (who are supposed to be the honest brokers in sorting through the arguments) critical. While the theories available to explain the data are important, the officials’ own inclinations often are conclusive in selecting among competing theories – which in a wide array of cases provide alternative

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83 See FRIEDMAN, supra; Krueger, supra; Stigler, supra.
84 The one exception is AT&T, which was acting not in a manner that looks like ordinary competition, but in a manner that seems responsive to special constraints and inducements of regulation.
86 As noted earlier, theories like raising-rivals’-costs have no doubt affected analysis of antitrust cases by government enforcement officials. It takes a plausible theory to sell an argument. But the degree of plausibility needed for any given theory depends on the skepticism or receptivity of the official who must decide the matter.
views on what conduct is problematic, why, and what risks attend intervening or leaving markets to sort things out. There is not any need for officials to be consciously self-interested or, indeed, to think of anything but their view of what best serves the public for it to be true that their personal inclinations are critical to decision outcomes. As with other contested decisions, the availability of different potential constructs increases the importance of other influences – and the more balanced the contest among those constructs, the larger the role that other factors will play.\(^87\) It is often the case that institutional factors and personal interests produce subtle biases in officials’ policy judgments.

Critics will inevitably complain of policy bias, no matter what position particular officials take, but the likely systematic tilt over time in antitrust will be toward excessive, not insufficient, enforcement. Antitrust enforcement officials often are better served personally if they take a skeptical view of pro-competitive arguments, as there is apt to be greater reward for being at the forefront of high-profile antitrust cases than for being the person who consistently rejected the cases as based on inadequate information and insufficiently strong theoretical basis for finding harm to competition and consumers.\(^88\) Although there is benefit to ending bad cases as well as to bringing them, few former officials become well-known for failing to be involved in significant cases. And in a global market for regulation, including antitrust enforcement, the most aggressive regulators tend to be the ones who are best known and most in demand.\(^89\) The most important cautions, thus, concern problems that arise from “false positives” of enforcement.\(^90\)

With this in mind, the overarching caution to antitrust enforcers that emerges from the cases reviewed above is against


\(^{89}\) See, e.g., Cass, Competition in Regulation, supra. For an explanation of the role that staff, as opposed to political appointees, play in this process, see Glen O. Robinson, The Federal Communications Commission: An Essay on Regulatory Watchdogs, 64 VA. L. REV. 169 (1978).

presuming that the obvious, common-sense boundaries around a market – what led to the description of IBM as dominating the market for computing or Microsoft the market for PC operating systems or GM the U.S. auto market or AT&T the market for telephone services – appropriately set the field of vision for antitrust enforcement (much less the artificially circumscribed market definitions that enforcers will urge when a case has been initiated). The market boundaries that so often are taken for granted frequently fail to capture the most important sources of competition.91 That is true even in markets as “old-line” and seemingly simple as the auto market, but it is even more likely to be true in high-technology industries where, almost by definition, new innovations will revise established assumptions about how things are done.

The market definition problem reflects more than the fact that officials so frequently cannot see changes coming that will dramatically alter competitive conditions in an industry. Almost no one, even those most intimately engaged in the industry itself, is apt to make good predictions about which technologies will succeed or what the ultimate scope of a new technology will be. The most obvious proof of that is a quick check on what’s happened to stock values. IBM’s market capitalization in 1987 reached more than $100 billion, at a time when Microsoft’s was only $3 billion.92 A decade later, Microsoft’s exceeded $145 billion (a nearly 50-fold increase), just edging out IBM (whose value rose during that period at a rate about 1/100 of Microsoft’s rise).93 At the same time, 1997, Apple’s capitalization was only around $2 billion, less than two percent of Microsoft’s value, and it was just $7 billion in 2001 when Microsoft’s stood at $332 billion, a figure slightly over two percent of Microsoft’s market

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cap. Yet by April 2012, when Microsoft’s value was $235 billion, Apple’s value hit a peak of around $600 billion, more than double Microsoft’s and the highest of any firm on the planet! Those who saw those changes coming would have bought Microsoft stock in the 1980s and Apple stock in the 1990s – by the boatload. There aren’t many folks – in or out of government – who were that prescient.

The more trenchant flaw in antitrust enforcement is not officials’ failure to identify specific market changes or specific companies that will dramatically rise or fall in value. Rather, the larger problem is that it is exceedingly difficult for government officials to discern the critical factors that explain what actually makes a particular firm dominant, the factors that affect the durability of dominance, or the kinds of change in the market (either on the demand side or the supply side) that could dramatically erode that dominance. Those who were pushing for antitrust restraints on IBM, Microsoft, GM and AT&T viewed network effects as the primary source of dominance. This was asserted as the reason that each company would not only continue to dominate a particular market segment and also the reason each company would be able to increase its presence in that segment or spread its dominance across different products and services. As already noted, however, network effects also can have just the opposite effect: they can be the reason that a firm’s dominance comes to an end, as the success of a dominant firm is a spur to investment in competing technologies, including technologies that will tap network effects to replace the successful product or service based on established technology.

In this respect, the current high-technology focus of Section 2 antitrust enforcement is especially striking. The list of potential enforcement targets includes an array of firms that were not in existence when the Department of Justice was suing IBM. Facebook, which is just taking its stock public as this is

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95 This follows from the broader observation that it is far easier to describe what behavior succeeds in markets than to explain why it succeeds. See, e.g., Easterbrook, Limits, supra, at 4. Even then, when behavior is complex, it generally will be difficult even to explain the exact contours of the successful behavior.
written, was launched in 2004; Google dates from 1998; Amazon
was founded in 1994; Apple, though started in the mid-1970s,
was on the brink of bankruptcy in 1997 before its resurgence
(making this a reasonable date to think of it as being re-born).
Each one has a business that arguably benefits greatly from
network effects. At the same time, these businesses also are
built on technologies that have evolved rapidly, generating new
markets or replacing older technologies once considered durably
dominant.

Despite the networks they have established, each of these
businesses also is notable for the relative ease with which
consumers can switch from one provider (or one technology) to
another – allowing consumers to substitute one product or
service for another or, in many cases, to add additional products
or services from multiple providers at minimal or zero cost. Just
as consumers can add new browsers at the touch of a button and
can use multiple browsers on their PCs, they can easily switch
among search engines and social media. Search is especially
easy to diversify, and consumers frequently use different search
engines when seeking different types of information (for
example, switching to a specialized search engine for music or
travel); similarly, if less obviously, consumers also can be
connected to more than one social network. Unlike computer
hardware (IBM’s principal domain and the focus of the DOJ
suit), consumers do not need to make huge investments in
equipment or in special tailoring of goods and services for most
of the products and services that are currently holding antitrust

96 For less technical presentations of this point, see, e.g., PHIL SIMON, THE AGE OF THE PLATFORM:
HOW AMAZON, APPLE, FACEBOOK AND GOOGLE HAVE REDEFINED BUSINESS (Motion Pub. 2011);
http://www.wired.com/business/2012/05/network-effects-and-global-domination-the-facebook-
strategy/.
97 The electronic search market, for example, was modest and relatively little-known outside
specialized areas (for example, as adjuncts to other research tools in the legal or medical profession)
prior to Google, and use of the Internet for an encompassing social network was almost completely
undeveloped prior to Facebook. In each case, technological innovations provided critical impetus for
the establishment of widely recognized and utilized markets.
98 See, e.g., Matt Asay, Why Grill Google Over Web Dominance? It Has None, THE REGISTER, Oct. 4,
("Google may own the "index search market," but think about where people go to search for people
(Facebook or LinkedIn), facts (Wikipedia), restaurants (Zagat - now owned by Google), Yelp,
OpenTable, travel (Kayak, Travelocity, Expedia, Orbitz) and property (Zillow, Realtor.com) to name
just a few.")
99 For example, think of the Facebook user who also is connected through LinkedIn for business
associates. If moderately technologically oriented, that user additionally could turn to Twitter for
sharing some spur-of-the-moment thoughts more directly or immediately, Flickr for photos, and so on.
enforcers’ attention. Even more than with the firms challenged before, these are markets in which new firms and ideas come along quickly and take hold fast. Facebook, for example, in only eight years went from a concept that didn’t make sense to many people over the age of 40 to a business with more than 900 million users.100

Of course, it is not enough to tell antitrust enforcers to “just say no” to dominance cases (pace, Nancy Reagan). Enforcement officials charged with implementing the law do not have the luxury of assessing the law’s net benefit and deciding to put it on the shelf if the net is negative, not positive, for society. Yet, like other prosecutors, antitrust enforcers have wide latitude in choosing when to take action and their decisions should be sensitive to such effects.

The question, then, is what should officials do when asked to look at claims against leading firms in arenas where evolving market conditions might make intervention unnecessary at best and counterproductive at worst. There have been efforts under both Democrat and Republican administrations to incorporate dynamic analysis (of sorts) into the evaluation of markets and the calculation of appropriate government action.101 But these efforts have been partial and incomplete. They have not focused primarily on dynamic analysis as a commitment to attending the prospects, means, and extent to which broader competitive forces and innovations constrain the behavior and effects of dominant firms. Instead, much of the analytical effort has been devoted to exposing reasons for doubting static indications that markets are competitive rather than to identifying the ways in which dynamic changes will increase competition and correct perceived distortions.102

Despite these efforts, the dominant direction of the effects of

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100 See, e.g., Shai Ahmed, Facebook a Passing Fad? 900 Million People Can’t Be Wrong: CEO, CNBC, May 15, 2012, available at http://www.cnbc.com/id/47425068/Facebook_a_Fad_900_Million_People_Can_t_Be_Wrong_CEO.


dynamic market forces, especially those aligned with innovation, is toward greater constraints than a static analysis will perceive. The critical question for enforcement officials, however, generally will be the effects’ magnitude, something for which analytical tools are still lacking. On that score, even careful attention to dynamic issues may not be availing – after all, the problem is not so much inattention to the possibility that there will be constraints on market leaders that are not readily visible to the regulators as it is the relative impenetrability of serious analysis of what dynamic effects will be.

With that limitation in mind, the best advice for antitrust enforcement officials is not a set of rigid rules, but a set of cautions. Here are four of them:

First, antitrust enforcers should be wary of starting proceedings, tempting as it is to make that the standard result in difficult cases. Like setting up a committee in academic life, it is easy to see this as a compromise between rash action and inaction. It looks like doing something, but without the ill effects of doing the wrong thing. That is why setting up a committee is the institutional default in academic life. This view is illusory: instituting a formal investigation always has consequences. Instituting an investigation of single-firm conduct burdens the company and prejudices market competition. Enforcers should make saying no the default, not saying yes to a first step on the theory that it’s just a first step.

Second, enforcement officials should only start proceedings if persuaded that there is very strong evidence already available on four counts. (1) The evidence should show that the market at issue is not only dominated by a given enterprise, but that it looks extremely doubtful that forces at play outside the narrow confines of that market that have the prospect of significantly altering the business, of challenging the current market model, of replacing the relevant product or service for at least a significant number of uses or consumers. (2) The evidence already available also should be clear that the behavior of the target firm is strongly likely to serve predominantly to undercut market forces rather than to provide improvements to customers or generate efficiencies for the firm. (3) There is strong evidence that consumers are hurt in a legally significant way by the

conduct to be investigated. (4) A remedy for the ostensibly harmful conduct exists that could be easily implemented and that would benefit consumers more (or harm consumers less) than allowing market forces to continue to evolve. In thinking about this, officials should take account of the fact that any remedy will be remote in time and probably will not be implemented exactly in the way envisioned; put differently, present departures from ideal markets should not be compared to hypothesized ideal solutions.

Note that when considering instituting an investigation, rather than filing charges, sufficient indication on all four counts should already be available – it is not enough to imagine that the information will be developed during the investigation. It is too easy to assert that the information will be found during an investigation – and the incentives for rivals to make that claim are too great – for that to suffice to initiate action that can have dramatic costs for the target firm as well as substantial effects on competition among firms. For that reason, there should be a burden of persuasion for enforcement officials to start a proceeding and for the officials to take a proceeding to the next stage.

Third, enforcement officials should be open to the notion that they have missed something in looking at the considerations above, especially number (1) in the list of factors that should be demonstrated before acting. The largest lesson of past antitrust cases is that officials often see a market that is either static or sufficiently stable over time that it seems unlikely to change in ways that will significantly change the fortunes of a dominant firm or the options for price and quality enjoyed by consumers – and that officials see this even when investments have been made that will produce technologies that will upset current market realities and expectations. That was born out in each of the cases discussed in Part IV. A good practice is to find out which technologies or enterprises have been identified by leaders in the target firm as threats to the firm or its industry and what leaders in other firms say has the potential to replace the product or service at issue. Officials should take those concerns and hopes seriously; these often will turn out to be more instructive than carefully crafted extrapolations from industry trends and published forecasts.

Fourth, and finally, when applying the lessons to high-technology industries, where significant investments are made
in research and development, where new products can suddenly emerge that alter perceptions of what is possible (or enjoyable), and where consumer tastes can shift rapidly, officials should be especially cautious. These are markets where it is particularly difficult to maintain dominance, where sustained leadership over some time frame most likely indicates strong efficiencies (strong consumer value), and where innovations that are not yet recognized as significant can offer the strongest constraints on dominant firm behavior and the most important challenges to crafting a meaningful remedy that does more than disadvantage an individual contestant in a changing world.

The ghosts of antitrust past do not have to be mirror images of the future. But they send a strong caution signal to officials contemplating single-firm enforcement actions, in high-technology markets most of all. Antitrust officials ignore the lessons of the past at their peril – and ours.